

UNIVERSITY OF NICOSIA

**Outpatient Satisfaction in Private Healthcare: Model Development
and Application in Lebanon**

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PhD (Doctor of Philosophy) in Business Administration

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Abstract

This Thesis explores the area of outpatient satisfaction and the multiple correlates that influence the level of patient satisfaction. In specific, it identifies and examines the major key constructs affecting outpatients' satisfaction, including perceived service quality, patient's emotions, patient trust, and patient demographics to develop and empirically test a model that depicts and estimates the relationships between them toward managerial utilization by Lebanese private hospitals.

An extensive narrative literature review identified extant research knowledge and gaps. First, most of the previous research studies have focused on the link between perceived service quality and patient satisfaction. However, based on the literature, perceived service quality has multiple dimensions in different studies, leaving a hole in information with respect to what drives satisfaction in a given context. Therefore, there is a strong need for modeling dimensions specific to the situation in which services are provided. Second, patient emotions and patient trust, despite their importance to satisfaction formation, have been largely neglected in past satisfaction research. Third, the correlations between demographic factors and patient satisfaction should not be ignored when analyzing patient satisfaction. Based on the identified research gaps, a preliminary four-construct conceptual framework and their presumed relationships in the area of patient satisfaction were developed to be empirically tested in the Lebanese private healthcare industry.

The primary research adopts the positivism philosophy and designs and applies a mixed-method methodology. The preliminary study is conducted using qualitative research methods that include focus group discussions to examine possible dimensions of perceived service quality relating to satisfaction that go beyond those already mentioned in the literature; and the main study (using quantitative research method) is conducted through a survey questionnaire to test the conceptual model of patient satisfaction, with a sample size of 521. Before analysis, relevant explanatory variables were identified through Exploratory Factor Analysis with Varimax rotation, and bivariate analysis was carried out using linear regression, Spearman correlation, and Chi-Square analysis for the independent variables with the dependent variable. Based on the findings of these, the final framework is developed and presented.

The research shows empirical evidence about the impact of perceived service quality, patient trust, and patients' emotions on patient satisfaction with healthcare services. The findings also provide a model that includes valid and reliable scales. In specific, this study identified the perceived service quality dimensions that influenced outpatient satisfaction in private hospitals in North Lebanon; technical quality of care, perceived cost, perceived waiting time, accessibility, and physical characteristics, of which the Four dimensions technical quality of care, perceived cost, perceived waiting time and accessibility have an impact on patient trust, patient emotions, and patient satisfaction. Based on such findings, the private hospitals are recommended to enhance the professional skills of healthcare providers, manage waiting time, and provide cost-effective service to retain patients and build up a competitive edge for private hospitals as competitive pressure increases.

Overall, the findings of this research provide significant contributions to practice and theory for both practitioners and academics. In terms of theoretical contribution, this Thesis has introduced an enhanced assessment of patient satisfaction including three important constructs; Perceived service quality, patient emotions, and patient trust. In terms of practical contribution, this framework is used as a pilot site, which will be expanded nationally in the future. Regarding health care management, managers of private hospitals would benefit from this framework as a practical tool to assess patient satisfaction to improve the quality of health care.

Keywords: Patient satisfaction, service quality factors, patient trust, patient emotions, patient demographics, perceived service quality, Lebanese private healthcare, outpatients.

Dedication

To the love of my life my kids Alex and Mila



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Finally, I would like to give a special thanks to my parents Amina and Sobhi Mallat whose patient love enabled me to complete this study. It would be impossible to say enough about my kids, Mila and Alex. All this is meaningless without yours.

Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Nicosia. This thesis has been composed solely by myself except where stated otherwise by reference or acknowledgment. It has not been previously submitted, in whole or in part, to this or any other institution for a degree, diploma or other qualifications.

Signed

Date.....



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ABBREVIATIONS INDEX

<i>b</i>	Unstandardized Regression Coefficients
CHN	Centre Hospitalier du Nord
ConsultSQ	Consultation Satisfaction Questionnaire
Covid-19	Coronavarius
CSQ	Client Satisfaction Questionnaire
ED	Emergency Department
MoPH	Ministry of Public Health
EFA	Exploratory Factor Analysis
IESO	Inpatient Evaluation of Service Questionnaire
KMO	Kaiser-Meyer-Olkin
LOPSS	Monica-Oberst patient satisfaction scale
MLR	Multiple Linear Regression
MTHCSS	Multidimensional Trust in Health Care Systems Scale
NGO	Non-Governmental Organization
OLS	Ordinary Least Square
OPD	Out-Patient Department
PCA	Principal Components Analysis
PJHQ	Patient Judgments of Hospital Quality instrument
PSI	Patient Satisfaction Index
PSQ	Patient Satisfaction Questionnaire
PVRQ	Patient Visit Rating Questionnaire
QCPP	Quality of Care from Patient's Perspectives
R^2	R-Square
<i>SE</i>	Standard Error
SERVQUAL	Service Quality Instrument
SPPCS	Satisfaction with Physician and Primary Care Scale
SPSS	Statistical Package for Social Science
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor
β	Standardized Regression Coefficients

CHAPTER 1-INTRODUCTION

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1.0 Introduction

This chapter is a general introduction to the Thesis. It first presents an overview of the research background and describes the research gaps. It then states the aim and objectives of the study. It then provides a brief description of the private healthcare industry, which is the research justification for this research. The research's contribution to theory and practice offered by this research study are then discussed. Finally, the chapter presents the Thesis outline.

1.1 Research Background

Healthcare is the world's largest and fastest-growing industry and produces 10% of the world's gross domestic product (GDP) (Stasha, 2021). Over the past 15 years, Lebanon's health expenditure increased by 57%. In 2018, Lebanon has one of the highest health expenditures among Arab countries (8.2%) (The World Bank, 2020b). Although public health systems offer not overwhelmingly expensive and available services, private hospitals account for 82% of Lebanon's healthcare capacity (Wim Van Lerberghe, 2018), and the services provided in the private sector are mainly financed by the public sector. Based on the Ministry of Finance's budget proposal, around 87% of the Ministry of Public Health (MoPH) budget is allocated to care, of which 79% is used to reimburse private hospitals (Barakat *et al.*, 2018; Hamadeh *et al.*, 2021). Such figures highlight the need for efficient health spending of which is a significant investment in the quality of healthcare. Health care quality is becoming a global concern, and the needs and demands of the population are ever-increasing, which forced the health care industry to undergo a rapid transformation to meet those demands. Therefore, reforming payment mechanisms is indeed necessary to ensure cost containment while improving the quality of care (Barakat *et al.*, 2018). Consequently, the governments, healthcare delivery systems, insurers, and consumers are working hard to meet the growing demand for healthcare services while containing the cost.

Consistently, healthcare has been viewed as one of the most important, yet personalized, services that people experience in their life (Kemp *et al.*, 2014), and the need for qualitatively better services has reliably grown. The quality of healthcare as defined by Donabedian (1990) cited in Barrios-Ipenza *et al.*, 2020, p.1) is:

“The degree to which the most desirable means are used to achieve the greatest possible improvement in health. However, as the consequences of care are manifested in a future that is often difficult to know, what is important is the outcome expectations that could be attributed to health care in the present.”

Nowadays, with the widespread knowledge on the standard of living and the increased commitment to better medical care for lifestyle changes, the international interest in the quality of healthcare services is growing (Al-Azzam, 2020). Several hospitals in Lebanon are investing in quality improvement projects, however, they are still facing challenges with measuring indicators and little information is available about health outcomes (Barakat *et al.*, 2018). Traditionally, the quality of healthcare was based on professional practice standards; however, over the last decade, patients’ perception of health care has evolved as an important indicator measuring the quality of healthcare (Asamrew *et al.*, 2020). Modern marketing today emphasizes the urgent need for health providers to put patients at the focal point of attention within health and to ensure a customer orientation process at their facilities (McColl-Kennedy *et al.*, 2017; Elrod and Fortenberry, 2018). This particular philosophy, known as the marketing concept, means that intense efforts are made to meet and exceed the patients’ wants and needs while treating them with empathy and respect (Elrod and Fortenberry, 2018).

For this reason, achieving success in healthcare organizations is based on the implementation of quality management strategies of which it is assumed that the management of the patients’ perceptions of service perceived as the performance of the organizations is directly associated to reuse the service, which results from user satisfaction (De Man *et al.*, 2002; Freudenberg *et al.*, 2003).

Healthcare and patient satisfaction are now the latest patterns in developing quality for competitive advantage or best practices in the healthcare sector (Aydin, 2018). Patient satisfaction has been widely recognized as a measure of quality and preferred healthcare goal over the previous ten years (Ali *et al.*, 2015; Hawrysz *et al.*, 2021). It becomes the center of interest of all governments all over the world and hard work is being done to satisfy all citizens and make them happy (Ampah and Ali, 2019). The improvement of a health care system relies heavily on patients’ opinions (Manzoor *et al.*, 2019). Patients' feedback and their perceptions

are becoming central requirements for the accreditations and the evaluation of hospital services programs (Abbasi-Moghaddam *et al.*, 2019). Thus, a shift toward market-oriented strategy and development of efficient quality improvement programs is implemented by healthcare organizations by adopting patient satisfaction as the benchmark for organizational performance (Asif *et al.*, 2019; Bahadori *et al.*, 2016).

With fierce competition in the service sector of the global economy, the hospital's principal goal in increasing patient satisfaction is perhaps to better understand the relationship between specific dimensions of quality healthcare service delivery and patient satisfaction. By linking the theoretical and empirical measurements of the relationship between these perceived service quality dimensions and patient satisfaction, private hospitals can benefit by turning these concepts into key marketing tools (Farooq *et al.*, 2018; Bentum-Micah *et al.*, 2020).

Because patient satisfaction is the guarantee for achieving business goals, while service quality is the basic requirement for building and satisfying relationships with customers, it is significant for hospitals to continuously measure service quality against patient satisfaction to identify areas for improvement and to know whether patients are satisfied or not.

1.2 Patient Satisfaction with Healthcare

Going beyond services to healthcare, the experience of care in healthcare is not only a kind of interaction but also a multifaceted and complex phenomenon that for achieving clinical outcomes, multiple players are involved of which the health status, the context of care, and the presence of different health staff (Gualandi *et al.*, 2021).

In modern-day medical care, delivering healthcare is not only a matter of getting the patient well but also observing the overall experience of the patient while accessing health care. Patient satisfaction, which is a perception and attitude that a patient can have toward a total experience of health care, is multidimensional and represents an important driver for the quality of health care delivery. Patient satisfaction has an ever-increasing role in the way hospitals are assessed. Taking into consideration the various positive outcomes that patient satisfaction can achieve, patient satisfaction has been widely adopted in developed countries as an index of healthcare quality (Adhikari *et al.*, 2021).

Patient satisfaction scores influence patients' decisions about the use of healthcare resources and have been demonstrated through studies where there has been a positive correlation between patient satisfaction and clinical outcomes (Pflugeisen *et al.*, 2016). Satisfied patients are more likely to follow the service provider's advice and follow up on their treatment. The fact that patient satisfaction levels vary across different measures, patient sub-groups, clinical stages, clinics, regions, and health care systems makes it necessary to highlight these attributes in each setting.

Patient satisfaction is a subjective assessment of strengthening the objective management of factors of the hospitals. Therefore, patient satisfaction analysis should correlate patient satisfaction with the hospital's objective management indicators (Shen *et al.*, 2021). Moreover, to ensure the smooth functioning of the health care system, the level of patient satisfaction, an internationally recognized factor, should be routinely incorporated with other quality assessment methods. This comprehensive approach can ensure that the needs of the patients are improved by improving the quality of health care by identifying and understanding the underlying determinants of patient satisfaction through a continuous quality improvement process (Asamrew *et al.*, 2020).

Many researchers are discovering what patients want and how to measure customer satisfaction (Guan and Liu, 2016). A variety of factors are significantly correlated with patient satisfaction (Shen *et al.*, 2021), ranging from admission to discharge, waiting time, as well as professionalism, and interpersonal relationships. To do this, hospitals are required to identify the factors that influence patient satisfaction and determine their patient's perception of these factors. Thus, given the competitive environment, hospitals need to develop their strategies to differentiate themselves from others, which can only be achieved by providing the highest quality of service (Neupane and Devkota, 2017). Thorough knowledge of the factors that influence patient satisfaction, healthcare providers understand what is valued by patients, how the quality of care is perceived by the patients, and know where, when, and how service changes and improvements could be made (Jager and Plooy, 2007).

Additionally, patient demographics were among the constructs that have a direct influence on the satisfaction level (Asamrew *et al.*, 2020).

There is no need to be cautious of the fact that a patient's experience has an emotional component. Knowing that emotions make everything more realistic is essential. Patients and healthcare providers share the medical condition and the emotional burden of the treatment received for it. When comparing patients' and physicians' views on treatment and quality of life, the difference is that physicians often focus on clinical outcomes, while patients focus on their impact on daily life, which includes emotions (Purkaple *et al.*, 2016; Greco and Bere, 2020). Neither the focus on outcomes is wrong, nor the focus on emotions; the best is that both are considered and merged for optimal decision-making (Greco and Bere, 2020).

According to Elrod and Fortenberry (2018; pp.42), "*The most innovative and expensive of customer-oriented tools and techniques mean very little unless they are placed in the hands of capable individuals possessing the ability and desire to serve patients well*". Thus, for hospitals to ensure their competitiveness for customers, they should base it on good patient-provider relationships. The medical treatment of patients is based on the level of trust between the supply and demand sides of the health service, which is manifested by the patient's willingness to repeat the service. The repurchase can bring economic benefits and social effects to the hospital, reduce the costs of new customers, reduce the loss of current customers and bring health to the patients themselves (Liu *et al.*, 2021). Therefore, to obtain the best possible outcomes in healthcare, patients need to have trust in their doctors as they are going to share their private and sensitive information (Chandra *et al.*, 2020). If trust is affected, every step in the patient's pathway is affected. Trust is not only essential to providing quality patient care; it is also an important business priority (Rasiah, 2020).

Briefly, the service quality dimensions- trust/emotions-demographics-patient satisfaction relationship is a strategic cue for healthcare organizations to design and put into effect strategies that help them gain competitive advantages (Özer *et al.*, 2017). Therefore, analyzing this strategic cue can guide hospitals on the value associated with their services, in that way foreseeing patients' behavior more effectively. At the operation level, hospitals have to emphasize the key services and features that stimulate patients' purchase decisions to increase

their financial outcomes. Knowing the relative weight of various dimensions of healthcare quality services is very important in determining patient satisfaction. This helps healthcare managers allocate resources more efficiently and identify managerial actions able to guarantee higher levels of patient satisfaction (Carlucci *et al.*, 2013).

1.3 Research Gaps

Patient satisfaction was widely studied, but there are still gaps in the understanding of its role, e.g., in the improvement of the quality of healthcare services. Many researchers call for further research on this topic. The current study focuses on identifying the principal key constructs of satisfaction with healthcare service, as not enough studies look into the concept of patient satisfaction from this perspective.

The primary key construct of patient satisfaction is service quality (Fatima *et al.*, 2018). Based on the literature, perceived service quality has multiple dimensions in different studies including accessibility, affordability, service waiting time, technical care, interpersonal care, physical environment, continuity of care, and outcome of care (Shen *et al.*, 2021). However, these dimensions only specify certain aspects of patient satisfaction usually evaluated in various contexts and differ in particular studies (Hawrysz *et al.*, 2021). There is a strong need for modeling dimensions concerning the characteristics of each country and the situation in which services are provided to reflect each country's peculiarities and its people (Hawrysz *et al.*, 2021; Mounessa *et al.*, 2018). Therefore, generic models are no longer sufficient to measure the quality of healthcare services. It is then recommended that developing countries develop their models to measure the quality of healthcare services (Endeshaw, 2021; Hawrysz *et al.*, 2021; Mounessa *et al.*, 2018).

The second key construct of overall customer satisfaction is patients' emotions. Recent studies have shown that emotion is a core component in satisfaction and that customer satisfaction ought to incorporate a separate emotional component (Cronin *et al.*, 2000). McColl-Kennedy *et al.* (2017) recommended examining the factors that drive emotions in healthcare and they revealed that if we understand what influences patient emotions, it is easy to develop strategies and activities to help individuals cope with the emotions they experience.

Before purchasing a service, consumers may not know the exact result of their purchase. Services are invisible in customers' eyes and some services differ from one customer to another. Services are characterized by their intangibility, heterogeneity and inseparability. Heterogeneity means that the services are not the same among customers which results in a major issue in marketing management regarding even provision of services to customers, it is called attention to quality aspects (Donabedian, 1980; Grönroos, 2000); intangibility pointed to uncertainty in consumer buying decisions (Bateson, 1995) and to describe them, customers use words such as "experience", "trust" or "feeling" (Grönroos, 2000, p.47); and inseparability means that services and service providers cannot be separated and both have an impact on the outcome, it emphasized the importance of the service encounter (Bitner and Hubert, 1994). In the healthcare industry, intangibility and heterogeneity are the most complicated. Studies have concluded that intangibility is positively correlated to the perception risk and heterogeneity has been thought to increase the degree of perceived risk levels. Risk represents the "consumers' perceptions of uncertainty and adverse consequences of buying a product or service". Therefore, when the consequences of purchase decisions are uncertain, a risk is involved (Pollatsck and Tversky, 1970). Hyder and Fregidou-Malama (2009) revealed that variables such as trust make services more tangible and homogenous in relation to patients. Patient trust in their provider, an essential foundation for promoting patient satisfaction has received attention and what factors contribute to trust are not fully developed. Helou *et al.* (2020), Chandra *et al.*, (2020); Riachy and Nemr, (2020) recommended exploring the reasons behind patient trust in their doctors and assessing ways to reshape a stronger relationship.

Moreover, since hospital services vary from country to country depending on the demographic characteristics, this has fueled the need to address a neglected dimension in patient satisfaction measurement, in particular, whether ratings of satisfaction change deliberately based on patient characteristics (Hawrysz *et al.*, 2021).

Based on the above, there is little research examining the principal key constructs of patient satisfaction and their impact on it, along with the dimensions that drive these constructs. As patient satisfaction is multidimensional, context-specific, and represents an important driver for the quality of health care delivery (Adhikari *et al.*, 2021), and because the research on patient satisfaction is still developing, this research focuses on all the facets of patient satisfaction.

Many studies on satisfaction highlighted the challenges faced in identifying the elements of satisfaction desired by patients, which in its turn, reduces the information utilities of these studies (Leonardsen *et al.*, 2020). This study also employs a qualitative method to address the elements of satisfaction as desired by patients which reflect the current situation in Lebanon.

Therefore, the major research gaps identified in the literature review which build the rationale for this study are:

First Gap Identification- Service Quality dimensions

Even though measurement of service quality has received extraordinary attention in driving satisfaction in developing countries, an exhaustive examination is still needed (Bentum-Micah *et al.*, 2019). Based on the literature, perceived service quality has multiple factors in different studies. The findings have varied by country and environment, leaving a gap in information about what drives satisfaction in a given context (Dansereau *et al.*, 2015; Karagun *et al.*, 2018; Deji-Dada *et al.*, 2021; Hawrysz *et al.*, 2021). A good example is the difference between the healthcare system in German-speaking countries and the United States. In German-speaking countries, the patient is treated entirely under health insurance. In the United States, patients have to pay for their treatment, so the cost-performance ratio is appropriate to be asked (Zinn *et al.*, 2016). Therefore, further testing and approval are required before recognizing any construct as an underlying factor in perceived service quality. In addition, service quality is context-specific; studies conducted in other contexts, cannot be summed up (Mohamed and Azizan, 2015; Fatima *et al.*, 2018). There are many models for measuring the quality of service, but few have been implemented in developing countries, and quality-measuring instruments developed in the western world may not apply to the healthcare services in developing countries (Endeshaw, 2021), further investigation and addition of contextual dimensions of service quality in changing healthcare delivery scenarios in developing countries is encouraged. Moreover, Javed *et al.* (2019) stated that each sector of a country's health care system needs its unique optimal mix of service quality dimensions. Almeida *et al.* (2015) stated that there is no one gold instrument or even one validated instrument for many different contexts. Similarly, Haj-Ali *et al.* (2014) strongly recommended the great advantage of developing a standardized tool for assessing patient satisfaction in Lebanese hospitals. More specifically, Hemadeh *et al.* (2019)

recommended refining the patient satisfaction tool in Lebanon by including sections on accessibility factors and Jha *et al.* (2017) recommended studying the impact of wait time, registration, and consultation process in outpatient settings, which is the setting for this study. In addition, a lack of emphasis on technical quality does not bring long-term success (Miranda *et al.*, 2010).

Understanding the perception of quality by patients allows policymakers to design national strategies that improve the quality of care and improve the use of services in hospitals. Together with inconsistencies in the literature on the service quality dimensions influencing patient satisfaction, this creates a significant gap in the assessment of patient satisfaction.

Second Gap Identification- Patient Characteristics

While customer satisfaction has evolved as a key foundation for most firms in the 21st century, few studies have addressed the differences in satisfaction ratings based on customer characteristics and demographics. The patient characteristics or demographics include age, gender, income, educational level, and marital status (Batbaatar *et al.*, 2017). This study will examine a neglected dimension in measuring patient satisfaction, especially if the satisfaction rating is deliberately changed based on patient characteristics, following Mihailovic *et al.* (2017) and Meng *et al.* (2018), who recommended more information about specific aspects of the patient's experience to their demographics or characteristics.

It was agreed that patient satisfaction could be affected by a variety of factors, including patient characteristics. The studies done on the association between these factors and patient satisfaction revealed inconsistent and contradictory results across studies, which lead to the need to study these characteristics for every healthcare system to reflect its uniqueness and its specificity (Adhikari *et al.*, 2021). In addition, Fatima *et al.* (2018) and Batbaatar *et al.* (2017) both identified the need for every healthcare context to further identify and develop its tools or modify the existing ones by adding important dimensions of service quality in its demographic context.

According to Hawrysz *et al.* (2021), the correlations between demographic factors and patient satisfaction cannot be disregarded in the analysis of patient satisfaction. Similarly,

understanding the differences in satisfaction based on patient personal characteristics is an important direction for future research (Miao *et al.*, 2020; Shen *et al.*, 2021).

Patient satisfaction with health care is a way to improve their quality. However, this tool is used to explain the factors that influence their satisfaction. To achieve this path, Mihailovic *et al.* (2017) recommended further information on specific aspects of patient experience to their characteristics.

Third Gap Identification- Role of Emotions

In most studies, scientists have traditionally addressed only cognitive measures (service quality factors) to explain service quality and patient satisfaction. However, as patients are now more demanding (Murthi *et al.*, 2013a), satisfaction with the quality of health care has been found to depend both on cognitive determinants and affective influences (such as emotions) (Fotiadis and Vassiliadis, 2013; Ladhari and Rigaux-Bricmont, 2013).

Many other studies have shown that the needs, priorities, and desires of patients are different and their expectations and emotional responses are associated with different cultural settings (Furrer *et al.*, 2000; Murray-Garcia *et al.*, 2000; Zhang *et al.*, 2008). It can be inferred that the number of healthcare quality dimensions and their relationship to emotions and satisfaction may fluctuate across different cultural groups. This suggests the importance of these factors in future research on healthcare service quality. Hospital managers must determine the relevant healthcare quality that promotes the emotions that patients experience (Ladhari and Rigaux-Bricmont, 2013).

Bigné *et al.* (2005, p.833) stated, “*There is a lack of research on the emotional effects influencing consumer satisfaction and behavioral intentions when consumers are involved in a service setting*”. Vidhya and Rajakumar (2015) further recommended identifying emotional attachment variables and their influence on patient satisfaction in different cultures and different service sectors. Later, despite the importance of emotions in understanding patient satisfaction and their influence on health-related outcomes, Ladhari *et al.* (2017) revealed that there is a lack of studies exploring the role of emotions in utilitarian service settings, such as hospitals. Today, as patients are increasingly demanding (Murthi *et al.*, 2013a), satisfaction in health service quality is found to depend both on cognitive determinants (i.e., technical, and functional-related quality)

and affective influences (i.e., intangible aspects such as emotions, and personality traits) (Fotiadis and Vassiliadis, 2013; Ladhari and Rigaux-Bricmont, 2013). The type and the nature of the cognitive determinants vary between cultural groups, as well as their relationship with patient emotions and patient satisfaction. This addresses the need to shed light on the service quality dimensions and the impact of these dimensions on emotions and satisfaction in different cultural settings (Ladhari and Rigaux-Bricmont, 2013; Pinna *et al.*, 2018). On the same hand, it is recommended by McColl-Kennedy *et al.* (2017) to examine the factors that drive emotions in healthcare and they revealed that by understanding what influences patient emotions, it becomes easy to develop strategies and activities to help individuals cope with the emotions they experience. Thus, “identifying the principal determinants of satisfaction with healthcare service quality is thus of the utmost importance to managers of healthcare systems” (Ladhari and Rigaux-Bricmont, 2013).

Fourth Gap Identification-Patient Trust

The understanding of trust in healthcare has slowly evolved. The interpersonal and institutional trust may be related; yet, patients often generalize their trust in a particular healthcare provider to the healthcare institution (Freimuth *et al.*, 2017). Patient trust in their provider, an essential foundation for promoting patient satisfaction has received attention in this context and what factors contribute to trust are not fully developed. In addition, patient satisfaction with Out-Patient Department (OPD) has been evaluated with little or no patient-provider communication (Helou *et al.*, 2020). For this reason, there is a strong need to study trust between patient and physician and to find out the factors that are associated with trusting relationships within medical settings (Freimuth *et al.*, 2017). In Lebanon, unlike Quebec, people recognize doctors' contributions to patients' health but have moderate confidence in them. Therefore, further studies should explore the reasons behind patient trust in their doctors and assess ways to reshape a stronger relationship (Chandra *et al.*, 2020; Riachy and Nemr, 2020). Therefore, a developing country like Lebanon needs to develop a model of trust in healthcare.

Similarly, there is little empirical research on the nature of trust in healthcare, its size, and its determinants (Gopichandran and Chetlapalli, 2013), and a little research on how to build trust or has become trustworthy, therefore, further research is recommended to develop ways to measure trust in doctors (Dyer *et al.*, 2016).

Fifth Gap Identification- Study Design

The lack of consensus not only on the definition of satisfaction but also on its evaluation (Giese and Cote, 2000; Villodre *et al.*, 2014) has been addressed to further look for other techniques to address the concept of patient satisfaction. Also, there are many concerns regarding the methodologies that adequately identify satisfaction and what measures represent (Hawrysz *et al.*, 2021).

Looking worldwide, most of the studies on patient satisfaction and service quality used the questionnaire technique and they proved the adequacy of this technique in healthcare (Parasuraman *et al.*, 1988; Marshall and Hayes, 1994; Hu *et al.*, 2019; He *et al.*, 2018). However, different countries have different conditions, priorities, and requirements for their healthcare systems. Therefore, each sector of a country's health care system needs its unique optimal mix of service quality dimensions. This ensures the need for an exploratory study at the beginning of the research to develop the psychometric instrument for the main sample under study.

Qualitative techniques provide an opportunity to uncover more in-depth facts about healthcare services and support researchers in the collection of more customer data (Ofili, 2014). This empowers the need to use qualitative research techniques to identify and understand the key determinants of satisfaction with healthcare services (Liljander and Strandvik, 1997; Losada and Rodríguez, 2007). Many researchers argue that combined quantitative and qualitative methods provide better solutions than other techniques (Losada and Rodríguez, 2007; Lees, 2011; Ofili, 2014; Reinales-Lara *et al.*, 2019). Developing survey instrument (Exploratory sequential design) is another mixed-study design that could support the development of appropriate quantitative instruments that provide accurate measures with patient-centered medical models. Existing research on service quality dimensions in Lebanon is quantitative; Hemadeh *et al.* (2019) recommended continuing the search for patient experience and satisfaction using qualitative or mixed-study design to gain a better understanding of the factors influencing patient satisfaction with health services. This study will use the qualitative method as preliminary research to finalize the final survey for the quantitative research.

To sum up everything that has been stated so far, existing identified patient satisfaction frameworks do not directly conjoin patients' demographics, patients' perceived service quality, patients' emotions, and patient trust as a total model. This research will attempt to conjoin all these constructs into a clear model as will be seen in chapter 2. Also, most research studies have studied patient satisfaction either through qualitative or quantitative methodologies, the fact that patient satisfaction is context-specific, drives the rationale to address the specific context of the Lebanese healthcare system through employing both methodologies.

Therefore, based on the above-identified gaps, the scope of this study focuses on identifying the principal key constructs of satisfaction with healthcare service, as not enough studies investigate the concept of patient satisfaction from this perspective. Thus, this research builds on previous studies and examines which perceived service quality dimensions, patients' demographics, and how patients' emotions and patient trust influence patient satisfaction. This research investigates how all the above-mentioned constructs are interrelated; the case context focuses on Lebanon.

The theoretical framework identifies the key constructs and important drivers of patient satisfaction. Specifically, this research investigates how all the above-mentioned constructs relate to each other to better understand and explain the future behavior of patients (Miranda-Veloso and Paula-Montes, 2019). Although the researcher draws on the experience of other countries, it is important to consider each country's peculiarities and its people, which might make copying effective in some cultures while less so in others.

1.4 Research Aim and Objectives

After defining, the research problem and presenting the theoretical background to the main research fields for this research (perceived service quality, patient emotions, patient trust, patient demographics, and patient satisfaction), the research aim and objectives of the Thesis are presented.

The aim of this research is to identify and examine the major key constructs affecting outpatients' satisfaction, including service quality factors, patient emotions, patient trust, and patient demographics to develop and empirically test a model that depicts and estimate the relationships between them toward managerial utilization by Lebanese private hospitals.

The objectives of this research are:

1. To theoretically identify and examine the service quality dimensions that influence hospital outpatient satisfaction.
2. To theoretically determine their relative impact and influence on patient emotions and patient trust.
3. To theoretically examine the influence of patient trust and patient emotions on outpatient satisfaction
4. To theoretically examine the impact of patient demographics on patient satisfaction, and on service quality dimensions.
5. To develop a generic preliminary integrated conceptual framework that integrates perceived service quality dimensions, trust, emotions, and outpatient socio-demographic characteristics.
6. To test the integrated conceptual framework on outpatients in Lebanese private hospitals.
7. To adapt and refine a final framework that recognizes and establishes outpatient satisfaction for Lebanese private hospitals
8. To draw conclusions towards theoretical utilization and practical application, and to identify future research avenues.

1.5 Research Justification- Private Healthcare in Lebanon

In developed countries, patient satisfaction becomes the center of an investigation in the healthcare delivery systems (Asamrew *et al.*, 2020; Adhikari *et al.*, 2021). Patient satisfaction is seen as an important indicator of the quality of health care (Hawrysz *et al.*, 2021).

While Lebanon has some of the best medical practitioners and facilities by international standards, there is no standard information that is regularly collected and few standard measures are available to assess quality (El-Jardali *et al.*, 2016). As proposed by Donabedian (1980) in terms of quality and patient satisfaction, the quality of care provided can be calculated based on patient satisfaction. However, due to the absence of systematic collection and reporting, it is difficult to monitor this aspect of quality of care. More specifically, private hospitals lack clinical audits and risk management in Lebanon. Therefore, after the point of entry, there is nothing in hand to ensure that practice quality is maintained. Each hospital has its practices and

policies. Thus, developing a standardized tool for assessing patient satisfaction and refining it by including quality aspects specifically relevant to Lebanon is very promising (Haj-Ali *et al.*, 2014; Hemadeh *et al.*, 2019).

In the context of Lebanese healthcare reform, the overall trends emphasize the focus on organization and people as the front enablers to sustain the continuous prosperity of the healthcare of Lebanon. Becoming a patient-centered hospital is the key to delivering optimal patient care. Patient satisfaction has long been recognized as an essential component of people-centered care and an important indicator for the quality of care (Louw *et al.*, 2017). Among the range of indicators that have been used to measure the quality of health care, routine measuring of patient satisfaction for improvement is the recommended approach for healthcare providers at all levels (Asamrew *et al.*, 2020). Thus, hospitals are required to discover entirely the key constructs that influence patient satisfaction and to determine the perception of patients on the constructs.

A variety of quality dimensions are significantly correlated with outpatient satisfaction (Shen *et al.*, 2021). These dimensions include accessibility, affordability, service waiting time, technical care, interpersonal care, physical environment, continuity of care, and outcome of care. However, these dimensions only specify certain aspects of patient satisfaction usually evaluated in various contexts and differ in studies (Hawrysz *et al.*, 2021). Researchers stated that different healthcare systems need different instruments and the results from one country cannot be transferred to another. The dimensions that appear to be valid in one country do not seem applicable to the service context of another (Murti *et al.*, 2013; Zinn *et al.*, 2016; Karagun *et al.*, 2018; Deji-Dada *et al.*, 2021; Hawrysz *et al.*, 2021). A good example is the difference between the healthcare system in German-speaking countries and the United States. Therefore, if it is obvious to cater for the difference between German and US patients, it is naturally the case to cater for a more accurate framework for Lebanon/developing countries.

In Lebanon, the private sector dominates the healthcare sector. The success of private hospitals, the need for better quality services, and the poor performance of public hospitals have provided private hospitals with big opportunities. Most of the studies in Lebanon have focused on assessing the quality of hospital services that increase inpatient satisfaction, and neglected the

outpatient services. However, the outpatient department serves as the most prominent source of patient flow to the inpatient department, and the way served in these areas contributes to the overall perception of patients about hospital services (Keshtkaran *et al.*, 2012). Moreover, the private hospitals' main source of revenues comes from out-of-pocket patients; they depend less on the public funds to survive (El-Jardali *et al.*, 2008). Specifically, about 78% of outpatients' visits took place in private hospitals; around 86% of Out-Of-Pocket spending is spent on outpatient services, and private sector physicians provide 80% of care. Over the last decade, the overall trend to providing access to low-cost and high-quality health care has shifted the way care is being delivered. Consequently, the revenue from inpatient care and the healthcare reliance on these revenues is decreasing and will likely decrease even more shortly. Inpatient hospital services are contributing less to health revenues and are expected to be liabilities to a health system. In the last three decades, the health systems are witnessing a significant movement toward outpatient care. According to Gerhardt and Arora (2020), the hospital outpatient revenue grew at a higher compounded annual rate (9%) than inpatient revenue (6%). They reported that the share of outpatient revenues has grown from 28% in 1994 to almost half (48%) in 2018. More recently, hospital outpatient revenue is expected to equate to inpatient revenue and is likely to exceed it in the coming years (Abrams *et al.*, 2019; Carlucci *et al.*, 2013; Zarei, 2015; Pouragha and Zarei, 2016). This emphasizes that outpatients are the guaranteed future for the healthcare industry. In addition, the ability of a hospital to provide high-quality services is necessary to the long-run survival of the hospital (Pouragha and Zarei, 2016). Based on this, it seems apparent the important contribution that the outpatients provide to Lebanese Healthcare. An extensive empirical search revealed that no studies have been conducted on patient satisfaction with quality healthcare with a focus on the outpatient department in private hospitals (Hemadeh *et al.*, 2019). All these data justify the need to study the level of patient satisfaction with outpatients, more specifically specialty clinics due to their biggest contribution to the healthcare system in Lebanon.

The current literature on patient satisfaction mainly focuses on a western patient's point of view (United Kingdom (UK), Europe, United States (US)), whereas this study focused on the Middle Eastern patient view; the second contribution of this study is to see if there are similarities or differences between western and Middle Eastern patients' views.

Following the aforementioned constructs and concurrent literature gaps, the private healthcare sector in Lebanon is appropriate for this research and in which the Thesis may contribute to the theory and practice at both the national and international level.

1.6 Research Contribution

The research aims at developing a comprehensive framework for outpatient satisfaction in developing countries, as there is no single model that encompasses and interrelates patients' demographics, cognitive factors, and affective factors. The expected theoretical and practical contributions of this research are presented below. Determining all the constructs associated with patient satisfaction carries widespread implications for outpatients and efforts to create a framework for outpatient visit satisfaction.

1.6.1 Contribution to Theory

This Thesis has introduced an enhanced assessment of patient satisfaction. A framework for assessing service quality in private hospitals, including a satisfaction survey, is proposed. It is based on the literature review of current service quality and patient satisfaction and the socio-economic and cultural characteristics of Lebanon. As a result, a framework for evaluating patient satisfaction was developed based on four constructs: Patients' perceived service quality, Patients' demographics, Patient' trust, and Patients' emotions. The cognitive part of the conceptual model for this study tries to build on the Donabedian "Structure-Process-Outcome" framework; quality of structure (tangibles), quality of process (services given by therapeutic staff), and outcome (influences of care arrangement on patients' contentment). However, since both cognitive and affective determinants influence patients' perception of service quality and satisfaction, uncovering dimensions leading to better emotions and enhancing patient trust is a great way to assess patient satisfaction. Furthermore, the introduction of an enhanced assessment of patient satisfaction that categorizes patients' demographics, cognitive factors, and affective factors for the healthcare system will support further insights into the theory. Finally, it complements the existing literature on patient satisfaction and quality healthcare as well as the pool of knowledge on healthcare literature.

Many authors have produced models and frameworks for patient satisfaction, but none of the existing literature has combined perceived service quality, patient emotions, and patient trust

into a single framework. This multi-dimensional framework is now considered a contributor to the field of marketing in healthcare. This new knowledge can be used as a key to turning concepts into a core-marketing instrument.

1.6.2 Methodological Contributions

Regarding the methodological contribution of this thesis, while most studies on service quality and patient satisfaction have been mainly quantitative, various researchers (Giese and Cote, 2000; Villodre *et al.*, 2014; Hawrysz *et al.*, 2021) have addressed to further look for other techniques to address the concept of patient satisfaction. Hemadeh *et al.* (2019) recommended further exploring patients' experience and satisfaction using qualitative or mixed-study design to better understand the factors affecting patient satisfaction with healthcare services in Lebanon. This study will employ the qualitative technique as preliminary research to finalize the final survey for the quantitative research. Therefore, a qualitative approach helps in the process of examining and defining the instrument to explore possible factors in the concept of patient satisfaction with the hospital services.

1.6.3 Contribution to Practice

Linking the conceptual and empirical measurement of the relationship between service quality dimensions and patient satisfaction is key to turning concepts into an important marketing instrument (Farooq *et al.*, 2018). This will help health care managers had better understand the service quality dimensions that influence patient satisfaction and how they feel, especially to the service delivery experience. Along these lines, a better understanding of patient satisfaction's causes, correlates, and consequences can help healthcare managers improve the quality of their services. Such improvement will help policymakers develop strategies that increase patient satisfaction, which will increase the country's revenue (Aliman and Mohamad, 2016). This study plays an important role in health policy-making, informing the best practices to select and apply lessons learned to ensure a successful strategy for patient satisfaction in all aspects of health policy delivery.

Thorough knowledge of the factors that influence patient satisfaction, healthcare providers know what they value, how they perceive the quality of care, and know where, when, and how service changes and improvements could be made (Jager and Plooy, 2007).

1.7 Thesis Structure

The outline of the research is guided by the research objectives and is structured around 5 main chapters.

Introduction. This chapter provides an overview of the research background and a description of the research problem, objectives, justification, and theoretical and practical contribution to the field of knowledge.

Literature Review. This chapter provides a broad theoretical review that analyzes service quality dimensions that constitute the cognitive determinant of patient satisfaction and demographic characteristics that influence patient satisfaction. Then, the affective determinant of patient satisfaction is discussed, and most specifically the role of emotions. Following is the influence of the level of trust on patient satisfaction. After a full review of the literature, the researcher proposes a conceptual framework for outpatient satisfaction that is tested through a series of primary and secondary hypotheses.

Methodology. This chapter starts with the research empirical setting and a description of different types of philosophies and states the philosophical perspective of the research study. It describes deductive and inductive research, as well as quantitative and qualitative research methods. It plans the research methodology, the research empirical setting, and the data collection method. Following is a detailed description of sampling size and sampling method is provided. A thorough description of the questionnaire was developed and the Likert scaling adoption is described. This chapter also provides a detailed description of the data analysis and the method used to calculate data. This methodological chapter demonstrates the adequacy of the methods used to ensure the approaches required for the scientific study of this caliber.

Data Analysis and Discussion. This chapter presents the study results. It presents the findings of the quantitative study that are explained through descriptive statistics, Chi-square, Exploratory Factor Analysis, multiple regression analysis, to accept or reject the hypotheses of the study. It presents the findings together with the discussions; this allows the reader to follow

the connection between the objectives of the study and the hypothesis, the literature review, and the theoretical framework. More so, the main factors that influence patient satisfaction are made clear in the final regression model.

Conclusion. This chapter presents the summary of the research and the summary of the research's content and process. It then presents the main findings for each hypothesis and presents the final conceptual framework. Further, it discusses the research contribution to theory and knowledge, addresses the limitations before presenting the recommendations for further research.

1.8 Chapter Conclusion

This chapter provides an overview of the research study. It described the background of the research and identified the research questions, aim, objectives, and a brief description of the study's contributions to knowledge. Then, a detailed structure of the thesis is presented. The following chapter presents the theoretical foundation of the area under research.

CHAPTER 2-LITERATURE REVIEW



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2.0 Introduction

This chapter analyses and discusses the literature finding related to the area under research. The chapter begins with a definition of the health care system. The research involves the concept of service quality, with a specific focus on the quality of hospital care. Then, the patient satisfaction concept in the context of patients' perception of the quality of hospital care is detailed. The literature review continues by analyzing the perceived service quality dimensions that constitute the cognitive determinant of patient satisfaction to then summarizing and narrow down the dimensions as an important component of the framework and the first hypothesis statement is presented. Then, the affective construct of patient satisfaction is discussed and, more specifically the role of emotions, and the second and fourth hypotheses are presented. Following is the role of patient trust on patient satisfaction and how it is built, and the third and fifth hypotheses are presented. The literature continues by identifying the demographic characteristics that influence patient satisfaction and the sixth hypothesis statement is presented. On the completion of these reviews, the satisfaction in the healthcare sector is mainly influenced by a mix of tangibles (Physical characteristics, Patient-Provider Relationship, Accessibility, Technical Quality of Care, Perceived Cost, and Perceived waiting Time), intangible elements (Emotions), patient trust and patient's demographics. These relevant constructs significantly affect the satisfaction of patients, followed by a preliminary conceptual framework that is tested when conducting the primary research is illustrated with the relevant hypothesis statements.

2.1 Health Care System

The word "system" is generally defined as "*An arrangement of parts and their interconnections that come together for a purpose*" (Von Bertalanffy, 1968). What differentiates a health system is that its primary purpose is concerned with people's health. Many parts form a health system. They include in addition to patients, families, and communities, other organizations like Ministries of Public Health (MoPH), health providers, health services organizations, pharmaceutical companies, and health financing bodies. The functions and roles played by these parts including oversight, health service provision, financing, and managing resources are the basis for the interconnections of the health system.

The WHO defined health systems as comprising all the organizations, institutions, and resources devoted to producing health actions. A health action encompasses all efforts related to personal

healthcare, public health services, or inter-sectoral initiatives whose primary purpose is to improve health (WHO, 2000). Health systems look forward to achieving certain goals, starting from health improvement at two levels (achieving best average level and minimizing the differences between individuals and groups) to achieving other goals, which are:

“To ensure responsiveness to people’s expectations, to protect against the catastrophic financial risks of disease, and to distribute the burden of funding fairly and to improve efficiency” (WHO, 2007b; Hussain-Ali *et al.*, 2015; p.1499).

The health system has three main goals; they are health, responsiveness, and fairness in financial contribution (Donev *et al.*, 2013). The main primary goal centralized around improving the health of the population throughout their life through enhancing premature mortality and non-fatal health outcomes. The second goal centralized around improving its responsiveness to meet the expectations of the population through two major components “respect for persons” and “client orientation”. The first component “respect for persons” is centralized around the interaction between the health system and individuals that include aspects having ethical dimensions. It has three main components: “Respect for dignity”, defined as the interaction with providers including courtesy and sensitivity to the possible uncomfortable moments in clinical interrogation; Respect for individual autonomy especially when patients will choose their health; and Respect for confidentiality meaning that individuals have the right to keep their personal health information confidential (Beauchamp and Childress, 1989; Rylance, 1999). The second component “client orientation” has four components. It takes into consideration the several dimensions of consumer satisfaction that are not a function of health improvement. These four components are prompt attention to health needs that has shown through surveys, a key dimension for population satisfaction with health services (Cohen, 1996; Sitzia and Wood, 1997); Basic amenities including clean room, adequate hospital beds, and food (Bernhart *et al.*, 1999); and Access to social support and choice of institution and individual providing care. Patients may want to select who provides them with health care (Carr-Hill, 1992; Murray and Frenck, 2000).

Revisiting the three goals of the healthcare system framework mentioned above, one of the goals is to provide health services that meet the expectations of the population. This function is

evaluated based on the responsiveness capacity, which is the service quality of the health system. Therefore, the evaluation of the quality of healthcare services is considered one of the fundamental steps to develop a suitable strategy for the healthcare system of a country.

2.2 Healthcare Quality

2.2.1 Service Quality

To be able to understand the quality of healthcare, the concept of service quality should be understood first. Quality as a concept varies in terms of definition and understanding. The different characteristics of service quality such as; intangibility, heterogeneity, and inseparability make definition and measurement difficult (Giao *et al.*, 2020; Giao, 2019; Giao, 2004, 2019). Different definitions of service quality have been proposed by some of the influential contributors and thought leaders depending on whose perspective is taken and within which context it is considered. They stated that it involves: “*conforming to requirements* (Crosby, 1992; Pakurár *et al.*, 2019); *excellence* (Peters and Waterman, 1982); *conformance to specifications* (Gilmore, 1974); *specification and customer satisfaction simultaneously* (Juran and Gryna, 1988); *meeting and/or exceeding customers’ expectations* (Parasuraman *et al.*, 1985), and *consistently delighting the customer by providing products and services according to the latest functional specifications which meet and exceed the customer’s explicit and implicit needs and satisfy producer/provider*” (Mosadeghrad, 2013; Mosadeghrad, 2014 b).

Service quality has been extensively investigated since 1980 when Grönroos introduced the first model to measure service quality, the Nordic model. According to Grönroos (1984), also called the “legend of marketing” and a “leading scholar in developing modern service marketing and service logic”, quality is defined as what the customer perceives. He stated that service quality should be conceptualized from a customer-based perspective. He emphasized that:

“To talk about better quality without defining it, how it is perceived by customers, and how it can be improved and enhanced is of limited value” (Grönroos, 2000, p.62)

As a result, customer perception of quality plays a major role in the establishment, definition, and improvement of the quality of service. The dimensions of service quality refer to how and what;

“How service quality is perceived by the consumers and in what way service quality is influenced” (Grönroos, 2000; p.63).

He noted that the quality of service as perceived by the customers is based on two dimensions: functional or process-related dimension “how”, and technical or outcome dimension “what”. The technical quality refers to what the service generates defined as the actual outcome objectively measured. Later, Grönroos (2007) proposed a third component of service quality to be added to the technical and functional dimensions, which is the corporate image.

The Grönroos model was based on disconfirmation of perceived services against expected services. Derived from the Grönroos model, Parasuraman *et al.* (1985) suggested a new model for service quality that measures the gap between perceived service and expected service. They identified ten dimensions for measuring the gaps namely; “reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, and tangibles”, which were later refined and reduced to five dimensions “reliability, responsiveness, assurance (which contains communication, competence, credibility, courtesy, and security), tangibles, and empathy (which contains access and understanding)”. They called the new model SERVQUAL. In 1991 and 1994, there were many revisions to SERVQUAL, though its construction and dimensions remained the same.

Although SERVQUAL was the dominant model in service quality, scientists argued that the methods offered to measure gaps were not clearly defined (Brady and Cronin, 2001a; Seth *et al.*, 2005), and some others believe that the gaps between the perceptions and expectations are not psychometrically sufficient for greater assessment of service quality (Brady and Cronin, 2001a). This model has been studied for years and debated among scientists, but it was concluded that it is not comprehensive in all settings (Brady and Cronin, 2001a; Dabholkar *et al.*, 1996; Shahin and Samea, 2010). Cronin and Taylor (1992) refined the model by suggesting that performance is the only factor for measuring service quality. They argued that service quality relates to the customer’s attitude and the performance (perceived service) is the only measurement for service quality. The new model is called SERVPERF, which measures only the performance (perceived service) with the same dimensions of SERVQUAL instead of expectation-performance measurement.

Although SERVQUAL has the validity for testing for different services, however, it is not adapted and valid for some other sectors. According to Dabholkar *et al.* (1996), SERVQUAL is not adopted for the retail stores and a new model for service quality based on SERVQUAL and SERVPREF was suggested where they propose a hierarchical structural model for service quality with dimensions and sub-dimensions. However, this model also shows that it needs further testing and development to be applicable in other service areas. Based on the idea of Dabholkar *et al.* (1996) that service quality is multidimensional, Brady and Cronin (2001) proposed a new hierarchical model, where they adopted two dimensions from Grönroos's model (1994); technical and functional quality; and the third dimension from Rust and Oliver (1994) which is the service environment. This model developed a new way of measuring service quality. Researchers largely adopted this model because of its flexibility and ability to include different dimensions depending on the business (Brady and Cronin, 2001a; Pollack, 2009). In the years after, the hierarchical model was adopted and further developed by modifying the dimensions and sub-dimensions to specific service industries e.g., (Chahal and Kumari, 2010; Dagger *et al.*, 2007) including healthcare, (Akter *et al.*, 2010).

Some previous models showed good validity and suitability for measuring service quality; however, the researchers found that they are not generalizable to all businesses (Seth *et al.*, 2005). Therefore, it is suggested for all businesses to use a context-specific measure of service quality to better understand customer perceptions of service quality (Dagger *et al.*, 2007; Mohamed and Azizan, 2015; Zinn *et al.*, 2016; Javed *et al.*, 2019). The development of service quality models since 1984 implies that there have been many changes in the service provision process and the outcome of service quality, and their measurement depends on the context and the sector analyzed (Ladhari, 2008). This strongly highlights the need for having industry-specific models with related dimensions/factors, as generic models cannot cover all the needs of the specific service industry (Ghotbabadi *et al.*, 2015; Endeshaw, 2021).

The service-quality measurement models, namely, Grönroos (1984), SERVQUAL (1985), and SERVPERF (1992) applied to healthcare services. However, Piligrimiene and Buciuniene (2011) argued that there have been debates about healthcare service quality for many years that have led to questioning what constitutes healthcare service quality and how it is perceived. In

addition, previous studies create scales that are like generic measures of quality of service that may not be useful in assessing the perceived quality of health care services. Although there have been many fragmented attempts to adopt the quality of healthcare service indicators, they remain incomplete and imperfect general aspects, that may not meet specific needs (Azam *et al.*, 2012). In the healthcare sector, the SERVQUAL scale was modified and its application varied from one context to another. However, the SERVQUAL model cannot be a straitjacket suitable for all purposes (Amporfro *et al.*, 2021), and a new model was proposed with psychometric properties, based on the context and specific dimensions of the industry, that would incorporate both functional and technical aspects of healthcare organizations (Babakus and Boller, 1992; Brown *et al.*, 1993; Endeshaw, 2021). Over the past years, different authors have identified different service quality dimensions that are adapted depending on the purpose for which it is being used (Butt and De Run, 2010).

2.2.2 Healthcare Service Quality

The quality of health care is a specific case of service quality in the context of health systems. It is increasingly important in health systems since it is a technique used to evaluate the performance of the health care system and obtain a competitive advantage and patient loyalty (Javed *et al.*, 2019; Bahadori *et al.*, 2018).

According to the World Health Organization (WHO), the quality of healthcare reflects the level of achieved goals of the health care system pointed at protecting and improving the wellbeing of people. Three steps are conducted to enhance the quality of health care (Legido-Quigley *et al.*, 2008). First, the quality itself should be defined. Second, the assessment indicators should be defined. Third, the design of the improvement program should be implemented (Pencheon *et al.*, 2006). Donabedian is recognized as the first person to conduct a study on quality in healthcare. He explained that improving health care could depend on both the technical and interpersonal quality of healthcare services (Donabedian, 1988). Technical care includes the medical treatment aspects of patient care, and interpersonal care includes communicating with the patient about his or her treatment. He is the pioneer of the quality-of-care theory and the biggest contributor to the process of defining indicators for the quality assessment of the given services. He stated that three major components define the quality of health care; the quality of structure (tangibles), quality of process (service given), and results (impacts of care on patient's

contentment (Ayanian and Markel, 2016; Djordjevic and Vasiljevic, 2019; Ferreira and Marques, 2019; Allen-Duck *et al.*, 2017). These components turn out to be critical factors that are valuable to differentiate and improve the performance of organizations in the era of intense competition (Bentum-Micah *et al.*, 2020; Farooq *et al.*, 2018; Jamaluddin and Ruswanti, 2017). In principle, high performance as a complement to better access to healthcare provision is necessary to achieve the highest standards for high-quality care (Setyawan *et al.*, 2020).

Given many scholars have argued the need to develop a framework specifically for the healthcare sector taking into consideration the context and the specific dimensions of the industry (Black, 2000; Camilleri and O'Callaghan, 1998; Juwaheer and Kassean, 2006). The work of Donabedian has been very helpful in terms of structure, process, and outcome, and has been used for the development of quality medical care. In specific, Camilleri and O'Callaghan (1998) built on Donabedian's model for hospital services to develop a comprehensive model to measure the quality of healthcare services in Malta based on six dimensions namely; "admission processes, attitudes of medical staff (doctors), attitudes of nursing officers, ward/hospital environment, patients' amenities/facilities and discharge planning and coordination". The work of Donabedian (1988), and Camilleri and O'Callaghan (1998) provided valuable insights into what was required for the service standards in hospitals (Endeshaw, 2021). After years of work on the quality of healthcare service, it was agreed that healthcare service quality is a complex and multidimensional concept (Dagger *et al.*, 2007; Padma *et al.*, 2009).

Despite the focused effort made over the past two decades, quality issues in healthcare remain as the efforts are impeded by a lack of consistent, uniform definition of quality (Allen-Duck *et al.*, 2017). Health care service quality is an objective construct and it is not easy to evaluate (Mangini *et al.*, 2017; Saueressig *et al.*, 2021). Assessing and improving the quality of healthcare remained difficult and painful, but it can still be assessed by subjective means involving patients' observations that aim to assess the quality of healthcare through the perception of patients on the quality of health care services. While quality assessment should be based on three measures of structure, process, and outcome (Aday *et al.*, 2004), it has been argued that structure and outcome measures are poor measures (Brook *et al.*, 2000) because they relate to many other factors. According to Brook *et al.* (2000, p. 284), the process measures "*are only good as the evidence that associated them with improved outcomes*". In healthcare, the process

is primarily concerned with interactions between patients and providers. Therefore, the assessment of the patient's perception is considered a fundamental part of the quality of health care. In practice, Hayes (1988) emphasized the use of more subjective or soft measures that center on the perceptions and attitudes of patients to assess the quality of the service. The view of the quality of services provided by healthcare is expressed, as it is the patient satisfaction about the service provided to patients instead of assessing the kind of services provided to them (Elleuch, 2008). The Institute of Medicine (IOM) included patient satisfaction as an important element of health care outcomes in defining the dimensions of quality (IOM, Institute of Medicine, 1990; Goula *et al.*, 2021). This emphasizes the determinative role of patients to evaluate the quality of health care. In this way, hospitals must always consider the importance of continually assessing the needs and expectations of patients to ensure patient satisfaction with the hospital (Kui-Son *et al.*, 2005) and the behavioral intention of patients (Amin and Nasharuddin, 2013; Asnawi *et al.*, 2019). Companies that think about competitiveness, development, and growth of market organizations, have recognized that service quality and satisfaction are critical success factors and service quality provides a sustainable competitive advantage (Angelova and Zekiri, 2011; Meesala and Paul, 2018; Adhikari *et al.*, 2021). Improving service quality improves profitability, market share, costs, customer loyalty, and the effectiveness of marketing campaigns (Ali, 2017; Bentum-Micah *et al.*, 2020; Farooq *et al.*, 2018; Rezaei *et al.*, 2018).

Therefore, the quality of healthcare' main concern is not only about how the services provided by medical staff to patients but also how patients feel comfortable in the environment created by hospitals (Arab *et al.*, 2012; Juhana *et al.*, 2015; Endeshaw, 2021). The main objective of measuring the quality of health services is to help health facilities provide efficient, equitable, and sustainable high-quality health services and increase patient satisfaction (Javed *et al.*, 2019; Pramanik, 2016). Given that patient satisfaction depends on the perceived service quality, this emphasizes the importance of studying patient satisfaction in the service sector (Javed and Ilyas, 2018; Hawrysz *et al.*, 2021).

2.3 Patient Satisfaction

The concept of patient satisfaction is not new and patients are the major players in the changing medical world. It is an essential ingredient in measuring quality healthcare as it reflects the

worker's progress toward the patient's desires and reflects the patient's expectations (Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021; Umoke *et al.*, 2020).

Health workers respond to patients' needs daily, including disease diagnosing, disease management, and patient care (Papanikolaou and Zygiaris, 2014; Agbi *et al.*, 2020). Patients' satisfaction is related to health and safety concerns that must be properly addressed and identified. Therefore, formulating business objectives requires patient satisfaction as a principal determinant of performance.

2.3.1 Quality of Healthcare and Patient Satisfaction

Since patient satisfaction is considered a measure of hospital quality of care, many studies have been conducted internationally and over a long period. Donabedian (1998) argued that the quality of care provided could be calculated based on patient satisfaction. It is considered the best predictor of patient satisfaction in hospitals (Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021). Therefore, hospital service quality can be measured by measuring the satisfaction level of patients as they are the end-users.

Patient satisfaction is a complex concept that relies heavily on the subjective judgment of a patient. It is associated with multiple factors including the patient's emotional, social, and cultural factors and values, past experiences, and future expectations (Ghosh, 2014; Afzal *et al.*, 2014). For this reason, measuring patient satisfaction is considered a fundamental part of quality assessment. Additionally, measuring patient satisfaction is a key performance measure in many payment models and payment for performance plans (Pakdil and Harwood, 2005; Andemeskel *et al.*, 2019). Although patient satisfaction is identified as an important quality outcome indicator to measure the success of services delivery, it is not a clearly defined concept. However, it remained to be one of the central focus points for health care providers (Adhikari *et al.*, 2021; Asif *et al.*, 2019; Bahadori *et al.*, 2016; Soomro *et al.*, 2019).

According to (Kotler and Keller, 2006, p. 144), Patient Satisfaction is

“A person's feelings of pleasure or disappointment resulting from comparing a product or service's perceived performance (or outcome) in relation to his or her expectations”

Boquiren *et al.* (2015) stated that patient satisfaction measures the perceived quality of care and as such forms the basis for evaluation and improvement of health services.

The centralized focus that patient satisfaction has had in the evaluation of health services during the last decade has emphasized its role in terms of deciding the need to use existing resources more precisely and efficiently due to increased costs in health services (Özcan, 2014). Patient satisfaction measures drive the development of perceived quality of health services in a positive direction and help develop the characteristics of services provided by doctors and other staff and support the completion of missing services in healthcare organizations (Nesanır and Dinç, 2008).

It is the degree to which patients see the healthcare service, product, or delivery process as useful, effective, or beneficial. Mostly, Patient satisfaction shows to represent attitudes towards care or aspects of care (Jenkinson *et al.*, 2002). The concept of patient satisfaction is multidimensional and compares patient perceptions and expectations with the actual care they receive (Edlund *et al.*, 2003). The implicit behind these definitions of patient satisfaction assumes that every patient attaches values to specific attributes of the treatment or service, and these values are one of a kind to everyone's experience (Speight, 2005). Patient satisfaction is also defined as how much patients feel gratified with the hospital services which is a tool for shaping the patient's repurchase intention, their loyalty, enhancing their lifetime value, and discouraging their churn (Murti *et al.*, 2013; Neupane and Devkota, 2017). Javed and Ilyas, (2018) defined patient satisfaction as:

“A consequence of perceived service quality and is a function of observed performance of healthcare service and patient expectations”

Patient satisfaction has become the most important indicator of the quality of care and is considered an outcome of healthcare services (Abdel Maqsood *et al.*, 2012; Abass *et al.*, 2021; Akhtari-Zavare *et al.* 2010; Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021; Mohanan *et al.*, 2010; Karaca and Durna, 2019; Karsana and Murhadi, 2021).

Patient satisfaction is an important phenomenon that perceives the patients' needs to improve healthcare systems. Satisfied patients are more likely to use medical services; maintain a relationship with a specific provider; adhere to specific regimens (Aljuaid *et al.*, 2016; Boulding *et al.*, 2011; Doyle *et al.*, 2013; Glickman *et al.*, 2010; Péfoyo and Wodchis, 2013; Amporfro *et al.*, 2021); and ensure a long-term relationship expressed in the intention to return, and patient willingness to recommend (Elleuch, 2008). Patient satisfaction also contributes to a better image of the hospital, reflected in greater use of the service and greater market share (Choi *et al.*, 2004). The literature revealed that patient satisfaction increases patient retention, willingness to recommend, improves patient compliance with physician advice and requests. It also increases patients' trust and loyalty and reduces the number of lawsuits (Al-Damen, 2017). Patients' responses to healthcare services are an approach to collect data on patient perspectives about the perceived quality of healthcare and to generate strong patient engagement (Kamimura *et al.*, 2015).

In recent decades, the level of patient satisfaction has been found as the best tool to get the patient's view on how to provide care. Two major principles are the basis for this: first, patients are the best provider of information on the quality and quantity of medical services; second, patients' views are defining factors in planning and evaluating satisfaction. For almost years, evaluating patients' satisfaction with medical care has been a rapidly developing area of research (Bener and Ghuloum, 2013). Patient satisfaction is an important measure of healthcare quality, as it provides information on the provider's success in meeting key client expectations (Huang *et al.*, 2004; Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021) and is a decisive determinant for the perspective of the patient's behavioral intention (Al-Refaie, 2011; Murti *et al.*, 2013a; Murti *et al.*, 2013b). Patient satisfaction has been shown to reflect important outcomes, such as better adherence to medical regimens, better utilization of medical services, malpractice litigation, and better prognosis (Xesfingi and Vozikis, 2016; Pinna *et al.*, 2018).

Because patient satisfaction has been widely viewed as a desirable health care outcome, it has been employed as a construct to measure the quality of health care. More specifically, the evaluation of the quality of care from patients' perspectives was operationalized as patient satisfaction. Numerous studies have shown that perceived service quality and patient satisfaction are positively related (Azizan and Mohamed, 2013; Karsana and Murhadi, 2021;

Mohamed and Azizan, 2015; Mohamed *et al.*, 2017; Mariana *et al.*, 2020; Permana *et al.*, 2019). While service quality emphasizes the specific dimension of service, satisfaction is a broader term (Zeithaml *et al.*, 2006; Chou *et al.*, 2019). However, many factors directly or indirectly affect customer satisfaction and the perceived service quality is a key component in determining customer satisfaction (Wilson *et al.*, 2008; Zeithaml *et al.*, 2009; Neupane and Devkota, 2017). The relationship between service quality and satisfaction is often considered linear, showing that the higher the perceived service quality the higher the level of satisfaction (Pollack, 2008).

In developing countries, Andaleeb (2001) showed that perceived service quality has a significant positive impact on patient satisfaction. Agarwal and Singh (2016) also found significant correlations between service quality dimensions and patient satisfaction. In Sweden, Fornell (1992) in Sidharta and Suzanto, (2015) demonstrated that there is a relationship between perceived quality and satisfaction. Moreover, Chang *et al.* (2013) found significant relationships between service quality and patient satisfaction in interpersonal-based medical services encounters (Neupane and Devkota, 2017). Shabbir *et al.* (2016) demonstrated a positive relationship between healthcare service quality and patient satisfaction. Additionally, healthcare service quality is portrayed as “patient satisfaction” by Chahal and Mehta (2013) and Naidu (2009). Furthermore, many researchers have demonstrated that when measuring health care service quality, patient satisfaction evaluation is a reliable indicator (Duggirala *et al.*, 2008; Sitzia and Wood, 1997). Equally, patient satisfaction information is an important attribute in healthcare planning and evaluation (Chan and Chau, 2005). As such, to highly survive in a highly competitive environment, patient satisfaction should be given priority by healthcare organizations (Rivers and Glover, 2008; Mohamed *et al.*, 2017).

Based on the above discussions, the hypothesis that evolves:

H1: Perceived service quality has a significant positive impact on patient satisfaction.

Both concepts are used synonymously in the research literature. Therefore, it should be considered important to continue the focus on patient satisfaction surveys as a measure of the quality of care.

2.3.2 Importance of Measuring Patient Satisfaction

The number of patient satisfaction questionnaires has increased in recent decades to measure the quality of health care from the patients' perspective. According to Brook *et al.* (2000, p. 282), to promote the quality of care, it has been suggested that it is essential to develop tools that can be made available to the public to improve the effectiveness and the efficiency of the health care system and create a valid, reliable quality of care measures (Quintana *et al.*, 2006). The use of patient satisfaction surveys is beneficial because it relies heavily on using standardized, psychometrically tested data collection approaches. Therefore, there is a great need to further develop and refine a standardized instrument to positively reflect the main objectives of the patient satisfaction survey (Srivastava and Goel, 2018).

It has too ended up progressively common to interface patient satisfaction as an indicator of healthcare quality with payment or reimbursement schemes to incentivize the quality improvement in healthcare provision (Junewicz and Youngner, 2015). Patient satisfaction ratings are commonly used for marketing and quality assessment purposes and hence work as competitive devices affecting patient volumes and thus also profits (Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021). Because of its diverse application, Boquiren *et al.* (2015; p. 1467) have summarized patient satisfaction ratings as follows: “*Today, patient satisfaction ratings are important indicators of the efficacy, quality, and feasibility of healthcare services.*” They also pointed out that to satisfy a patient, three elements are necessary: “1) providing necessary care, thus achieving positive outcomes; 2) granting the patient’s medically unnecessary wishes; and 3) displaying good interpersonal skills, such as respect and communication skills”.

The role of continuous evaluation and publication of patient surveys was reported in international studies as a complement for public reporting on clinical outcomes and process quality in helping patients in choosing a hospital and serving to improve the quality of hospital care on a long-term basis (Coulter *et al.*, 2014; Price *et al.*, 2014). A few nations have as of now presented across the countries nationwide surveys and have shared subjective patient perspectives of inpatient care, while in numerous cases, hospitals conduct patient satisfaction surveys themselves and utilize data for internal quality management (Kraska *et al.*, 2017).

Patient satisfaction surveys have become an important tool for getting people's feedback. It is a means of measuring the effectiveness of health care delivery in each area. It reflects the strengths and weaknesses of the services provided in the health sector. Patient satisfaction surveys can also serve as learning tools, providing proportionate support for problem areas, and serving as a baseline for management decisions (Chakraborty *et al.*, 2016).

The fact that the healthcare market is highly competitive and consumer-driven, the patient satisfaction score influences patients' decisions about the use of healthcare resources, and this has been proven by studies that have shown a positive association between patient satisfaction and clinical outcomes have been proven (Pflugeisen *et al.*, 2016). In addition to the role of patient satisfaction surveys in exploring the patient's perception of quality with relation to process, structure, and outcome, they shed the light on their intentional behavior in the future (Ajarmah and Hashem, 2015). Through patient satisfaction surveys, health care providers become able to identify service quality dimensions that need improvement. Moreover, policymakers understand their patients' needs more profoundly and adjust their strategic plans accordingly for effective and better-quality services (Batbaatar *et al.*, 2017; Özer *et al.*, 2017).

The important role of patient satisfaction in influencing the quality of care has been documented in recent years. Several studies have shown that satisfied patients are more likely to use medical services, maintain a relationship with a specific provider, and adhere to certain treatment regimens (Messina *et al.*, 2009; Otani *et al.*, 2010; Péfoyo and Wodchis, 2013; Sánchez-Piedra *et al.*, 2014; Price *et al.*, 2014; Amporfro *et al.*, 2021). Patient satisfaction has been shown to ensure a long-term relationship that is expressed in the intention to return and the patient willingness to recommend (Messina *et al.*, 2009; Elleuch, 2008; Otani *et al.*, 2010; Welch, 2010; Mohiuddin, 2020; Adhikari *et al.*, 2021), and therefore, it is used as a measure of effectiveness in health care (Abd-Manaf, 2012). Patient satisfaction also contributes to a better image of the hospital, reflected in greater use of the service and greater market share (Andaleeb, 1998; Choi *et al.*, 2004). It also influences patient return and increased referrals. The way it influences them is available through a considerable body of evidence (Garman *et al.*, 2004; Otani and Harris, 2004; Jackie and Tam, 2007). Press (2002) found that patient satisfaction leads to a higher quality of care, higher employee satisfaction, lower employee turnover, better financial health, a stronger competitive position, improved placebo effect, and better risk management.

Furthermore, patient satisfaction surveys are very important in assessing the quality of health care management (Turner and Pol, 1995). They provide hospital managers with feedback on patients' needs, concerns, and perceptions of treatment (Aharony and Strasser, 1993).

Many questions come to mind when talking about patient satisfaction surveys; how they are conducted? Why they are important? How do they affect and reflect the quality of hospital care? Finding answers to those questions respond to the debates and concerns that have governed studies of patient satisfaction over time especially in its practical application in health care in general and in hospitals. Even though several methods for evaluating the quality of care are described and there is no consensus on accepted universal method, patient satisfaction surveys are agreed to be the best measure of the quality of care (Press, 2006; Turnbull and Hembree, 2006; Merkouris *et al.*, 2013; Obamiro, 2013; Asamrew *et al.*, 2020; Adhikari *et al.*, 2021; Hawrysz *et al.*, 2021). Healthcare institutions depend on patient satisfaction surveys as a process improvement tool to improve services provision (Deitrick *et al.*, 2007; Barakat *et al.*, 2018).

Why all this attention to customer satisfaction? Policymakers believe that patient satisfaction is not only an important predictor of national economic health but it is also an important indicator of well-being (Zeithaml *et al.*, 2013; Goula *et al.*, 2021). Tracking the economic efficiency and pricing statistics is not enough as the increased level of satisfaction is linked to customer loyalty and profits.

The concept of patient satisfaction can change from one culture to another and different variables can be related depending on the profile or service of the patients (Endeshaw, 2019; Hawrysz *et al.*, 2021; Mounessa *et al.*, 2018; Rozenblum *et al.*, 2011; Rozenblum *et al.*, 2013). Clinicians and patients agree that clinical skills, rapport, and health-related communication skills are key elements of quality and satisfaction. Although patient satisfaction in healthcare has been studied extensively, there is no gold instrument, much less a validated instrument, for many different contexts. The development of a new tool by healthcare organizations reflects the particularities of each culture or health setting (Adhikari *et al.*, 2021; Almeida *et al.*, 2015; Hemadeh *et al.*, 2019; Hawrysz *et al.*, 2021).

In health services concerning satisfaction, the surveys are conducted to assess patient satisfaction, learn about patient's expectations, suggestions, and feedback, improve quality and look for the impact of demographics and treatment periods on patient satisfaction (Buchanan *et al.*, 2015; Karaca and Durna, 2019; Miao *et al.*, 2020; Özer and Çakıl, 2007; Sitzia and Wood, 1997; Shen *et al.*, 2021). Therefore, patient satisfaction must be constantly measured with valid and reliable instruments to assess the quality of care, identify dimensions that influence care, and know which elements should be prioritized and which should be modified based on patients' responses (Merkouris *et al.*, 2013; Buchanan *et al.*, 2015). Additionally, understanding the relative importance of service quality dimensions is critical in determining patient satisfaction and enables managers to identify which dimensions are critical to patient satisfaction (Carlucci *et al.*, 2013).

2.3.3 Determinants of Satisfaction

In many models of patient satisfaction, satisfaction is determined by certain subject characteristics. Expectations appeared to be the most important, followed by patient characteristics and psychosocial variables. Sitzia and Wood (1997) who defined these three principal determinants did the most valuable review.

The first determinant- Expectations turned out to be the most important of these determinants and played a fundamental role in expressions of satisfaction since it explains 8% of the variance in patient satisfaction (Linder-Pelz, 1982). The gap model developed by Parasuraman *et al.* (1988) is based on "the gap between customers' expectations of service and their perception of the service experience". In addition, the disconfirmation model compares customer expectations and perceptions (Parasuraman *et al.*, 1985). Latest studies have shown that the expectations of patients and their priorities differ among countries and that their cultural background and healthcare system are highly associated with their expectations (Eiriz and Figueiredo, 2005). There is also evidence that expectations vary with knowledge and experience, and are likely to change with accumulating experience (Sitzia and Wood, 1997). It has been argued that patient expectations are key to understanding the reasons for expressed dissatisfaction (Williams, 1994). It is considered the most important determinant since it determines patient satisfaction from the harmonization of their expectations and perceptions about the quality of healthcare.

Rozenblum *et al.* (2011) showed that healthcare organizations should enhance clinicians' awareness to address and manage patient expectations that in turn increase patient satisfaction.

The second determinant-patient characteristics often related to demographic characteristics of patients have been studied as predictors of satisfaction and they have been strongly surveyed, explaining a major part of patient satisfaction (Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021; Miao *et al.*, 2020; Shen *et al.*, 2021). Most characteristics are: "Gender (Hall and Dornan, 1990; Crow *et al.*, 2002; Danielsen *et al.*, 2007); Age (Hall and Dornan, 1990; Jenkinson *et al.*, 2002; Danielsen *et al.*, 2007); Educational level (Da Costa *et al.*, 1999; Danielsen *et al.*, 2007); Personality (Hendriks *et al.*, 2006; Larsson and Wilde-Larsson, 2010); Social class; Marital status (Hall and Dornan, 1990); Place of residence (Yaya *et al.*, 2017; Levinton *et al.*, 2011) and, Occupation". Almost most of the studies showed weak, inconsistent, or no relationships. Age appeared to be the most consistent predictor. Older patients tend to be more satisfied than younger patients do (Fox and Storms, 1981; Hall and Dornan, 1990; Williams and Calnan, 1991a; Cohen, 1996; Jackson *et al.*, 2001; Westaway *et al.*, 2003; Quintana *et al.*, 2006; Xiong *et al.*, 2018). While some studies have shown that females were more satisfied (Fox and Storms, 1981; Pascoe, 1983), others showed men to be more satisfied (Hekkert *et al.*, 2009). The effects of gender were inconsistent across studies (Xiong *et al.*, 2018; Quintana *et al.*, 2006), or revealed no differences (Hall and Dornan, 1990). Other studies on hospitalized patients showed that age and patient satisfaction are not related (Nelson-Wernick *et al.*, 1981). Tucker and Adams (2001) pointed out that demographic factors (age, gender, marital status, education, and race) are not associated with satisfaction. In addition, Choi *et al.* (2005) in South Korea reported no difference across gender, age, or types of service subgroups in their study. In any case, it is very imperative to note that the role of gender in various cultures may fluctuate significantly (Xiong *et al.*, 2018). The third determinant-psychosocial characteristics is an important determinant because many "Social-psychological artifacts" affect the expression of satisfaction (LeVois *et al.*, 1981). Its importance appears in terms of identification and control of biases and co-founders of satisfaction surveys. Three types of bias are defined as "Social desirability response bias"; "ingratiating response bias", and "Acquiescence response bias" (Sitzia and Wood, 1997). Response bias due to social desirability response bias refers to greater satisfaction than actual feelings reported by patients because they believe that positive feedback from survey administrators is more acceptable. Similarly, "Ingratiating response bias" creates "self-interest

bias" because "*patients are likely to perceive those expressions of satisfaction will contribute to the continuation of the service which in turn will be in their own self-interest*" (Sitzia and Wood, 1997; p. 1836). This theory is supported by the "Economic View" and "Social exchange perspective", which refer to the fact that patients want to maximize their self-interest or that behavior is influenced by an exchange of activities (LeVois *et al.*, 1981). An "acquiescence response bias" is the tendency of survey participants to agree with statements regardless of their content.

In another attempt to identify the determinants of patient satisfaction, Aharony and Strasser (1993, p.59) showed that the determinants of patient satisfaction include "1) socio-demographic characteristics of patients; 2) Physical and psychological status; 3) Attitudes and expectations of medical care; 4) Structure; 5) Accessibility and continuity of care; 6) Process; 7) Internal aspects of care, and 8) Outcome of care". This view encompasses both the components of patient satisfaction and the determinants of patient satisfaction, However, according to Sitzia and Wood (1997, p. 1836),

"The determinants of satisfaction are distinguished from the multidimensional components of satisfaction as aspects of the delivery of care, identified by many authors".

2.3.4 Dimensions of Patient Satisfaction

Since patient satisfaction builds on "*the summation of the very subjective assessments of the dimensions of the care experience*" (Linder-Pelz, 1982; p.250), there are many patients' satisfaction surveys because of different sources of components relating to health care services and health care providers (Sitzia and Wood, 1997; Tucker and Adams, 2001). It was suggested that the differences among patients influence their attitudes. The social, cultural, and socio-economic characteristics of patients' differences among countries influence their orientations towards care and their subjective perceptions resulting in differences in service quality dimensions of patient satisfaction (Fox and Storms, 1981). The dimensions that appear to be valid in one country do not seem applicable to the service context of another (Murti *et al.*, 2013; Zinn *et al.*, 2016; Karagun *et al.*, 2018; Deji-Dada *et al.*, 2021; Hawrysz *et al.*, 2021) and the number of service quality dimensions depend largely on the type of services offered within the facility (Buttle, 1996). Therefore, several researchers in developing and developed nations have

studied the quality of hospital services, and several dimensions have been proposed as indicated below.

Ware *et al.* (1983) identified eight dimensions in their widely accepted review of 111 theoretical and empirical articles: “the art of care, technical quality of care, accessibility/convenience, finances, physical environment, availability, continuity, and efficiency/outcomes” in which they highlighted the interaction between a service provider and a patient, technical care and the environment as important dimensions of patient satisfaction. Similarly, Sitzia and Wood (1997) assumed the following dimensions of patient satisfaction are Accessibility; interpersonal aspects of care; technical aspects of patient care, and patient education/ information. This also confirms the importance of interpersonal aspects of care. This is in line with the work of Donabedian (2003), who emphasized the importance of the patient-practitioner relationship and that personal interest, empathy, respectfulness, avoidance of condescension, willingness to take time, effort to explain, attention to patient’s preferences, honesty, truthfulness, and plain good manners are related attributes.

A meta-analysis of 221 studies by Hall and Dornan (1988) revealed that the percentage of patient satisfaction dimensions are: “Humanness (65%), overall satisfaction (43%), technical competence (43%), outcome (6%), physical facilities (16%), continuity of care (4%), access (27%), amount of information (50%), cost (18%), organization (28%), and attention to psychological problems (3%)”. This confirms the importance of interpersonal manners, consisting of humanness and amount of information, reflecting inter-communication in measuring patient satisfaction.

Gabott and Hogg (1994) reported that service, empathy, physical access, the doctor, the situation, responsiveness as dimensions of service quality in the United Kingdom. In the USA, Andaleeb (1998) found support for five service quality dimensions of patient satisfaction; Communication, Competence of the service provider, Facility, Demeanor of the hospital staff, and Hospital costs. He showed that the greatest influence on patient satisfaction depends on the perceived competence of the hospital staff and their behavior. Later, Otani and Kurz (2004) proposed six service quality dimensions; “Admission process, physician care, nursing care, compassion to family/friends, pleasantness of surroundings, and discharge process”. These dimensions supported the work of Tucker and Adams (2001) who proposed Caring, empathy,

reliability, and responsiveness. Moreover, Péfoyo and Wodchis (2013) found support for these dimensions where they proposed eight quality dimensions to influence patient satisfaction in Ontarian hospitals namely; nurses and doctors; patient-centered care; admission process; availability of staff; communication with patients; communication with family; discharge transition, and pain management. The dimension communication of medication information between providers at referral and transfer proved to be one of the most predictors of patient satisfaction.

Hasin *et al.* (2001) proposed that Thai patient satisfaction is influenced by five service quality dimensions; Communication, responsiveness, courtesy, cost, and cleanliness but Yousapronpaiboon and Jonhson, (2013) revealed tangibility, reliability, responsiveness, assurance, and empathy that were later confirmed by Thawesaengskulthai *et al.* (2015) who reported Service personnel, Service professional, Service product and Service facility.

Bodur *et al.* (2002) revealed that service quality dimensions that influence patient satisfaction in turkey are; communications, cost, continuity of service and providers, the physical environment of the clinic, humanity, information, time spent on the patient, technical quality, official procedures, doctor's gender, and nursing care. Later, Taner and Antony (2006) reported tangibility, responsiveness, reliability, competence, credibility, security, access, communication, cost, and understanding despite sharing the same culture. These dimensions were confirmed by Zaim *et al.* (2010) approved tangibility, reliability, courtesy, and empathy as major determinants of patient satisfaction.

Boshoff and Gray (2004) found seven dimensions for the operationalization of service quality namely: communication, tangibles, empathy of nursing staff, assurance, the responsiveness of administrative staff, security, and physician responsiveness. However, hospital managers have suggested incorporating aspects of the technical quality of care to ensure long-term success (Endeshaw, 2019). Elleuch (2008) proposed that Japanese outpatients judge health care quality based on the setting's appearance, process characteristics, and verbal and nonverbal communication.

Rose *et al.* (2004) found support for eight service quality dimensions that influence patient satisfaction in Malaysia; Interpersonal aspect, patient education, cost, technical aspect, the outcome of the care, access time, amenities, and social support where technical quality is the most important dimension in both private and public hospitals. In Australia, four service quality dimensions have been suggested to influence patient satisfaction; “interpersonal quality, technical quality, environment quality, and administrative quality” (Dagger *et al.*, 2007).

Duggirala *et al.* (2008) identified seven dimensions of healthcare service quality as significant predictors of patient satisfaction in Indian Hospitals, namely; “infrastructure, personnel quality, the process of clinical care, administrative procedures, safety indicators, the overall experience of medical care, and social responsibility” (Aagja and Garg, 2010; Amin and Nasharuddin, 2013). This is in line with the work of Padma *et al.* (2009) in India, who demonstrated that the following dimensions of service quality influence patient satisfaction: infrastructure; personnel quality; the process of clinical care; administrative procedures; safety indicators; corporate image; social responsibility; and trustworthiness of the hospital. Two dimensions, corporate image, and technical quality were included in this study, which are two fundamental components of service quality as defined by Grönroos (2007) to translate into patient satisfaction dimensions. The work of Pai and Chary (2016) comes in line with the work of Padma *et al.* (2009) but adds a relationship dimension. Nine dimensions were proposed: Healthscape, personnel, communication, trustworthiness, hospital image, clinical care process, relationship, personalization, and administrative procedures. Previous studies proposed these nine dimensions with different nominations. Moreover, Kamra *et al.* (2016) showed that eight dimensions influence inpatient satisfaction in India: Affordability and convenience, fulfillment of clinical requirements, nursing and staff care, general behavior of doctors, registration and administrative procedures, infrastructure and amenities, professional behavior of doctors and facilities at reception and out-patient department area. This confirms the work of Trivedi and Jagani (2018), who showed that the satisfaction of inpatients in India is influenced by five dimensions, namely; experience with the doctor, hospital administration, nursing staff, physical environment, and hospital pharmacy. On the other hand, outpatient satisfaction is assumed to be influenced by the quality of clinical services provided, availability of medicine, attitude, the behavior of doctors and staff, cost of services, hospital infrastructure, physical comfort, emotional support, and respect for patient preferences (Gopal and Bedi, 2014).

Chahal and Kumari (2010) suggested the physical environment, the quality of interaction, and outcome quality as attributes of hospital service quality. This study confirms the importance of interaction quality more than attitude, behavior, and process quality. Mekoth *et al.* (2012) identified the quality of physician quality, clinical staff, non-clinical staff, and waiting time as important dimensions for hospital service quality. Rao *et al.* (2006) identified 5 different dimensions of perceived quality: (i) medicine availability, (ii) medical information, (iii) staff behavior, (iv) doctor behavior, and (v) hospital infrastructure. More importantly, patient satisfaction is strongly influenced by the interpersonal skills of the medical staff and the availability of medicines. Moreover, waiting time has been shown to have a large negative effect on outpatient satisfaction. Naidu (2009) found that the quality dimensions that affect patient satisfaction are access, care quality, cost, physician role and behavior, and tangibles. They are almost very similar to SERVQUAL service quality dimensions that are Responsiveness, Reliability, Empathy, Assurance, and Tangibles.

Narang (2010) has found that hospital service quality dimensions are health personnel and practices, healthcare delivery, human personnel practices, and conduct, as well as the adequacy of resources and services. This study considers the opinions of patients on the improvement of health processes and the organization in general. Almeida *et al.* (2015) conducted a systematic review on the topic “Satisfaction measurement instruments for healthcare service users” and demonstrated that there is a consensus between studies on the multidimensional characteristics of the satisfaction construct. The main dimensions were patient-healthcare professional interactions, the physical environment, and the internal management process.

Birhanu *et al.* (2010) found the quality dimensions that influence outpatient satisfaction in Ethiopia, are “Perceived technical competency, perceived empathy, non-verbal communication, being told the name of the illness, frequency, type of visit, knowing the provider and patient enablement”. In Ghana, Atinga *et al.* (2011) forward four service quality dimensions namely communication, patient-provider relationship, environment, and waiting time. The importance of the patient-provider relationship is further emphasized by the work of Baidoo *et al.* (2016) who revealed that empathy is the most significant dimension for Ghanaian people and it is highly influenced by whether patients are insured or not, followed by responsiveness and reliability.

Moreover, Yaya *et al.* (2017) revealed that service quality dimensions were based on three domains of service delivery “Efficiency of service delivery, satisfaction with the staff including the consulting physician, and satisfaction with other logistics at the point of service”.

In Jordan, four services quality dimensions were found to influence patient satisfaction: the attitudes of nurses toward patients, effectiveness in delivering service, the ability to communicate what patients need to know, and the availability of up-to-date technology (Ajarmah and Hashem, 2015). In Qatar, three healthcare quality dimensions, namely previous experience with the same doctor, health-care insurance, and a realistic price were shown to strongly correlate with higher satisfaction with healthcare (Ali *et al.*, 2015). However, Al Fraihi *et al.* (2016) approved the five construct dimensions of SERVQUAL in Saudi Arabia. Pouragha and Zarei (2016) showed that the quality of hospital services in Iran has the following dimensions: accessibility, appointment, perceived waiting time, admission process, physical environment, physician consultation, patient information, and perceived costs of services. For outpatients, the physical environment of the clinics is the most tangible aspect of care and therefore influences their perception of the quality of service. Zarei (2015) assured that the physician’s consultation and examination was the most important dimension of outpatient service quality, a finding confirmed by Donabedian (1990) who found that 30 to 40 % of satisfaction of the users of health was due to diagnosis and therapeutic skill of the physician.

In Greece, different dimensions have been identified that influence hospital service quality; “professional competence and interpersonal skills for both physicians and nurses, medical care costs, surroundings, quality of food, administrative services offered, human aspect, physical environment and infrastructure, access, and nurse’s technical and interpersonal competence” (Angelopoulou *et al.*, 1998; Karassavidou *et al.*, 2009; Raftopoulos, 2010). These dimensions were later used by Ekaterina *et al.* (2017), who showed the most important quality dimensions of patient satisfaction with outpatient clinic services in Greece are: “the professionalism of the staff (mostly doctors) and interpersonal relationships with patients. The degree of satisfaction is also strongly influenced by respect for the dignity and individuality of the patient” (Papanikolaou, 1994; Pierrakos, 2008). In addition, communication between staff and patients, discussion of the problem, and educating physicians for their patients are also important determinants of outpatient satisfaction (Carr-Hill, 1992). In addition, the time of the doctor examination, the training, and the technical staff skills were found to be important indicators of

patient satisfaction (Zoller *et al.*, 2001). Other studies have also shown that the processing time of the procedure, waiting lists for the day of the appointment, and delays in appointments influence patient satisfaction (Aletras *et al.*, 2007). Another study by Vasiliki and Dimitrios, (2017) found that "clinical care process", "social responsibility", "staff quality", "infrastructure" and "hospital reliability" are the dimensions that have a significant influence on patient satisfaction. Finally, the satisfaction of outpatients is determined by the infrastructure and equipment of the outpatient clinic (Zoller *et al.*, 2001).

10 service quality dimensions influence patients' satisfaction in the Balkan countries, including Macedonia, Bulgaria, and Serbia: "Appointment, waiting time, administration, hygiene, confidence/trust in the doctor, attention doctors towards their patients, outcome, privacy protection, and perceived patient's recommendations for the facility and doctor" (Lazarevik and Kasapinov, 2015). Mihailovic *et al.* (2017) showed that communication, politeness of the staff, and the overall hospital environment are three service quality dimensions that influence patient satisfaction in Serbia. Furthermore, Damnjanović *et al.* (2018) showed the "admission process, doctor care, staff care, and technology tools". In Romania, the main dimensions that affect patient satisfaction are waiting time, the confidence level in the provider, the professionalism of doctors, the degree of interaction with patients, and the provider's ability to offer solutions to improve the health of the patient (Burcea *et al.*, 2014; Druică *et al.*, 2020). In Sweden, Rahmqvist and Bara (2010) demonstrated that socio-demographics, expectations, health status, patient-provider relationship, facility setting, and urgency of admission are the service quality dimensions that influence patient satisfaction.

Ammo *et al.* (2014) showed that the service quality dimensions that influence the satisfaction of inpatients in tertiary care centers in Lebanon are nursing and physician services, hospital services/facilities, gateman, technical, dietetic services, and discharge process. There is a high degree of satisfaction with the nurses' accuracy in providing medication and physician consultation, as well as with the services of the information desk. Baalbaki *et al.* (2008) found that in the emergency setting; "The admission process, nursing care, physician's care, technicians' care, and discharge process" are powerful predictors of patient satisfaction. Moreover, in order of importance, nursing care is the most important, followed by physicians' services, technical services, the admission process, and finally the discharge process. At the

hospital level, the dimensions “admission process, nursing care, cleaning services, catering services, technical services, orderly services, and discharge process” were strongly associated with patient satisfaction. Dissatisfaction was associated with peripheral elements such as waiting time, nursing care and friendliness, courtesy of staff, wheelchairs, billing, cleanliness, and hospital environment. Later, Hemadeh *et al.* (2019) propose a 5-dimensional structure that includes “patient-provider communication, waiting time, perceived provider competence, perceived quality of health education, and knowledge of complaints”. They highlighted the powerful impact of communication between patient and provider as a powerful predictor of patient satisfaction. More specifically, interpersonal aspects of care such as kindness, understanding, honesty, and shared decision-making are essential to meeting patient needs, leading to further improvements in patient satisfaction.

Goula *et al.* (2021) have revealed that patient satisfaction is affected by the therapeutic relationship between the doctor and the patient, treatment efficacy and the patient’s quality of life; the doctor’s technical skills, the information communicated to the patient, the hospital environment, the quality of infrastructure and the cost of services. Deji-Dada *et al.* (2021) revealed that short waiting time and good communication skills are vital to the quality of healthcare services given to patients as it increases their satisfaction.

The findings varied by country and setting, leaving an information gap on what drives satisfaction in each context (Dansereau *et al.*, 2015; Karagun *et al.*, 2018; Deji-Dada *et al.*, 2021; Hawrysz *et al.*, 2021). Based on the literature, the perceived service quality has several dimensions in various studies. Therefore, further testing and approvals are required before acknowledging any construct as dimensions underlying perceived service quality. Also, the quality of service depends on the context; studies conducted in other contexts cannot be summed up (Dagger *et al.*, 2007; Mohamed and Azizan, 2015; Zinn *et al.*, 2016; Javed *et al.*, 2019).

Since one of the objectives of this research was to identify healthcare service quality dimensions that influence patient satisfaction in Lebanese hospitals, the researcher first examined the primary dimensions of service quality that are often cited in the literature, as described in the previous section. Through this process, the researcher identified six key dimensions that reflect service quality perceptions. Thus, the level of satisfaction with health services is indirectly based

on: i) physical characteristics, ii) patient-provider communication, iii) accessibility, iv) technical quality of care, v) perceived waiting time, and vi) perceived cost to access the sustainability of healthcare services with the objective of patient satisfaction. Once the dimensions of satisfaction are presented, these dimensions are discussed to their relationship to patient satisfaction.

2.3.4.1 The relationship between Technical Quality of Care and Patient Satisfaction

Technical quality refers to a health professional's competency, ability, experience, and professional ethics including confidentiality (Akyuz and Ayyildiz, 2012; Senarath *et al.*, 2013; Goula *et al.*, 2021). It also indicates whether the services provided meet the standards and norms of diagnosis and treatments (Ware *et al.*, 1978). It emphasized skills, the accuracy of practices and procedures, and medical examinations (Endeshaw, 2019).

The technical dimension of care includes the following attributes: delivery personnel (Haddad *et al.*, 1998; Pai and Chary, 2013; Satsanguan *et al.*, 2015); instruments used (Ramsaran-Fowdar, 2008); medicine availability (Krishnamoorthy and Srinivasan, 2014; Mohamed and Azizan, 2015); human performance and skills (Mostafa, 2005; Piligrimiene and Buciuniene, 2008); knowledge (Olorunniwo *et al.*, 2006; Piligrimiene and Buciuniene, 2008); competence and professionalism (Ramsaran-Fowdar, 2008); and physician and nursing care (Duggirala *et al.*, 2008; Krishnamoorthy and Srinivasan, 2014; Otani *et al.*, 2010).

Many studies have shown that better technical care is associated with better satisfaction and leads to higher patient satisfaction levels (Ware *et al.*, 1983; Hall and Dornan, 1990; Angelopoulou *et al.*, 1998; Andaleeb, 2001; Bodur *et al.*, 2002; Zoller *et al.*, 2001; Rose *et al.*, 2004; Taner and Antony, 2006; Dagger *et al.*, 2007; Ramsaran-Fowdar, 2008; Baalbaki *et al.*, 2008; Padma *et al.*, 2009; Naidu, 2009; Raftopoulos, 2010; Péfoyo and Wodchis, 2013; Afzal *et al.*, 2014; Ammo *et al.*, 2014; Baidoo *et al.*, 2016; Velmurugan *et al.*, 2019; Abass *et al.*, 2021; Goula *et al.*, 2021). The perceived competence of health professionals is the most important predictor of patient satisfaction (Andaleeb, 1998; Birhanu *et al.*, 2010; Hemadeh *et al.*, 2019). The least satisfied patients are those who feel they were treated incorrectly. Furthermore, Péfoyo and Wodchis (2013) showed that better pain management positively related to patient satisfaction. Sometimes, patients do not assess the technical quality of care due to their limited knowledge, and therefore, they rely on their perception of how kind and

caring health professionals are to them (Sitzia and Wood, 1997; Andaleeb, 2001). Additionally, in Saudi Arabia, higher satisfaction is attributed to the competence and technical skills of PHCC healthcare providers PHCC healthcare providers (Mohamed *et al.*, 2015).

In the healthcare service quality hierarchical model developed by Dagger *et al.* (2007), it was confirmed that technical quality of care is strongly and significantly related to service quality; being the technical quality that refers to the quality of care provided by a group of professional service providers. Meanwhile, the patient perception of service quality is an important predictor of health care quality, in particular examining whether it is consistent with their previous expectations and affective responses to their overall feelings of achieving satisfaction with the service (Choi *et al.*, 2004; Aagja and Garg, 2010; Mohamed and Azizan, 2015; Mohamed *et al.*, 2017).

Medical care refers to the core service or technical quality of the hospital service. It is defined based on the accuracy of medical diagnoses and procedures or conformance to professional specifications and it explains “what” service the patient receives from the doctor. If a hospital does not meet this requirement, the performance perceived by the patient will be of poor quality. Medical care and service quality are significantly related (Choi *et al.*, 2004, 2005; Dagger *et al.*, 2007; Andaleeb, 2008; Azizan and Mohamed, 2013). It has been widely suggested by Dagger *et al.* (2007) to test the relationship between technical qualities of service quality and the perceived service quality.

Medical care reflects the performance, actions, expertise, activities, professionalism, competency, and behavior of the physician to patient care. It is the technical quality of healthcare (Duggirala *et al.*, 2008). Physicians also recommend other soft skills such as interpersonal, communication, courtesy, and caring skills to elicit patient cooperation with treatment and thus improve the patient’s perception of medical care (Andaleeb, 1998; Hasin *et al.*, 2001). It is of great value to note that the different dimensions of quality are interrelated (Grönroos, 1984). Therefore, it is hypothesized that:

SH1-1: The technical quality of care dimension has a significant positive impact on patient satisfaction

2.3.4.2 The relationship between Patient-Provider Communication (Relationship) and Patient Satisfaction

The patient-provider relationship dimension is the most important health service dimension in many hospitals that affects satisfaction (Crow *et al.*, 2002; Bleustein *et al.*, 2014; Ali and Elzubair, 2016; Lawal *et al.*, 2018; Marama *et al.*, 2018; Fustino *et al.*, 2018; Chandra *et al.*, 2018; Hemadeh *et al.*, 2019; Alzayer *et al.*, 2019). It includes information and technical competence. This is consistent with Donabedian (1990) who stated that 40 to 50% of health care users' satisfaction is explained by the physician-patient relationship (Gouveia *et al.*, 2005). This relationship reflects the consumer's perception of the interactions with service providers. This relationship includes politeness, friendliness, sensitivity, and empathy that are essential for customer satisfaction. Patients who are cared for through their interaction with service providers are more likely to be certain regarding their conditions that result in higher satisfaction. Jamal and Naser (2002) postulate that the quality of interactions between employees and customers also called relational quality has a direct influence on customer satisfaction. The efforts and personal interactions of employees aimed at building and maintaining relationships with customers, as suggested by Jap (2001), are antecedents of customer satisfaction (Gaur *et al.*, 2011; Choi and Kim, 2013). Strengthening the ability to communicate with patients is also one of the determinant factors of patient satisfaction (Andemeskel *et al.*, 2019; Deji-Dada *et al.*, 2021; Goula *et al.*, 2021; Zarei *et al.*, 2015). Good communication between patients and care providers has established itself as the most important component of good medical practice, as it helps quickly identify problems and, above all, to define expectations and build trust between clinician and patient (Lawal *et al.*, 2018; Abasiubong *et al.*, 2018). The quality of medical care has been identified as the most important factor of patient satisfaction with the outpatient service in many studies in the United Kingdom (Grogan *et al.*, 2000), South Korea (Jung *et al.*, 2009), Norway (Danielsen *et al.*, 2010), Italy (Carlucci *et al.*, 2013), and Uganda (Nabbuye-Sekandi *et al.*, 2011). A satisfactory relationship between doctor and patient ascertains that the patient adheres to medical guidance that results in better treatment efficacy. Furthermore, a growing body of evidence proposes that exceptional physician-patient communication is strongly related to high patient satisfaction and increased patient compliance with treatment recommendations (Zolnierrek and Dimatteo, 2009; Fustino *et al.*, 2018). Such interaction enhances the patient's trust and the later use of medical facilities that heightens the hospital's reputation. To evaluate

healthcare services, patients must develop a good and friendly relationship with their doctors through a better level of communication (Hussain *et al.*, 2019).

During outpatient facilities, good examination and communication skills of a doctor were demonstrated to influence patients' views or satisfaction (Mekoth *et al.*, 2012). Even though verbal communication is important during interaction in exam rooms, non-verbal communication is also significant and influences patient satisfaction (Gulwadi *et al.*, 2009; Birhanu *et al.*, 2010). In the outpatient department, clear information and doctor's explanation are important determinants for outpatient satisfaction (Pouragha and Zarei, 2016; Manzoor *et al.*, 2019). Rao *et al.* (2006) also showed that outpatient satisfaction is significantly influenced by the interpersonal skills of the medical personnel and doctor's behavior. Atinga *et al.* (2011) and Baidoo *et al.* (2016) showed that the patient-provider relationship and empathy respectively, are important service quality dimensions. In Greece, interpersonal skills for both physicians and nurses, human aspect, and the professional and interpersonal skills of the nursing staff influenced the hospital service quality and led to satisfaction (Angelopoulou *et al.*, 1998; Karassavidou *et al.*, 2009; Raftopoulos, 2010; Parker *et al.*, 2020). These dimensions were later reviewed by Ekaterina *et al.* (2017), who showed the most important quality dimensions of patient satisfaction with outpatient clinic services in Greece are: the professionalism of the staff (mostly doctors) and interpersonal relationships with patients. Moreover, the communication between staff and patients, the discussion of the problem, and the education of physicians for their patients are also important determinants for outpatient satisfaction (Carr-Hill, 1992). In Lebanese hospitals, it was revealed that caring is the most important factor that deals with the fulfillment of patients' needs (Baalbaki *et al.*, 2008; Velmurugan *et al.*, 2019). Moreover, Hemadeh *et al.* (2019) highlighted the strong effect of patient-provider communication as a strong predictor of patient satisfaction. More specifically, interpersonal aspects of care such as friendliness, understanding, honesty, and shared-decision making are essential to meeting patient needs, leading to further improvement in patient satisfaction (Poot *et al.*, 2019).

Uhas *et al.* (2008) found that patients rate physicians based on interpersonal skills rather than care delivered. When evaluating the quality of care, the patient's perception of the physician's kindness and empathy skills is the most important measure for the quality-of-care scores (Uhas *et al.*, 2008; Patel *et al.*, 2018).

Jagosh *et al.* (2011) showed that physicians who listened carefully and respectfully could give the perception that they cared about their patients; leading to satisfaction. Patient satisfaction was shown to be associated with doctor-patient interaction, typically “the patient's confidence, perception of the doctor's communication skills and perception of information provision”. In the meantime, the patients’ motive to adhere became associated with the patient's self-confidence and perception of information provided by the doctor (Abioye Kuteyi *et al.*, 2010; Norhayati *et al.*, 2017).

For a better quality of care, a healthy doctor-patient relationship should be provided. Thus, to build a healthy relationship, trust and communication are the key elements among other dimensions (Mckinstry *et al.*, 2006; Fulton, 2018). Effective and efficient communication is an important predictor of medical practice and health care services delivery (Ha and Longnecker, 2010; Biglu *et al.*, 2017; Goula *et al.*, 2021). The quality of interaction between patients and doctors is positively associated with trust and patient satisfaction. These elements are direct or indirect measures of the quality of health care services (Birkhäuser *et al.*, 2017; Jha *et al.*, 2017). Therefore, healthcare providers must recognize the importance of trust and communication in their relationship with patients. Physicians with good communication and interpersonal skills can collect an appropriate history from the patient that leads to an appropriate examination and then management (Ha and Longnecker, 2010). Studies have shown a strong association between communication skills and patient satisfaction (Clever *et al.*, 2008; Biglu *et al.*, 2017).

The heart and art of medication is the construction of an effective therapeutic physician-patient interpersonal relationship through an appropriate communication skill between physician and patient. The individual relationship between physician and patient is a subjective skill that prompts sharing information, decision-making, and restorative plans between them. As indicated by the statements of patients, the doctors that communicate friendly are very important for their mental and spiritual support (Baile *et al.*, 2000).

Djordjevic and Vasiljevic (2017) have demonstrated that communication between medical personnel and patients, along with demographic factors, enormously influences the level of patient satisfaction with health care. Moreover, studies have demonstrated that patients are more relaxed and happier in treatment facilities where staff are kind, honest, courteous, and diligent.

Similarly, the attitude of personnel was identified as an important dimension in patient satisfaction and an important factor in building trust (Abasiubong *et al.*, 2018).

This suggests that there is a positive correlation between the patient-provider relationship (Communication) and patient satisfaction. Thus, it is hypothesized that:

SH1-2: The Patient-provider communication dimension has a significant positive impact on patient satisfaction.

2.3.4.3 The relationship between Physical Characteristics and Patient Satisfaction

Physical characteristics are an important dimension of patient satisfaction. Patients get their first impression of the healthcare physical facility through its physical appearance. This dimension has different typologies across studies. They are Amenities (Rose *et al.*, 2004); Facility (Andaleeb, 1998; Hall and Dornan, 1990; Lee *et al.*, 2006; Rahmqvist and Bara, 2010; Ammo *et al.*, 2014); Environment (Ware *et al.*, 1983; Bodur *et al.*, 2002; Atinga *et al.*, 2011; Amole *et al.*, 2016; Pouragha and Zarei, 2016; Mihailovic *et al.*, 2017; Batbaatar *et al.*, 2017; Trivedi and Jagani, 2018; Wibowo *et al.*, 2020; Goula *et al.*, 2021); Surroundings (Angelopoulou *et al.*, 1998); Infrastructure (Zoller *et al.*, 2001; Rao *et al.*, 2006; Duggirala *et al.*, 2008; Karassavidou *et al.*, 2009; Padma *et al.*, 2009; Gopal and Bedi, 2014; Kamra *et al.*, 2016); Pleasantness of the surroundings (Otani and Kurz, 2004); Hospital Atmosphere (Baalbaki *et al.*, 2008); Structure Characteristics (Raftopoulos, 2010); Setting's appearance (Elleuch, 2008); Healthscape (Pai and Chary, 2016); Tangibles (Taner and Antony, 2006; Ramsaran-Fowdar, 2008; Naidu, 2009; Zaim *et al.*, 2010; Yousapronpaiboon and Johnson, 2013; Al Fraihi and Latif, 2016; Baidoo *et al.*, 2016). A clean, safe, and comfortable environment can significantly improve a patient's mood, satisfaction, and perceived quality of the healthcare experience so that deficiencies in technical care can be masked (Donabedian, 2003). Generally, infrastructure such as physical facilities, equipment, personnel, and written materials and appropriate to generate favorable patient perceptions in hospitals (Andaleeb *et al.*, 2007). Studies have shown a significant positive relationship between infrastructure and perceived service quality (Dagger *et al.*, 2007; Chahal and Kumari, 2010). The physical environment, also called tangibles, is one of the five dimensions of the SERVQUAL instrument (Parasuraman *et al.*, 1985). Parasuraman *et al.*, (1985, 1988, 1994) identified tangibles as physical facilities (equipment, personnel, and

communications materials). To access quality, customers use the physical image of the service. Tangibles are associated with the physical facilities, tools, and machines used to provide the service. Physical facilities reflect the patient's perception about the quality of services for the hospital's physical services. These services include "the cleanliness and maintenance of the facility and the availability of physical facility (such as diagnostic test rooms, waiting rooms)". For outpatients, the physical environment is the most tangible aspect of care that affects the perception of service quality (Pouragha and Zarei, 2016). The influence of physical services has been ascertained in many studies. A pleasant environment helps patients to fully recover on time and enjoy a healthy life (Anna, 2018; Hussain *et al.*, 2019; Kam and Yoo, 2021). Other environmental factors such as pleasant views of nature, noise reduction, easy wayfinding, and visibility of staff work stations from patient areas are positively linked to patient satisfaction (Van der Zwart and Van der Voordt, 2015; Jha *et al.*, 2017). In Malaysia, findings revealed that patient satisfaction was highest in terms of tangible factors particularly accessibility and convenience (Ganasegeran *et al.*, 2015; Chalise *et al.*, 2018). In addition, Adhikary *et al.* (2018) emphasized the importance of the physical environment, including cleanliness and maintaining adequate privacy, to ensure high-quality care. Several studies have shown that a convenient and comfortable facility environment improves patient satisfaction (Andaleeb, 2001; Khamis and Njau, 2014; Wang *et al.*, 2016; Batbaatar *et al.*, 2017; Kim *et al.*, 2017; Umoke *et al.*, 2020; Kam and Yoo, 2021). Moreover, Wibowo *et al.* (2020) showed that the quality of the physical environment influenced patient satisfaction, which means that the hospital environment and its facilities can influence a patient's sense of feeling satisfied or dissatisfied. They showed that the cleaner, tidy, and home-like, the more satisfied the patients feel. They also indicated that an improvement in the hospital facilities leads to an increase in patient satisfaction.

In a country with an image-conscious culture like Lebanon, patient satisfaction is determined by the tangibility dimension that is the appearance, physical facilities, and equipment of the hospital (Haj-Ali *et al.*, 2014). Tangibles are viewed as a distinct element that shows consistency across cultures (Sharmin *et al.*, 2016). Recommendations that emerged thereafter included the need to measure the contextual dimensions of hospital service quality reported in the literature, including tangibility, which is an important contributing factor in all studies. Based on this, it is hypothesized that:

SH1-3: The physical characteristics dimension has a significant positive impact on patient satisfaction

2.3.4.4 The relationship between Perceived waiting time and Patient Satisfaction

Undoubtedly, time spent waiting for some services performed is significant and may even be the most important aspect of health services (Pevac and Pisnik, 2018). Perceived waiting time (Afzal *et al.*, 2014; Bleustein *et al.*, 2014; Deji-Dada *et al.*, 2021) is a service quality dimension that was proposed by many authors because it is a common problem in developing countries, including Lebanon (Baalbaki *et al.*, 2008; Hemadeh *et al.*, 2019).

Over the years, researchers, healthcare administrators, and practitioners have paid attention to the concept of managing waiting time in healthcare settings because it is one of the key predictors of patient satisfaction (Camacho *et al.*, 2006; Anderson *et al.*, 2007; Umar *et al.*, 2011; Karaca *et al.*, 2011; Yeddula, 2012; Obamiro, 2013; Bleustein *et al.*, 2014; He *et al.*, 2018; Umoke *et al.*, 2020). Waiting time is established as a persistent source of patient dissatisfaction (Baalbaki *et al.*, 2008; Lazarevik and Kasapinov, 2015; Umeano-Enemuoh *et al.*, 2015; Abass *et al.*, 2021) especially in the Outpatient Department (Rao *et al.*, 2006; Atinga *et al.*, 2011; Joshi *et al.*, 2013; Ogaji and Mezie-Okoy, 2017; Egbujie *et al.*, 2018). It is an important predictor of health service access, utilization, and patient retention. It is considered an important health service factor for the achievement of a positive patient experience following an encounter with the outpatient department. According to Karaca *et al.* (2011), the waiting time dimension has two dimensions: actual waiting time and perceived waiting time. The patients perceive the waiting time longer than the actual wait time under the following conditions; “1) individual (Loneliness); 2) uncomfortable conditions; 3) in conditions of inequality; 4) no statement/explanation; 5) unknown reasons; 6) anxiety; and 7) before the procedure”. Lack of facilities and justification on the rationale of such waiting aggravate the problem of waiting time.

To stay in a more competitive healthcare economy, the Institute of Medicine report “Crossing the Quality Chasm” outlines a framework of guiding principles, one of which is to provide timely care that reduces disruptive delays. The wait time composites are “delays in scheduling

either for testing, procedures, or physicians themselves, as well as wait times in the office or emergency department (ED)”. The time expected for a scheduled appointment is the largest source of patient dissatisfaction (Bleustein *et al.*, 2014).

Previous studies have proven that long waiting time in the outpatient department is among the effective factors in patient dissatisfaction (Anderson *et al.*, 2007; Säilä *et al.*, 2008; Zarei, 2015; Alzayer *et al.*, 2020; Liu, 2018; Shen *et al.*, 2021). Moreover, if patients perceive that adequate time has been spent with their doctors, they tend to rate their physician’s empathy higher (Sanclemente-Ansó *et al.*, 2015; Alzayer *et al.*, 2020).

Based on Hemadeh *et al.* (2019), the overall waiting time is composed of the waiting time for (1) administrative registration and (2) medical consultation. A study by Bielen and Demoulin (2007) found that customers’ perception of waiting times influences their satisfaction with the service that they receive.

Excessive waiting time was found to be a major factor in patient dissatisfaction (Shan *et al.*, 2016; Deji-Dada *et al.*, 2021). A study by Alrasheedi *et al.* (2019) showed that long wait time had a negative impact on patient satisfaction, which is confirmed by the Institute of Medicine, which recommends that patients should wait no more than 30 minutes for their scheduled appointments. Long wait times were among the most observed in all outpatient clinics and were significantly related to many public health problems, including limited access to healthcare services, loss of patronage in a competitive healthcare system, and outpatient dissatisfaction (Mohsin *et al.*, 2007; Anderson *et al.*, 2007). More precisely, a longer waiting time in combination with a shorter consultation time goes hand in hand with a marked decrease in patient satisfaction (Camacho *et al.*, 2006).

In primary and specialty care outpatient settings, it was found that shorter wait times could lead to higher patient satisfaction and a better patient willingness of the patient to return. Shortening waiting time is indeed an important goal, and in cases when actual waiting time cannot be reduced, other strategies should be employed. A good example is that patients feel more satisfied if they are informed about how long they will wait and have something to do to run the time (Piette, 1999; He *et al.*, 2018). Based on the above discussion, the hypothesis that arises:

SH1-4: The perceived waiting time dimension has a significant positive impact on patient satisfaction

2.3.4.5 The relationship between Perceived Cost and Patient satisfaction

The perceived service costs appear to be one of the most significant important predictors of patient satisfaction. Previous studies have shown that health service costs are one of the most determinants of patient satisfaction (Angelopolou *et al.*, 1998; Hasin *et al.*, 2001; Bodur *et al.*, 2002; Rose *et al.*, 2004; Taner and Antony, 2006; Duggirala *et al.*, 2008; Naidu, 2009; Gopal and Bedi, 2014; Ali *et al.*, 2015; Pouragha and Zarei, 2016; Lee *et al.*, 2018; Salehi *et al.*, 2018; Umoke *et al.*, 2020; Goula *et al.*, 2021; Shen *et al.*, 2021). Many studies have shown that service affordability and hospital treatment costs may have inversely influenced patient satisfaction levels (Andaleeb, 1998; Gulliford *et al.*, 2006; Victoor *et al.*, 2012; Shen *et al.*, 2021). Insurance and costs also directly influence satisfaction (Njong and Tchouapi, 2021; Salehi *et al.*, 2018). It was suggested that when hospital costs exceed the patients' expectations, it would result in low patient satisfaction with hospital services (Andaleeb, 1998). In the same vein, high-perceived hospital expenses that do not match health care received contributed to patients' dissatisfaction (Duggirala *et al.*, 2008).

In a study by Shan *et al.* (2016) in China, it was found that more affordable individual healthcare costs can increase the satisfaction level with hospital care by 5.7 times. Most of the patients who reported dissatisfaction with hospital care attributed it to high medical costs. Another opinion piece published in the lancet argued that patient dissatisfaction is primarily due to the rising cost of healthcare (Huang and Ding, 2011; Xu, 2014). In Lebanon, the private hospitals' main source of revenues comes from out-of-pocket patients. They depend less on public funds to survive (El-Jardali *et al.*, 2008). Similarly, a study done by Xesfingi and Vozikis (2016) revealed that private health spending correlates negatively with patient satisfaction and an increase in this spending is responsible for lowering patient satisfaction by 98.7 %. This implies the importance of perceived costs.

SH1-5: The perceived cost dimension has a significant positive impact on patient satisfaction

2.3.4.6 The relationship between Accessibility and Patient Satisfaction

Access refers to health service availability and is operationally defined as the number of patient-physician contacts (Naidu, 2009). It is also defined as “approachability and ease of contact—the service is easily accessible by telephone, the waiting time to receive the service is not extensive, there are convenient hours of operation, and the service facility is in a convenient location” (Yarimoglu, 2014). Approachability and ease of contact are the most two important elements of accessibility. Similarly, Tucker and Adams (2001) pointed out that the accessibility dimension encompasses convenient location, convenient hours, and access to care when needed. Greater accessibility to services increases customer satisfaction. Patient satisfaction was found to be influenced by physical access to the clinic and the convenience of getting to its location. Moreover, accessibility was shown to have a significant direct or indirect effect on customer satisfaction and loyalty (Ladhari *et al.*, 2011; Pakurár *et al.*, 2019). Abasiubong *et al.* (2018) stated that accessibility is among the primary components that form the matrix for patients’ satisfaction.

This dimension has been proven in many studies and it is mainly explained by the convenience of health services. Numerous studies (Ware *et al.*, 1983; Hall and Dorman, 1990; Sitzia and Wood, 1997; Andaleeb, 2001; Rose *et al.*, 2004; Otani and Kurz, 2004; Taner and Antony, 2006; Bleich *et al.*, 2009; Karassavidou *et al.*, 2009; Rahmqvist and Bara, 2010; Afzal *et al.*, 2014; Sanclemente-Ansó *et al.*, 2015; Baidoo *et al.*, 2016; Pouragha and Zarei, 2016, Batbaatar *et al.*, 2017) stated that patient satisfaction is positively linked with accessibility through aspects such as the convenient location of health services. In the study of healthcare, accessibility to healthcare services seemed to be an important subject, since access to healthcare can be seen as a factor of overall population health (Guagliardo, 2004; Cabrera-Barona *et al.*, 2017). It has been accepted as a widely studied analytical topic that helps to understand people’s access to social services and therefore leads to a better quality of life (Kwan, 2013).

Inaccessibility to convenient outpatient services has been proven to be among the effective factors in patient dissatisfaction (Säilä *et al.*, 2008; Zarei, 2015). This dimension was also advised by Hemadeh *et al.* (2019) to be included as a section in the patient satisfaction tool in Lebanon. Consequently,

SH1-6: The Accessibility dimension has a significant positive impact on patient satisfaction

2.4 The Role of Emotions in the Healthcare Sector

There is no need to be cautious of the fact that a patient's experience contains an emotional component. Undoubtedly, the exceptional mission of health care is to "do no harm", which constitutes a commitment to numerous aspects of patient well-being. One vital aspect of well-being is the patient's emotions. While health care professionals treat patients, patients' emotions ought to be overseen carefully and intentionally to encourage a broader definition of health and subjective well-being (Liu *et al.*, 2019).

Certainly, it is essential to know that emotions make the patient's experience even more real. Patients and healthcare providers share the emotional burden of illness and the treatment they receive. When comparing patients and physician views on treatment and quality of life, there is often a difference, which is in most cases is due to physicians focusing on clinical outcomes while patients focusing on the impact on their daily life, which includes emotions (Purkaple *et al.*, 2016; Greco and Bere, 2020). The focus on outcomes is not bad, nor is the focus on emotions; the best thing is that both are considered and merged for optimal decision-making (Greco and Bere, 2020).

Today's healthcare organizations focus on the cognitive assessments experienced by the patient and neglect emotions. However, many studies have demonstrated the impact of emotions on patient satisfaction, confirming that satisfaction has a double dimension, and many researchers have advocated the need to address satisfaction through a dual cognitive-affective approach (Westbrook and Oliver, 1991; Wirtz and Bateson, 1999; Villodre *et al.*, 2014). Emotions do not occur in isolation. They are strongly influenced by the culture, social interactions, and the way life is organized (Fields and Kleinman, 2006; Otnes *et al.*, 1997). Therefore, they arise from the physical experience or the unconsciousness of the interpretive process inherent to certain institutions or social relationships (Whiteman *et al.*, 2009; Milan *et al.*, 2015; Purkaple *et al.*, 2016; Greco and Bere, 2020).

Recent studies have shown that emotion is a central component in satisfaction and customer satisfaction should include a separate emotional component (Cronin *et al.*, 2000). Most satisfaction studies have focused on the cognitive component of emotions, while a seemingly significant emotional component has been largely neglected (Stauss and Neuhaus, 1997). The

literature on satisfaction has discussed whether satisfaction is itself an emotional construct or a cognitive construct that includes an emotional component (Babin and Griffin, 1998). Wirtz and Bateson (1999) have suggested that satisfaction is partly cognitive and partly affective evaluation, the isolation of which is important and fundamental to model consumer behavior in service settings (Vasiliki and Dimitrios, 2017). Further, Oliver (1997) suggests that emotions “*coexist alongside various cognitive judgments in producing satisfaction*” (p. 319) and are essential in understanding the customer’s consumption experiences (Wong, 2004).

The role of emotions is increasingly important in the management of service quality (Oliver, 1997). However, there is a lack of clear models in this area of research in the literature (Grönroos, 2001). Among the various determinants of customer satisfaction, the customer’s perception of service quality was the focus of interest of the researchers (Ladhari, 2009; Ryu *et al.*, 2012; Yu and Ramanathan, 2012; Mohamed and Azizan, 2015; Mohamed *et al.*, 2017; Endeshaw, 2019; Hawrysz *et al.*, 2021; Mounessa *et al.*, 2018). Regardless of their importance in creating customer satisfaction and behaviors, few studies have focused on the role of emotions in determining the impact of perceived service quality on customer satisfaction (Arnold *et al.* 2005; Han and Ryu, 2009; McColl-Kennedy *et al.*, 2017, Ladhari *et al.*, 2017). There are some studies on the effects of emotions on satisfaction with the quality of service. Some suggest that emotions are a fundamental attribute of satisfaction and that customer satisfaction has a separate emotional component (Cronin *et al.*, 2000). Therefore, patient satisfaction can be better explained through an in-depth examination of the recognized quality dimensions, cognitive satisfaction, and affective satisfaction (Cronin and Taylor, 1992; Vinagre and Neves, 2008; Reinares-Lara *et al.*, 2019; Greco and Bere, 2020).

Regardless of whether the service is perceived as high quality, the satisfaction of the service provider is affected if the patient’s emotions are ignored (Vinagre and Neves, 2008). In many service settings, whether hedonic or utilitarian, emotional responses are a key component of service experience (Wong, 2004; Edvardsson, 2005; Sandström *et al.*, 2008; Kwortnik and Ross, 2007; Ng and Russell-Bennett, 2015; Chan *et al.*, 2015; Ladhari *et al.*, 2017). Numerous studies have argued that satisfaction combines cognitive and affective elements (Oliver, 1997; Wong, 2004; Gracia *et al.*, 2011; Ladhari *et al.*, 2017; Greco and Bere, 2020).

However, the need for further studies about emotions was addressed. In health care, it is essential to go beyond the cognitive determinants of health services when assessing patient satisfaction. However, the request for more studies to add affective components to the literature has gone unnoticed (Ng and Russell-Bennett, 2015). To date, only a few publications have examined the influence of positive and negative feelings on satisfaction in the healthcare sector so far (Williams *et al.*, 1998; Crow *et al.*, 2002; Kahn *et al.*, 2003; Larsson and Wilde-Larsson, 2010; Vinagre and Neves, 2008). Consequently, it is possible that the affective component of the patient satisfaction construct is not precise enough, which makes the studies on this topic purely exploratory (Gill and White, 2009; Reinares-Lara *et al.*, 2019). Pinna *et al.* (2018) examined the dynamic interaction of cognitive (i.e., technical, and functional characteristics) and affective (i.e., emotional influences) determinants in their article “Emotions and satisfaction at the hospital: A comparison between public and private health providers in Italy”. They showed that emotional responses could influence the cognitive component of patient satisfaction. Unlike previous studies, in which the influence of cognitive influences is greater than the influence of affective responses on patient satisfaction (Ladhari and Rigaux-Bricmont, 2013), this study confirms the role of emotions as a determinant of satisfaction in each sector (Bagozzi *et al.*, 1999), including healthcare (Vinagre and Neves, 2008). According to Story and Hess (2006), the fact that significant differences cannot be explained based on socio-demographics means that emotional response has the greatest impact on patient satisfaction. This study is part of a growing and thriving marketing strategy that seeks to uncover the role of emotions in utility service environments that are still in their infancy (Gaur *et al.*, 2014). Because both affective and cognitive responses play a central role in influencing the perception of service quality, satisfaction, and subsequent behavior (i.e., patronage), there may be much to be acquired if additional efforts are made to understand that positive emotions can inspire during hospitalization, thus focusing on factors that truly trigger positive emotions (Pinna *et al.*, 2018).

As defined by Bagozzi *et al.* (1999, p.184), Emotions are “*a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed physically and may result in specific actions to affirm or cope with the emotion, depending on its nature and the person having it.*”. Later, Bagozzi *et al.* (1999) and Liljander and Strandvik (1997) had the option to appropriately classify emotional satisfaction by splitting emotions into positive and negative ones (Suwanamas *et al.*,

2015a; Pinna *et al.*, 2018). Westbrook (1987) showed that positive and negative emotions, along with meeting or not expectations, influence customer satisfaction.

During a service consumption experience, customers might experience a large set of emotional responses. They have different valences (pleasant to unpleasant) and intensities (arousal to non-stimulated) which may include joy, anger, excitement, interest, pleasure, contentment, and frustration (Machleit and Eroglu, 2000).

The most common method for measuring emotions is through self-reporting, usually through questionnaires, and researchers use multivariate techniques to analyze the data (Bagozzi *et al.*, 1999). Positive and negative are two dimensions of affect typically found. Stauss and Neuhaus (1997) have suggested that there are many types of satisfaction based on the pattern of emotions, cognitions, and intentions expressed by the customers.

Previous studies have shown that customer satisfaction decisions consist of a cognitive and affective emotional construct (Ladhari *et al.*, 2017). The cognitive factor is related to the customer's evaluation of the magnitude of the service but the affective emotional factor is the emotional satisfaction of the customer by the service provider such as joyful/unjoyful, happy/unhappy, and pleasant/unpleasant. There are a few studies directly relating service quality to customer emotions (Ladhari, 2009). However, many studies have linked different dimensions of service quality to customer emotions.

In addition, customers who have a positive perception of service quality have a positive emotional state. These results also support previous studies showing the significant impact of service quality on customer emotions (Burns and Niesner, 2006; Kim *et al.*, 2009; Lin and Liang, 2011; Ladhari, 2009; Pareigis *et al.*, 2011). These outcomes confirm that customers with a positive emotional state have higher levels of satisfaction. These findings are in line with previous studies in which customer emotions were observed as an important determinant of their satisfaction (Burns and Neisner, 2006; Hennig-Thurau *et al.*, 2006; Lin and Liang, 2011). In the same way, Burns and Neisner (2006) showed that customers' emotions are firmly connected. In healthcare, perceived service quality can influence patients' emotions which in turn are related to behavioral intentions to visit the healthcare provider (Ng and Russell-Bennett, 2015).

On the other side, in a luxury retail setting, it was reported that perceived service quality (e.g., physical aspect, reliability, problem-solving) influences specific in-store emotions (e.g., comfortable, contentment, happiness, privileged, and sophisticated), thus affecting the customer attitudes toward the brand (Kim *et al.*, 2016). Moreover, in a hotel setting, it was also reported that service quality drives emotional satisfaction that in turn influences recommendation, loyalty, and willingness to pay more (Ladhari, 2009). He reports that emotional satisfaction is derived from service quality evaluation. Furthermore, overall service quality was reported to influence customers' emotional experiences such as comfort, annoyance, stimulation, and sentimentality (Han and Jeong, 2013).

There, the following hypothesis arises:

H2: Perceived service quality has a significant positive impact on patients' emotions

Many services quality dimensions have been shown to impact patient emotions. The service quality dimension assurance which is related to the competence and qualified doctors showed a significant effect on positive emotions (happiness, excitement, and pleasure) (Gracia *et al.*, 2011). Moreover, Hou *et al.* (2013) revealed that when personal interaction dimensions such as assurance and empathy meet customer expectations, the confirmation of expectancy could evoke pleasure emotions such as happiness and contentment. In addition, it was shown that experienced clinicians lacking upskilling or training in counseling skills might be unaware of the benefits of acknowledging patient emotions, resulting in the provision of suboptimal service to patients (Tai *et al.*, 2019). Based on this, it is hypothesized that,

SH2-1: The technical quality of care dimension has a significant positive impact on emotions.

Other dimensions are likely to influence patient emotions including interactions and relationships with different actors such as professionals. In addition, Taylor (2000) has shown that perceived service quality is composed of five dimensions of which (i.e., personal interaction) can influence patient emotions. Moreover, Hou *et al.* (2013) revealed that when personal interaction dimensions such as assurance, empathy, and responsiveness meet customer expectations, the confirmation of expectancy could evoke pleasure emotions such as happiness and contentment. Similarly, the service quality components (responsiveness, assurance,

empathy) showed a significant effect on positive emotions (happiness, excitement, and pleasure) (Gracia *et al.*, 2011). Therefore, it is hypothesized that:

SH2-2: The patient-provider communication dimension has a significant positive impact on emotions.

Emotional satisfaction is derived from customers' evaluation of the perceived service quality dimensions (Ladhari, 2009). Researchers such as Bitner (1992), Ladhari (2009) and Pareigis *et al.* (2011) showed that tangibles inspire positive emotions in customers. Furthermore, few researchers confirmed that tangibles in a service setting influence the customer cognitively and emotionally (Burns and Niesner, 2006; Gracia *et al.*, 2011; Kim *et al.*, 2009; Lin and Liang, 2011). Taylor (2000) has shown that the perceived service quality dimensions physical aspect is an antecedent of various types of consumer emotions. Pullman and Gross (2004) demonstrated that the physical aspect of a luxury shop such as an elegant interior and practical design, makes customers feel special, important, or privileged. Additionally, many medical conditions have also been reported to cause patients to flourish emotionally including better service environment design (Dasu and Chase, 2013; McColl-Kennedy *et al.*, 2017). Therefore, the following sub-hypothesis arises:

SH2-3: The physical characteristics dimension has a significant positive impact on emotions

Indeed, the waiting time affects the mood of the outpatient, which might have an unfavorable effect on their condition just before the consultation. Waiting for a long time for a diagnosis can lead patients to feel like having no control over things or are overwhelmed. Having the medical system that makes you wait for appointments can make you feel just like throwing in the towel and just giving up. It let you feel like doing much of anything. A feeling of anger arises toward the medical system that is making patients wait (Gagliardi *et al.*, 2021). Thus, it is hypothesized:

SH2-4: The perceived waiting time dimension has a significant positive impact on emotions

Additionally, the pressures of everyday life such as financial status can heighten emotions. In particular, the financial impact of illness, especially in the case of ongoing illness is an additional burden that the patients must face and that will certainly impact emotions (McColl-Kennedy *et al.*, 2017). Therefore, the following hypothesis arises,

SH2-5: The perceived cost dimension has a significant positive impact on emotions

Many conditions can make patients flourish emotionally including: purposefully designing service processes to provide emotionally supportive actions; and re-imagining employees' roles to create a supportive culture for all people involved in care (Dasu and Chase, 2013; McColl-Kennedy *et al.*, 2017). Moreover, the empathy dimension in SERVQUAL includes aspects related to approachability and ease of contact shown to have a positive impact on patient emotions (Gracia *et al.*, 2011; Hou *et al.*, 2013; Kim *et al.*, 2016). Therefore, it is hypothesized that:

SH2-6: The accessibility dimension has a significant positive impact on emotions

2.5 Patient Trust

Patient trust is the basis that guarantees the stability and efficiency of a healthcare system. It is essential to maintain the efficiency and functionality of individual hospitals and the entire health system. It is an integral part of the patient's experiences, attitudes, and behaviors, as well as the patient's health outcomes (Ward *et al.*, 2017).

Currently, patient satisfaction is widely used as a measure of healthcare system performance and quality. This may be effectively and successfully supplemented with measures of trust. Since trust is forward-looking, there is an immediate assessment of quality. Therefore, it complements the measurement of patient satisfaction and completes the circle of patients' perceived assessment of healthcare. As a measure of the quality of care, patient trust continues to be an indispensable value in the healthcare system (Gopichandran and Chetlapalli, 2013).

Trust is, of course, intangible and it is difficult to measure or quantify. However, there are measures that caregivers can take through the system to increase trust. As Boissy (2020, p.20) stated, "*while we continue to work on the perfect measurement of trust, in its simplest of terms, we need to keep our promises of safety, of inclusion, of caring, and of ease to our patients. That's the start of something beautiful.*"

Subsequent efforts to build patient trust took many forms, such as listening carefully to patient feedback, being more proactive in contacting them, participating more dynamically in patients' families; greater consideration of the needs and preferences of the patient; expanded efforts to ease the burden of the whole experience; and a clear commitment to the care (Boissy, 2020).

The fundamental basis of a healthcare relationship is trust. Building and strengthening that trust is vital for healthcare professionals, from small rural doctors' offices to the largest healthcare systems. When trust is compromised, every step of the patient's journey is affected. Trust is not only essential for high-quality patient care; it is also an essential business priority. The trust of patients is the foundation for a successful doctor-patient relationship. It is an essential part of the provision of health services. For this reason, trust in the healthcare system must be assessed to understand the impact that a patient's trust in healthcare providers has on developing appropriate suitable operational policies in the delivery of healthcare (Rasiah, 2020).

Within the scope of healthcare, two forms of trust were specifically identified; interpersonal and institutional. While institutional trust is developed toward a system or facility, such as a hospital (Ward *et al.*, 2017), interpersonal trust is the trust in the individual's health care provider, which derives from repeated interaction where the expectations of the provider's trustworthiness can be experienced over time (Pearson and Raeke, 2000; Du *et al.*, 2020). It is not easy to separate patient trust in hospitals from their trust in healthcare professionals, as both are related and mutually impact each other since for patients to trust the hospital, they must trust the healthcare professionals working there (Ward *et al.*, 2017). Interpersonal trust is defined as the optimistic acceptance of a vulnerable situation in which the patient believes that the physician is acting in their best interest (Hall *et al.*, 2001). It has also been suggested that patient trust can be counted as a collective good that ultimately the medical relationship and is critical to the functioning of an effective healthcare system. For this reason, there is an urgent need to examine patient-physician trust and identify factors associated with trust relationships in medical institutions (Chandra *et al.*, 2020; Riachy and Nemr, 2020). Interpersonal and institutional trust can be related; however, patients usually tend to generalize their trust in a particular healthcare provider to the healthcare institution in which the service provider is located, to the financial situation, or the healthcare system (Freimuth *et al.*, 2017). Furthermore, Gray (1997) mentioned that a trusting interpersonal relationship could affect a patient's trust in a hospital or health plan.

There is a general agreement that the patient-to-physician relationship is based on trust. Patients or trustors are in a vulnerable situation where they find themselves unable to manage or treat their health issues on their own. Thus, they place the fate of their health, not to mention their lives, in a trustee called a physician, who claims to have expertise. In other words, patients grant physicians “*discretionary powers, which include the power to help or harm*” (Rogers, 2002; P.77).

While providing healthcare services, the healthcare providers are the most important source of trust in the healthcare system, because patients are very dependent and fragile (Dinç and Gastmans, 2013), and healthcare providers are the ones who use their knowledge, performance skills, and supply information to the patients (Yang and Wu, 2018). A study done by Birkhäuser *et al.* (2017) revealed that trust in healthcare providers strongly correlates with trust in the healthcare system, which is supported by the study done by Usta and Korkmaz (2020).

Relationships between physicians and patients that are based on trust have an important role in successful healthcare. Patients who trust their physicians are more willing to share their sensitive information (Chandra *et al.*, 2020) and are less likely to want to get second opinions and to verify physician’s recommendations, thus reducing the costs of possible consultation (Thom *et al.*, 2004; Berrios-Rivera *et al.*, 2006; Julliard *et al.*, 2008). Trust is also a strong predictor of continuity with providers. Patients who strongly trust their physicians are less likely to change providers. Patients who have higher trust in their physicians are more likely to depend on their physicians for referrals, follow the physician’s medical advice (Meyer *et al.*, 2008); keep on seeking care despite any medical errors, expenses, or being dissatisfied with the medical institution where their physicians’ practice. On the other hand, patients who do not trust their physicians report low satisfaction with their care, showed less interest in following their physicians’ recommendations, and barely report improvement in their symptoms in the following two weeks (Thom *et al.*, 2002). Moreover, patients with decreased trust in physicians are more likely to stop seeking care and seek a second opinion (Möllering, 2001; Shaya *et al.*, 2019).

Although there is a lack of empirical research on patient trust, it is a complicated and multidimensional construct (Pearson and Raeke, 2000). In healthcare, Trust is an important predictor of continuity with primary-care physicians and is related to other positive outcomes, such as better health status, better adherence to treatment recommendations, exchange of sensitive information, and willingness to seek care (Hall *et al.*, 2001; Schers *et al.*, 2002). It was also found that the strength of the patient's trust in the physician and the interpersonal relationship along with the quality of their communication drive the patient's loyalty toward the primary-care physician (Safran *et al.*, 2001). Patients who trusted their primary care providers remain with their providers and consider less changing them (Keating *et al.*, 2002). Studies have pointed out that patients preferred hospitals in which their healthcare provider is located. Patients who are familiar with a particular physician and have a personal connection are more likely to self-report their preference to a given hospital. The most likely reason is that patients' trust in a particular healthcare provider has influenced their trust level in the health care provider's institution (Egede and Ellis, 2008).

Studies have shown that patient trust in their physician impacts patient satisfaction, adherence to treatment, continuity with a provider, disclosure of sensitive information, and use of health services (Calnan and Rowe, 2006; Saha *et al.*, 2010; Chandra *et al.*, 2020). Negative experiences with a particular provider can lead to lower trust in the healthcare sector in general (LaVeist *et al.*, 2009; Peek *et al.*, 2008). Numerous studies have documented that the use of services (particularly the experience with a specific healthcare professional) is positively associated with trust (O'Malley *et al.*, 2004; Whetten *et al.*, 2006; Campos-Castillo *et al.*, 2017; Chandra *et al.*, 2020; Marcinowicz *et al.*, 2017).

2.5.1 Perceived Service Quality and Patient Trust

Worldwide, there is supporting scientific evidence that the quality of healthcare services affects patient trust, of which Lien *et al.* (2014) highlighted the positive impact of service quality on patient trust in hospitals (Lien *et al.*, 2014; Nemati *et al.*, 2020).

Many studies have found that service quality has an impact on patient trust (Chiou and Droge, 2006; Cho and Hu, 2009; Alrubaiee and Alkaa'ida, 2011). According to Alrubaiee and

Alkaa'ida (2011), it was found that inpatients felt trust in hospitals due to the quality of healthcare they experienced (Wibowo *et al.*, 2020).

In interpersonal-based services, the influence of trust on service quality and patient satisfaction cannot be ignored. However, the lack of existing literature on this relationship has created a significant gap in previous studies. Foster and Cadogen (2000) confirmed that perceived service quality significantly influences customer trust. Numerous studies have revealed that service quality is an important prerequisite for customer trust (Coulter and Coulter, 2003; Josep and Velilla, 2003). Chang *et al.* (2011) and Wong and Sohal (2003) pointed out in their study on service quality and relationship quality that service quality positively and significantly influences patient trust, satisfaction, and commitment. Furthermore, Ribbink *et al.* (2004) proposed that perceived service quality has a significant positive influence on trust.

Based on this, the following hypothesis was suggested:

H3: Perceived service quality has a significant positive impact on patient trust

Recent studies in trust relationships have highlighted the importance of patient-physician relationships in effective medical care (Davis and Rundall, 2000). Patients build trust in their physicians based on their behavior in most common domains including technical competency (e.g., thoroughness in the evaluation and providing appropriate and effective treatment), interpersonal competency (e.g., communicating, understanding patient's individual experience, and being honest and respectful), dependability, and compassion (Trachtenberg *et al.*, 2005; Thom *et al.*, 2004).

Much of the literature on patient trust has focused on provider characteristics as a factor shaping patient trust. In specific, the technical and behavioral competencies were reported as the most important characteristics. Providers' technical competence as perceived by the patients was shown to be the most important trust-building factor. Provider's technical competence relates to knowledge, expertise, thoroughness, ability to diagnose and treat, understanding of patient's problems, and willingness of the provider to share correct and treatment successes (Meyer and Ward, 2013; Goold and Klipp, 2002; Thom and Phys, 2001; Doescher *et al.*, 2000; Boysena *et al.*, 2017; Dawson-Rose *et al.*, 2016; Dang *et al.*, 2017; Detz *et al.*, 2013; Riva *et al.*, 2014; McLaughlin *et al.*, 2015).

In addition, two important dimensions were associated with trust: the physician shared decision-making and taking the patient's problems seriously (Croker *et al.*, 2013). Similarly, clinical competencies, more specifically, physicians' strong diagnostic skills were an important factor in increasing trust. Some patients trust their physicians based on their interpersonal skills (Hall *et al.*, 2001; Arawi, 2010; CSc, 2018; Rădoi and Lupu, 2017). Moreover, Shaya *et al.* (2019) revealed that the personal and practice characteristics of physicians (e.g., institution of practice), and physician's clinical skills (e.g., educating patients, not making mistakes, being competent influenced Lebanese patients' trust. Thus, the following hypothesis arises:

SH3-1: The technical quality of care dimension has a significant positive impact on patient trust. Similarly, several studies have revealed that patient trust can be influenced by providers' communication skills, which includes listening and clarity (Meyer and Ward, 2013; Tarrant *et al.*, 2003; Boysena *et al.*, 2017; Fiscella *et al.*, 2004; Dang *et al.*, 2017; Bambino, 2006; Detz *et al.*, 2013; Rothstein, 1996; Meyer and Ward, 2009; Hamelin *et al.*, 2012; McLaughlin *et al.*, 2015); demeanor, such as "caring, sincerity, compassion, benevolence, respect, honesty, kindness, empathy, understanding and (positive) attitude towards patients"(Meyer and Ward, 2013; Russell, 2005; Krot and Sousa, 2017; Fiscella *et al.*, 2004; Mascarenhas *et al.*, 2006; Dang *et al.*, 2017; Rădoi and Lupu, 2017; Rothstein, 1996; Meyer and Ward, 2009; Riva *et al.*, 2013; McLaughlin *et al.*, 2015; Chandra *et al.*, 2020); Ethical conduct and fairness (Meyer and Ward, 2013; Mascarenhas *et al.*, 2006); and Social skills (Mascarenhas *et al.*, 2006).

In developing countries, the dimensions that are shown to influence patients' trust in doctors are "the doctor's behavior, perceived comfort levels, personal involvement with the patient, and to a lesser extent by cultural competence and doctor's physical appearance" (Gopichandran and Chetlapalli, 2015). Patients base their trust on the communication dimension of physicians (Pearson and Raeke, 2000).

Many other dimensions are associated with trust including, the provider's interpersonal skills as being non-materialistic, giving enough time to patients, and having a good rapport with them. According to Hillen *et al.* (2013), patients trust doctors with whom they have a long-term relationship, and who spend enough time not only to consult, inform and listen but also to

empathize with them. Russell (2005; p1397) suggested, “Interpersonal trust is built, maintained, or damaged through face-to-face encounters with healthcare providers and is more likely to increase with prolonged doctor-patient relationships”.

Arawi (2010) in his research study on Lebanese physicians revealed that the public prefers their physicians to be “honest, humane, ethical, not materialistic, humble/modest, compassionate, respect patient and God-fearing”. Thus, even clinically competent physicians with poor interpersonal skills are likely to be perceived as incompetent, and thus lose patient trust (Choy and Ismail, 2017). Similarly, a study by Shaya *et al.* (2019) showed that five main themes: physicians’ personal and practice characteristics influenced Lebanese patients’ trust. Thus, the hypothesis that arises:

SH3-2: The Patient-provider communication dimension has a significant impact on patient trust

Aside from factors related to patients and providers, few studies have also shown that some factors related to the health system shape patient trust. So far, research has identified infrastructure as one of the main factors (Riva *et al.*, 2014). The environment of comfort has also been shown as a factor shaping trust (Meyer and Ward, 2013). Thus, the hypothesis that arises:

SH3-3: The physical characteristics dimension has a significant positive impact on patient trust

Additionally, Ward *et al.* (2017) revealed that patients who had shorter waiting times resulted in an increased level of trust compared to those who waited for so long. Patients who waited for so long had a feeling of frustration and anxiety, which impacted their trust in the system. On the other hand, Shaya *et al.* (2019) revealed that rapport and encounter time affect trust in Lebanese physicians. In addition, Chandra *et al.* (2020) revealed that patients given enough time during their consultation had a higher level of trust. Thus, based on the above discussions, it is speculated:

SH3-4: The perceived waiting time dimension has a significant positive impact on patient trust

Besides those dimensions related to patients and providers, few studies also showed that some factors related to the health system shape trust. To date, research has identified the cost of care

(Cunningham, 2009; Mascarenhas *et al.*, 2006; Meyer and Ward, 2013) which is part of this study. Moreover, a study done by Shaya *et al.* (2019) revealed that finances (e.g., being money-oriented, consultation fees) are one of the five main themes that influenced Lebanese patients' trust. Furthermore, Shan *et al.* (2016) indicated that affordability of care is also a dimension shaping trust. Moreover, Arawi (2010) in his research study on Lebanese physicians revealed that the public prefers their doctors to be not materialistic. Thus, the following hypothesis arises:

SH3-5: The perceived cost dimension has a significant positive impact on patient trust

Maintaining patient trust has continuously been basic for healthcare providers. Re-establishing patient trust has been found to be based on five key focus areas, of which is easy access to care (Boissy, 2020). Similarly, Shan *et al.* (2016) indicated that accessibility of care is also a dimension shaping trust. Therefore, the following hypothesis arises:

SH3-6: The accessibility dimension has a significant positive impact on patient trust

2.6 Patient Emotions and Patient Satisfaction

The way customers feel about a service experience is of little value in practice or theory if not associated with a context and outcome. Emotions have been examined to customer satisfaction (Westbrook and Oliver, 1991) and service quality (Jiang and Wang, 2006). In the healthcare sector, only a few studies have examined the influence of positive and negative emotions on satisfaction (Williams *et al.*, 1998; Crow *et al.*, 2002; Kahn *et al.*, 2003; Larsson and Wilde-Larsson, 2010; Vinagre and Neves, 2008).

Some researchers have studied the correlation between positive emotions and satisfaction (Westbrook, 1987; Dubé-Rioux, 1990; Oliver, 1993). Others have shown that negative emotions are directly related to satisfaction (Westbrook, 1987; Dubé-Rioux, 1990; Oliver, 1993; Taylor and Cronin, 1994; Price *et al.*, 1995 and Hui and Tse, 1996). According to Dubé and Menon (2000), positive and negative emotions have an influence on satisfaction respectively, and a decrease of positive emotions is linked to an increase in negative emotions, and in this sense, the influence of affect may not diminish. Numerous studies have documented the positive relationship between emotions and satisfaction (Oliver, 1993; Yu and Dean, 2001; Ladhari, 2007; White, 2010).

A multitude of studies suggests that positive and negative emotions related to the service encounter play an important role in defining satisfaction and in predicting future behavioral intentions (Allen *et al.*, 1992; Oliver, 1993; Richins, 1997; Barsky and Nash, 2002). Pinna *et al.* (2018; p.130) stated “*Consumers who are affectively committed to a brand, a product or a service less expensive to retain, and less likely to be tempted by competitors, less vulnerable to brand blunders or service failures (Bolton et al., 2000) and more willing to maintain a relationship that the customer perceives to be of value*” (Morgan and Hunt, 1994). In healthcare settings, positive and negative emotions are related to perceived service performance as argued by Ng and Russell-Bennett (2015). According to Fournier (1998), consumers’ emotional bonding drives their future purchase intentions more than the cognitive part of the satisfaction construct. Emotional aspects have been shown to influence not only patient satisfaction but also clinical outcomes (Dubé and Menon, 1998; Sofaer and Firminger, 2005). In a particular hospital, emotionally satisfied patients tend to continue choosing the same hospital and share positive messages with other patients. Therefore, positive emotional satisfaction drives patients to share their positive experiences with others (Jandavath and Byram, 2016; Rahman *et al.*, 2018).

The dimensionality of satisfaction and quality constructs has been discussed by many researchers and has generated uncertainty about whether the results of previous studies can be deciphered as an explanation of satisfaction or quality of service (Yu and Dean, 2001). Affect or emotion has risen as an important aspect in the field of satisfaction, however, its importance has not been fully captured in service quality models or empirical research on the relationship between service quality and customer satisfaction (Grönroos, 2001). While there is an ongoing debate about the exact nature of any relationship between emotion and satisfaction, it is now generally accepted that emotions may be one of the main determinants of the consumer satisfaction construct (Oliver and Westbrook, 1993; Stauss and Neuhaus, 1997; Barsky and Nash, 2002). For instance, Yu and Dean (2001) suggest that if the emotional components of satisfaction are not tackled, getting reliable predictions of consumer responses are not guaranteed. Thus, the satisfaction construct cannot be understood or fully explained without taking into consideration affect in the form of consumer emotions (Liljander and Strandvik, 1997; Cronin *et al.*, 2000; Greco and Bere, 2020). In this sense, cognitive and affective responses should be viewed separately and have separate effects on satisfaction formation.

There is solid theoretical support for the relationship between customers' emotions and their satisfaction levels (Oliver, 1997). Numerous researchers have seen customers' emotions as a determining factor of their satisfaction levels (Lin and Liang, 2011). As suggested by Hennig-Thurau *et al.* (2006), customers use their emotional state when questioning a certain experience. Similarly, Burns and Neisner (2006) found that customers' emotions are strongly related to customer satisfaction. As Mehrabian and Russell (1974) have indicated, the literature has also shown that emotions can influence evaluative procedures. A study by Ali *et al.* (2013) on the Chinese resort hotels confirmed that customers' emotions have a significant influence on their satisfaction levels. Lin and Liang (2011) also confirmed this relationship in the retail sector. Accordingly, it is speculated that:

H4: Patients' emotions have a significant impact on patient satisfaction

Simply put, customers seek positive emotional experiences while trying to avoid negative emotional experiences. In this sense, positive emotions can best be described as approaching motivations and negative emotions as avoidance motivations. Customers may react to the same service with different emotions, and due to service variability, the perceived service quality and the emotions experienced by a client may differ from one service encounter to another (Martin *et al.*, 2008).

2.7 Patient Trust and Patient Satisfaction

Patient trust correlates very well with patient satisfaction (Anderson and Dedrick, 1990; Thom and Campbell, 1997; Thom *et al.*, 1999; Hall *et al.*, 2006; Balkrishnan *et al.*, 2003; Chen *et al.*, 2020), and there is considerable academic debate about the relationship between these two constructs. Some researchers believe that satisfaction is a prerequisite for trust (Dwyer *et al.*, 1987; Geyskens *et al.*, 1999), while others reached very different conclusions, in which trust is a significant predictor of patient satisfaction with their primary care providers (Baker *et al.*, 2003; Thom *et al.*, 1999). More importantly, patient trust remained an important determinant of patient satisfaction 6 months post initial measure (Thom *et al.*, 1999). From this perspective, patients who trust their primary care doctors are more likely to be satisfied with them. Therefore, patients who entrust their healthcare providers, and especially their lives, believe that the

physician is acting in the patient's best interest as an expected fundamental element in the relationship (Du *et al.*, 2020; Yang and Wu, 2018). Many studies have demonstrated a relation between patient-physician trust and patient satisfaction (Thom *et al.*, 2002). In specific, Josep and Velilla (2003) and Shabbir *et al.* (2010) have found that the degree of trust has a positive influence on satisfaction.

It has been shown that greater patient trust in their physicians is associated with better adherence to treatment (Nguyen *et al.*, 2009; Bauer *et al.*, 2014; Lan and Yan, 2017). Patients who report that their physicians try hard to understand their individual experiences, communicate clearly and fully will place more trust in their physicians. Trust is an important player in the patient-physician relationship so that it runs smoothly. Patients with whom clinicians exhibited empathetic communication behaviors were more likely to show higher patient satisfaction (Ong *et al.*, 2000; Goodchild *et al.*, 2005). Patient satisfaction with doctor-patient interactions is an indicator of physicians' competence and the doctor's success and competence in providing services (Jalil *et al.*, 2017). Patients' trust is positively influenced by patient satisfaction (Alrubaiee and Alkaa'ida, 2011). Satisfied patients are more likely to describe their physicians as showing genuine interest in their medical conditions, able to clearly describe their disease and its future health consequences, provide them enough time and opportunities to discuss their health and the effect of the disease on their everyday life (Platonova and Shewchuk, 2015).

Similarly, several studies have shown that patient trust is strongly related to overall satisfaction and appointments' follow-up (Thom *et al.*, 2002; Rolfe *et al.*, 2014; Baker *et al.*, 2003; Thom and Campbell, 1997; Lee and Lin, 2008; Dawson-Rose *et al.*, 2016; Lee and Lin, 2011; Liu *et al.*, 2021). Patients who trust their physicians are more likely to be satisfied, and previous good encounters are likely to raise greater trust (Hall *et al.*, 2001). For example, it has been found that patients with low levels of trust are less likely to be less satisfied with their care and less inclined to follow their doctor's advice. In addition, patients who trust their physicians are more likely to adhere to treatment (Dugan *et al.*, 2005; Liu *et al.*, 2021), to disclose relevant information thus allowing accurate and timely diagnoses (Calnan and Rowe, 2006; Chandra *et al.*, 2020), and to continue seeking care (Hall *et al.*, 2002). Furthermore, Chenet *et al.* (2010) and Singh and Sirdeshmukh (2000) found that prior trust directly and positively influences consequent satisfaction. Most studies in the service-related literature also show that trust has a positive effect

on customer satisfaction. Furthermore, it turned out that trust is an important factor for the service industry in ensuring patient satisfaction (Coulter and Coulter, 2003; Chang *et al.*, 2013).

The healthcare service providers can gain the patient's trust by focusing on patient satisfaction to strengthen the relationship between patient trust and healthcare quality (Aman and Abbas, 2016; Pakdil and Harwood, 2005). Of course, better service quality and the highest levels of satisfaction can strengthen customer trust in organizations (Ramli, 2019). Trust has also been found to improve patients' mental well-being and peace of mind. Therefore, healthcare policymakers have put the building of patient trust in hospitals and healthcare services on their agenda (Stolt *et al.*, 2016). Strong, long-term interactions between patients and their families and their health care providers are key to building trust in hospitals and maintaining their stability (Pellegrini, 2017).

Trust is the foundation for building relationships between patients and nurses and it has many positive effects on improving patients and boosting the treatment effectiveness (Leslie and Lonneman, 2016). Simultaneously, the patient's trust can both influence the service and additionally be influenced by the service as a patient having a sense of trust in the service provider can engage in every stage of the treatment and disclose sensitive information with doctor easily (Chandra *et al.*, 2020). Furthermore, the doctor can give the necessary treatment to the patient and avoid unnecessary examinations (Thom *et al.*, 2004). In this way, improving the sense of patient trust can diminish their negative perspectives and practices (Durmus and Akbolat *et al.*, 2020; Du *et al.*, 2020).

Based on the above discussions, the hypothesis that arises:

H5: Patient trust has a significant positive impact on patient satisfaction

2.8 Patient Socio-Demographic Characteristics

The fact that each patient has their demographics, such as background and cultural values, the key factors influencing the choice of a medical institution of different levels showed a significant difference. Since the scale, resources, and costs are different among medical institutions, the most important question is how to control the needs and preferences of patients and implement

marketing concepts in conditions of intense competition to satisfy the public and create a competitive edge for medical institutions (Chang *et al.*, 2013).

2.8.1 Patient Demographics and Patient Satisfaction

Current models of patient satisfaction theory represent a patient's healthcare satisfaction as a combination of three components, patient intrinsic factors, expectations, and subjectively perceived outcomes, all three of which depend on the cultural contexts in which they exist (Batbaatar *et al.*, 2015). Of these, patient intrinsic factors related to patient demographics, have only been highlighted as the main aspect of descriptive analysis in studies, and not in patient satisfaction studies. Besides, while certain studies acknowledge the impact of demographic characteristics such as age, gender, education, and health status on patient satisfaction (Young *et al.*, 2000; Henderson and Weisman, 2005), these studies infrequently dive further into how demographic characteristics shape individual sub-components of patient satisfaction. Ultimately, demographic trends are very different by regions and hospitals and often report conflicting results (Hu *et al.*, 2019).

In healthcare, Vuori (1987) found that patient satisfaction varies from country to country and its content depends on patient demographic characteristics such as age, gender, educational level, and income. In addition, Ferrera *et al.* (2014) found that the performance of a health center could be influenced by factors beyond its control, namely, differences in demographic demographics. Studying the demographic characteristics of patients associated with their satisfaction is essential to find remarkable and significant relationships among them (Miao *et al.*, 2020; Shen *et al.*, 2021). This will help develop appropriate strategies to improve the quality of healthcare.

The literature has shown that many demographic characteristics closely related to patient satisfaction (Sitzia and Wood, 1997; Quintana *et al.*, 2006; Levinton *et al.*, 2011; Shan *et al.*, 2016; Yan *et al.*, 2011; Kimani *et al.*, 2016; Kavalnienė *et al.*, 2018; Pandey *et al.*, 2019; Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021). The studies done on the association between these factors and patient satisfaction revealed inconsistent and contradictory results across studies, which lead to the need to study these characteristics for every healthcare system to reflect its uniqueness and its specificity (Adhikari *et al.*, 2021).

Patient characteristics have been demonstrated as important variables to evaluate satisfaction (Asamrew *et al.*, 2020; Hawrysz *et al.*, 2021). The main variables that have been included are age, sex, educational level, income, and marital status (Hall *et al.*, 2009; Bajaba, 2016; Shan *et al.*, 2016). Self-reported patient satisfaction was shown to be strongly associated with “fixed” patient characteristics such as age, sex, race, and socioeconomic status as these factors were related to the satisfaction level that patients reported (Chen *et al.*, 2018). The literacy and income of clients showed a more significant effect whereas patients’ age and occupation have less effect on patients’ satisfaction with the quality of nursing care (Olumodeji and Oluwole, 2015).

Patient satisfaction has also been reported to vary with age, gender, employment status, and marital status (Venn and Fone, 2005). Rahmqvist and Bara (2010) showed that older or healthier patients were more satisfied than younger or poorer patients were. Other demographic variables such as education, income, gender, and age have a significant impact on patient satisfaction (Shabbir *et al.*, 2010). Footman *et al.* (2013) found that in nine countries of the former Soviet Union, young people, less educated people, people with high economic status, people coming from rural places, and people in general good health were the most satisfied patients. Birhanu *et al.* (2010) showed that patient satisfaction is significantly influenced by the demographic variables of marital status, residence, educational status, and occupational status. Naidu (2009) also found that demographic factors “age, gender, occupation, employment status, education, and income” are moderating factors that influence patient satisfaction. Salehi *et al.* (2018) found that age, gender, marital status, education, income, residence, and occupational status influence patient satisfaction. Furthermore, a study on satisfaction factors showed that, along with employment status, education and gender are some of the most important factors influencing patient satisfaction among medical personnel (Mihailovic *et al.*, 2017).

Patient satisfaction is strongly associated with educational level. The higher the level of education, the less the level of satisfaction, since patients have higher education, higher incomes, and social status. Subsequently, the patient’s location, educational level, and income are strongly effective in shaping patient satisfaction. Jamshidi *et al.* (2014) demonstrated that patients with low educational levels and income are more satisfied than patients with high educational levels do. Another study done on hospitals of England University of Medical Sciences revealed that marital status and education strongly influence patient satisfaction (Lagu

et al., 2013). Farzianpour *et al.* (2015) also reported that patients' individual characteristics such as age, education, occupation, and marital status significantly influence their satisfaction. In addition, the patient's age, education, health status, race, marital status, and social class are among the most relevant demographic factors that predict and moderate the patient's satisfaction (Butler *et al.*, 1996; Pinna *et al.*, 2018).

On the other hand, Baldwin and Sohal (2003) found no significant effect of age, gender, and location as moderating variables between quality and satisfaction. Similarly, Tucker and Adams (2001) pointed out that demographic factors (age, gender, marital status, education, and race) are not associated with satisfaction. In addition, no difference across gender, age, or types of service subgroups was noticed in a study done by Choi *et al.* (2005) in South Korea. In any case, it is very imperative to note that the role of gender in various cultures may fluctuate significantly (Xiong *et al.*, 2018).

In an attempt to study the influence of patient's demographics on satisfaction with the service quality dimensions (communication, medical care, information, and support about the medical condition, health organization, and accessibility to family physician's practice), it was demonstrated that income level, marital, and occupational status significantly influence satisfaction, and income has the most significant influence (Baltaci *et al.*, 2013). Moreover, Mihailovic *et al.* (2017) showed that patient satisfaction is influenced by "Age, health condition, income, type of service (state or private sector), communication, the politeness of staff, and the overall hospital environment". Additionally, demographic characteristics, patient-provider relationship, facility setting, and urgency of admission, among others are factors that are associated with patient satisfaction (Bleich *et al.*, 2009; Rahmqvist and Bara, 2010). The level of patient satisfaction with healthcare is greatly influenced by communication between medical personnel and patients, along with demographic factors (Djordjevic and Vasiljevic, 2019). Health insurance and various categories of respondent demographics, namely gender, place of residence, education, and occupation statistically significantly influenced the following service quality dimensions "Affordability and convenience, fulfillment of clinical requirements, nursing and staff care, general behavior of doctors, registration and administrative procedures, structure and amenities, professional behavior of doctors and facilities at reception and out-patient department" (Kamra *et al.*, 2016).

Chen *et al.* (2016) have revealed that Inpatients' occupation, age, and marital status influenced patient satisfaction. More specifically, in the area of nursing and doctors' care, age is positively correlated with patient satisfaction, and in the aspects of doctors' care and hospital environment, marital status has the most influence. There is a significant difference between occupation and satisfaction. This is consistent with the findings of Hall and Dornan (1990) and Aiello *et al.* (2003) who showed that patients with different occupations have remarkably different satisfaction ratings, and older married patients are more satisfied.

Studies have shown that patient satisfaction with health care is significantly correlated with variables such as age, gender, marital or working status, region, or financial situation of the interviewee. Studying the impact of patient demographic characteristics on the satisfaction of health care is the way to better evaluate and understand the expectations of patients. Successful communication is strongly correlated with the level of trust in the chosen doctor, especially among women and highly educated patients. Thus, supporting patients with sufficient information about their condition before surgery will not only increase their satisfaction level but also will reduce the frequency of post-surgical complications and the length of their stay in the hospital. The most satisfied patients were older people, women, as well as married people, the unemployed, and those living in the cities. Moreover, patients with low income appeared to be the most satisfied with health care (Djordjevic and Vasiljevic, 2019).

In a study by Abasiubong *et al.* (2018) to examine the influence of demographics (age, gender, occupation, educational level, and marital status) on the satisfaction of mentally- ill patients in Nigeria, it was revealed that there were variable significant differences in the impact of demographic characteristics on various components of satisfaction where communication is positively influenced by all demographic variables. Age and gender significantly influence the differences in interpersonal manner, in communication, financial aspects, and accessibility dimensions. The Educational level of patients significantly influenced technical quality and communication, occupation, and time spent with the doctor. In addition, marital status has a significant impact on communication, financial aspects, and accessibility/convenience. This implies the importance of patient demographics as major predictors of patient satisfaction.

Moreover, a study done by He *et al.* (2018) on satisfaction among primary health care outpatients revealed that despite those outpatients being less satisfied with patient's costs, better-educated outpatients showed a higher level of satisfaction with service attitude, facility, professional skills, and overall outpatient service. Thus, it might be that the overall satisfaction of educated outpatients is more influenced by the accessibility to high-quality medical service rather than the affordability.

Based on the above discussion regarding patient demographics, the most reported are "Gender, age, educational level, marital status, and income. Therefore, the following hypothesis evolved and was tested in this research.

H6: There is a significant positive relationship between patients' demographics (age, gender, educational level, marital status, income) and patient satisfaction.

After presenting, the patient demographics, the discussion of these demographics in the context of their relationship with patient satisfaction follows.

2.8.1.1 Patient's Age and Patient Satisfaction

Age is a very important determinant to focus on for two reasons. First, it is relevant to the patient and doctor-patient interaction; and second, a recent review showed that age positively relates to satisfaction with health care (Peck, 2011). The literature has shown that age is the most consistent and well-known determinant of patient satisfaction index (Sitzia and Wood, 1997; Ibraheem *et al.*, 2013; Afzal *et al.*, 2014, Ammo *et al.*, 2014; Kimani *et al.*, 2016; Kebede *et al.*, 2021). Some researches show that the older the patients are, the more satisfied they are (Hall *et al.*, 1990; Cohen, 1996; Sitzia and Wood, 1997; Jenkinson *et al.*, 2002; Choi *et al.*, 2004; Hendriks *et al.*, 2006; Quintana *et al.*, 2006; Rahmqvist and Bara, 2010; Afzal *et al.*, 2014; Ammo *et al.*, 2014; Ali *et al.*, 2015; Kalaja *et al.*, 2016; Kimani *et al.*, 2016; Abasiubong *et al.*, 2018; He *et al.*, 2018; Adhikari *et al.*, 2021). Other studies showed that younger patients are more satisfied (Footman *et al.*, 2013; Mihailovic *et al.*, 2017), while other studies deny the association between age and the level of satisfaction (Hall and Dornan, 1988; Ziaei *et al.*, 2011). The older and younger age groups were more satisfied with physician conduct and less satisfied with accessibility (Hsieh and Kagle, 1991). Haj-Ali *et al.* (2014) showed that age is directly proportional to patient satisfaction. Xesfingi and Vozikis (2016) showed that the elder the patient is the more satisfied the patient is with a country's healthcare system. In addition, Bajaba

(2016) stated that patients aged 20-<40 years recorded the lowest satisfaction scores towards accessibility, lab services, and X-ray services. Furthermore, age seemed to be significantly and negatively related as it was demonstrated that older customers hold less favorable opinions about the reliability, as well as three other service quality constructs, personal interactions, functional quality, outcome quality, and overall service (Lal *et al.* 2014; Christia and Ard, 2017).

In a study by Peck (2011) entitled “Age-Related Differences in Doctor-Patient Interaction and Patient Satisfaction”, it was found that age moderates the relationship between interaction style and patient satisfaction in a positive direction. The relationship between interaction style and patient satisfaction is stronger in patients older than 65 years. Patient age is also important in doctor-patient encounters. This study suggests that doctors interact with patients differently based on age, and age moderates the relationship between interaction style and patient satisfaction.

SH6-1: There is a significant and positive relationship between patients’ age and patient satisfaction

2.8.1.2 Patient’s Gender and Patient Satisfaction

Numerous studies showed that gender is related to patient satisfaction with health services in many studies (Ware *et al.*, 1978; Al Qatari and Haran, 1999; Zaghoul *et al.*, 2005; Bikker and Thompson, 2006; Hekkert *et al.*, 2009; Findik *et al.*, 2010; Sultan *et al.*, 2010; Anand and Sinha, 2010; Senarath *et al.*, 2013; Afzal *et al.*, 2014; Kimani *et al.*, 2016; Hemadeh *et al.*, 2019). In some studies, women were more satisfied with their health services than men do (Bikker and Thompson, 2006; Alshammari, 2014; Adhikari *et al.*, 2021). In some others, males tend to report greater satisfaction than females (Al-Eisa *et al.*, 2005; Quintana *et al.*, 2006; Wright *et al.*, 2006; Hekkert *et al.*, 2009; Senarath *et al.*, 2013; Afzal *et al.*, 2014; Kimani *et al.*, 2016), especially for comfort and cleanliness (Quintana *et al.*, 2006). Some others showed no effect (Afzal *et al.*, 2014; Kalaja *et al.*, 2016; Ravi and Nagesh, 2020). The effect of gender was inconsistent across studies (Xiong *et al.*, 2018). Trivedi and Jagani (2018) revealed that the service quality dimensions experience with the doctor, nurse, and hospital administration significantly influenced both genders, and physical environment is significantly associated with female satisfaction. However, men and young people tended to score somewhat higher satisfaction than women and older people (Priporas *et al.*, 2008). Moreover, Kamra *et al.* (2016) revealed that

females reported higher satisfaction for affordability and convenience, facilities at reception, and Out-Patient Department area than males. Females are more concerned with the behavior of doctors and staff members whereas males have greater concern for the cost of service, availability of basic facilities, approachability to the hospital, general cleanliness, and the timing of OPD. The relationship between gender and satisfaction has been one of the main research findings in the Gulf Cooperation Council. Studies showed that satisfaction and responsiveness are highly correlated with gender (Al-Doghaither *et al.*, 2000). Woods and Heidari (2003) reported that females were less satisfied with the items related to health care services provided by all healthcare providers including doctors, nurses, and staff members compared to males. Baltaci *et al.* (2013) stated that females were more satisfied with the following dimensions; “patient-physician communication, medical care provided by physicians, support, and information provided by physicians about their medical situation”. Bhattacharya *et al.* (2018) revealed that males reported higher satisfaction levels for service quality factors technical quality of care, financial aspect, and time spent with the doctor; however, females were more satisfied with the interpersonal manner, communication, accessibility, and convenience.

SH6-2: There is a significant and positive relationship between patients’ gender and patient satisfaction.

2.8.1.3 Patient’s Educational level and Patient Satisfaction

Educational level has been reported in the literature as one of the most important demographic factors related to patient satisfaction (Da Costa, *et al.*, 1999; Ebrahimipour *et al.*, 2013; Kimani *et al.*, 2016). Many studies showed that the educational level was inversely associated with satisfaction level (Quintana *et al.*, 2006; Bleich *et al.*, 2009; Hekkert *et al.*, 2009; Rahmqvist and Bara, 2010; Haj-Ali *et al.*, 2014; Kimani *et al.*, 2016; Maharlouei *et al.*, 2017). Some studies showed that educated patients were more satisfied with health care services than illiterate people do (Hall and Dornan, 1990; Sitzia and Wood, 1997; Al Qatari and Hanan, 1999; Afzal *et al.*, 2014; Bhattacharya *et al.*, 2018). Some others showed that illiterate patients are more satisfied than literate (Footman *et al.*, 2013; Afzal *et al.*, 2014; Kalaja *et al.*, 2016; Mihailovic *et al.*, 2017). Others reported that higher proportions of patients who reported excellent satisfaction are those with no former education or only primary education (Al-Sakkak *et al.*, 2008; Ibraheem *et al.*, 2013). However, other studies stated that less educated tended to be less satisfied (Xiao and Barber, 2008; Larsson and Wilde-Larson, 2010). Moreover, a significant association was

reported between high educational level and satisfaction of patients where highly educated patients were more satisfied (Owaidh *et al.*, 2018; Alrasheedi *et al.*, 2019; Adhikari *et al.*, 2021). Moreover, the effect of the educational level was also associated with service quality factors. It was revealed that highly educated patients, having university or higher degrees, are significantly the least satisfied with the easiness of accessibility and the pharmacy services (Bajaba, 2016). In addition, educated patients reported a higher level of dissatisfaction with the service quality factors communication with the provider, diagnosis, treatment, and hospital environment (Hu *et al.*, 2019).

SH6-3: There is a significant and positive relationship between patients' educational level and patient satisfaction.

2.8.1.4 Patient's Marital Status and Patient Satisfaction

Marital status also contributed significantly to patient satisfaction with healthcare facilities (Abioye *et al.*, 2010, Birhanu *et al.*, 2010; Kimani *et al.*, 2016; Alrasheedi *et al.*, 2019; Hemadeh *et al.*, 2019; Pandey *et al.*, 2019). Some studies have shown that married patients are more satisfied (Baltaci *et al.*, 2013; Afzal *et al.*, 2014; Pandey *et al.*, 2019). Some others showed that unmarried or divorced tended to report higher satisfaction health care facilities (De Man *et al.*, 2002; Abioye *et al.*, 2010). On the other hand, other studies showed that single patients reported a lower level of patient satisfaction compared to married patients (Birhanu *et al.*, 2010; Kimani *et al.*, 2016).

Some studies reported that being married is predictive of better health status. Married patients were most satisfied if the time spent with the doctor was taken into consideration (Bhattacharya *et al.*, 2018). However, unmarried/ single patients reported a higher level of patient satisfaction with the service quality factors technical quality of care, time spent with the doctor, financial aspect, interpersonal manner, communication, and accessibility and convenience as compared to married patients. Widowed patients reported the lowest satisfaction factors regarding these factors. Therefore, it is hypothesized that:

SH6-4: There is a significant and positive relationship between patients' marital status and patient satisfaction.

2.8.1.5 Patients' Income and Patient Satisfaction

Income is another demographic factor linked to patient satisfaction. Some studies have shown that high-income patients are more satisfied than low-income patients do (Fong *et al.*, 2006; Baltaci *et al.*, 2013; Owaidh *et al.*, 2018). Others showed that higher-income patients had a negative correlation with satisfaction (Stepurko *et al.*, 2016).

It was reported that the level of satisfaction was 5% higher in those who are well off compared to those with low income (Kimani *et al.*, 2016). In contrast, other studies showed that patients with low income are more satisfied (Hall and Dornan, 1990; Sitzia and Wood, 1997; Worthington, 2005; Yan *et al.*, 2011; Naseer *et al.*, 2012; Afzal *et al.*, 2014; Haj-Ali *et al.*, 2014; Kalaja *et al.*, 2016). Income has been shown to significantly influence the strength of the relationship between customer satisfaction and customer loyalty (Homburg and Giering, 2001). A study by Mummalaneni and Gopalakrishna (1995) that examined demographic factors such as age, gender, occupation, employment status, education, and income showed that income is the only demographic factor influencing patient satisfaction. Furthermore, the patient's willingness to pay is strongly linked to patient demographic factors of age, gender education, marital status, as well as employment and income level (Xesfingi and Vozikis, 2016).

Some studies have addressed the effect of income on service quality dimensions. Higher-income group people were shown to be more satisfied with access and technical care (Ware *et al.*, 1983). Baltaci *et al.* (2013) showed that rich people are more satisfied with medical care provided by their physicians. Moreover, it was observed that the higher the monthly income, the less satisfaction level about the easiness of accessibility, continuity of care, hospital services (Lab, pharmacy), and their overall satisfaction (Bajaba, 2016). According to Bhattacharya *et al.* (2018), affluent patients are more satisfied regarding service quality factors technical quality of care and financial aspects; while less affluent patients are more satisfied with the interpersonal manner, communication, accessibility, and convenience. Shan *et al.* (2016) reported that outpatients with higher income were more satisfied with service costs and less satisfied with service attitudes. Moreover, income correlated with outpatient where the richest patients showed a higher level of patient satisfaction for service quality dimensions affordability and process management and lower level of satisfaction for the factor hospital environment (Hu *et al.*, 2019). Furthermore, the patients who belong to upper social classes or with higher family income are

more prone to give better empathy ratings than those who belong to lower family income because they have more engaging socioemotional partnerships with their doctors (Willems *et al.*, 2005; Alzayer *et al.*, 2020).

SH6-5: There is a significant and positive relationship between patients' income and patient satisfaction.

2.9 Patient Satisfaction Measurement

In healthcare research, studies dealing with patient satisfaction are not homogenous and many studies are required to ensure the best technique to measure the quality of healthcare services and the importance of various factors that impact patient satisfaction (Ziaei *et al.*, 2011). Patient satisfaction has been widely investigated and lots of measuring instruments have been developed in the past decades. Patient satisfaction instruments have been reviewed by Van Campen *et al.* (1995) to detect their capacity to assess the quality of care from patient's perspectives (QCPP). However, Van Campen *et al.* (1995; p.114) showed that in all the articles reviewed, the quality of care from patients' perspectives has three main problems: "1) Insufficient theoretical foundation; 2) methodological weaknesses regarding the validity, and reliability of the (sub)scales; and 3) low specificity of results for proper application". Therefore, it is suggested that the usefulness of the instruments is proposed to be based on five criteria. The instrument must be "1) Theoretically sound-that is based on concepts and assumptions of quality of care; 2) Structured around different subscales of different aspects of QCCP (multi-dimensionality); 3) Reliable and valid- the instrument was applied in the measurement of quality of care; 4) Easily feasible in large populations and 5) Applied in-home care". Based on these criteria, five instruments were found to have superior utility: patient satisfaction questionnaire (PSQ), client satisfaction questionnaire (CSQ), the patient judgments of hospital quality instrument (PJHQ), the satisfaction with physician and primary care scale (SPPCS) and the service quality instrument (SERVQUAL).

The patient satisfaction questionnaire (PSQ) was developed by Ware and Snyder (1975). The questionnaire consists of 60-item and covers eight dimensions of patient satisfaction: Interpersonal manner, technical quality/competence, accessibility/convenience, finances/cost, efficacy outcomes, continuity, physical environment, availability, and a general satisfaction scale. The PSQ taxonomy of dimensions was shown to be internally consistent and stable in

different studies, however, its validity is questionable (Ware *et al.*, 1983). The newly designed form II of PSQ with 18 Likert-type items makes the scales applicable easily to a large population (Ware *et al.* 1983). The PSQ is not explicitly based on any theory of patient satisfaction and has been widely applied to home health care (Van Campen *et al.*, 1995).

The Client Satisfaction Questionnaire (CSQ) is an eight-item scale developed by Larsen *et al.* (1979) to assess general patient satisfaction with health care services. It showed high internal consistency, but its validity has been criticized. These items are physical surroundings, support staff, kind/Type of service, quality of service, amount, length or quantity of service, the outcome of service, and general satisfaction and procedures. The CSQ is not explicitly based on the theory of patient satisfaction and operationalizes patient satisfaction as a one-dimensional concept (Van Campen *et al.*, 1995).

The Patient Judgments of Hospital Quality Instrument (PJHQ) is a 106-item scale developed by Meterko *et al.* (1990). It is not only based on the patient satisfaction concept, but it aims to measure the quality of care. An exploratory factor analysis results that six factors explain the totality of variances thus indicating the multi-scale dimensionality. The PJHQ questionnaire is not explicitly based on the theory of patient judgments and has been tested for reliability and validity. It has been administered to a large population and it is directed to hospital care (Van Campen *et al.*, 1995).

The Satisfaction With Physician and Primary Case Scale (SPPCS) is a 42-item scale developed by Hulka *et al.* (1970) to evaluate patient satisfaction in three areas; namely, “professional competence, personal qualities, and cost/convenience”. The SPPCS is not explicitly based on the theory of patient satisfaction, its reliability is tested, but its validity is only limited to face validity only. This instrument, which was developed mainly for the evaluation of home health care services, does not reflect sufficient dimensions of patient satisfaction, so its application in the hospital setting has certain limitations (Van Campen *et al.*, 1995).

A Hawthorne (2006) review of patient satisfaction surveys showed that, based on some similar criteria used by Van Campen *et al.* (1995), their article considers 9 generic instruments for further examination. These are variously closed, single items, Client Satisfaction Questionnaires

(CSQ-18; CSQ-8); Consultation Satisfaction Questionnaire (ConsultSQ); La Monica-Oberst patient satisfaction scale (LOPSS); Linder-Pelz satisfaction scales; Medical Interview Satisfaction Scale (MISS); Patient Satisfaction Index (PSI); Patient Satisfaction Questionnaire (PSQ); Patient Visit Rating Questionnaire (PVRQ); and Inpatient Evaluation of Service Questionnaire (IESO). However, none of these instruments has been truly satisfactory, and even recognized instruments may have shortcomings; therefore, the author did not recommend an instrument for the following reasons:

- (a) The patient satisfaction instrument is culture-specific. An instrument that showed reliability, relevance, and validity in one country could not be used in another country with a different culture.
- (b) The patient satisfaction instruments failed to reach an agreement on the theoretical model of patient satisfaction and/or its constituent dimensions in the studies.
- (c) The absence of sufficient evidence to fully recognize the psychometric properties of the instruments as having a nomological net of validity evidence.

Many theories describe patient satisfaction, such as “fulfillment theory, discrepancy theory, equity theory, and social comparison theory”, all of which define satisfaction as a measure of the difference between what is given and what is received. There are many ways to measure the quality of healthcare, however, patient satisfaction is important and a good indicator for measuring the quality in healthcare. Therefore, SERVQUAL was implemented as a suitable measure for patient satisfaction.

Nowadays, in the health care system, patients are more aware of their health, they are more prone to ask questions, check healthcare providers, “shop” for doctors, and in case of dissatisfaction, they directly switch services. Thus, understanding the patients’ perspectives of potential issues related to the quality of care is mandatory to better effective and efficient management of health care organizations. The development of a valid, reliable, and culturally appropriate instrument is one of the serious steps in the management process.

The SERVQUAL model dominates service quality research in the sense that it is rare to find any study without mentioning the SERVQUAL model of Parasuraman *et al.* (1986). It is the most widely used method to measure customer’s perceptions of service quality (Kang *et al.*,

2002; Kasper *et al.*, 2006; Kueh and Voon, 2007; Ladhari, 2008; Carrillat *et al.*, 2007; Chau and Kao, 2009; Gilmore and McMullan, 2009; Bateson and Hoffman, 2011). This method was based on the conceptual gap model of Parasuraman *et al.* (1986). The gap between the expectations and the performance was the measure of perceived service quality in the model. This model represented a kind of breakthrough in the assessment of service quality. SERVQUAL is widely cited in the marketing and retail literature and its use dominates the industry. It also helped develop a service quality model that will serve as a framework for future research in this area. It also played a role to generate items to expand the ten dimensions of service quality as a measure of customer satisfaction. Subsequently, the exploratory research by Parasuraman *et al.* (1985) was revised and refined by them in 1988, and the ten dimensions identified in 1985 were grouped into five dimensions; namely, “reliability, responsiveness, assurance, tangibles, and empathy”.

The researchers raised two concerns related to the SERVQUAL scale. First, it employs a lengthy questionnaire that needs data on consumer expectations and perceptions of each of the 22-service quality attributes. Second, some researchers like Babakus and Boller (1992), Bolton and Drew (1991), Brown *et al.* (1993), and Carman (1990) emphasized the importance of developing a more methodologically accurate scale (Jain and Gupta, 2004).

SERVQUAL has been used by many researchers to develop a questionnaire and measure hospital service quality in different countries such as the USA, Jordan, Malaysia, and Iran (Babakus and Mangold, 1992; Bowers *et al.*, 1994; Nekoei-Moghadam and Amiresmaili, 2011; Zamil *et al.*, 2012). Other dimensions have been added to these applications including dependability and presentation, core medical service, professionalism/skill, courtesy, communication, and understanding the customer (Lee *et al.*, 2000; Suki *et al.*, 2008; Wongrukmit and Thawesaengskultha, 2014). Isik *et al.* (2011) examined the applicability of SERVQUAL dimensions to healthcare services and found that the SERVQUAL instrument is very useful for evaluating and monitoring service quality in hospitals, and allows the identification of service improvements gaps from the customer’s (Kitapci *et al.*, 2014; Meesala and Paul, 2016). The researchers Purcărea *et al.* (2013); Li *et al.* (2015); Lupo (2016); Kalaja *et al.* (2016); Mendes *et al.* (2018); Prabhu and Iyer (2018); Shafiq *et al.* (2017); and Ali (2017) used the SERVQUAL method to evaluate patients' perception of service quality in Chinese

hospitals; evaluate hospital service in Sicily (Italy); evaluate the quality of health care in Brazilian hospitals; evaluate the quality of a public hospital in Albania; evaluate the perceived service quality of the Romanian public hospital; analyze the influence of information systems on service quality in Indian hospitals; evaluate the service quality in Pakistani Hospitals, and evaluate the perceived health services in a Pakistani Hospital respectively.

However, many problems have been reported with SERVQUAL and it has been suggested that there should be a new method with psychometric properties that require context-based studies and incorporates functional and technical aspects of healthcare organizations. Sometimes, it may be necessary to add or delete dimensions to SERVQUAL to accommodate certain service industries (Parasuraman *et al.*, 1988). However, the original dimensions do provide a valuable starting point for developing a suitable tool.

In any case, the truth is that patients are now considered as customers and that their rights in the health system are increasing more and more. Identifying and evaluating the perceived perspectives of patients to identify potential matters relating to the quality of care would play an important role in the effective and efficient management of health care organizations. Therefore, the development and application of reliable, valid, and culture-specific instruments are crucial steps in the management process.

The fact that there is no consensus on the best way to conceptualize the relationship between patient satisfaction and the relative perceptions of the quality of care poses an additional challenge for research on patient perceptions of the dimensions of service quality. Although some authors use the terms synonymously, patient satisfaction is still measured as a proxy for patient evaluation of service quality (Turrís, 2005; Asamrew *et al.*, 2020; Adhikari *et al.*, 2021; Hawrysz *et al.*, 2021).

2.10 Introducing the Conceptual Framework

After introducing the contextual and existing literature on this research, the basic hypotheses and sub-hypotheses are presented to develop a preliminary conceptual framework that will then be finalized by the primary research. The purpose of this section is to develop a conceptual framework that relates the four constructs previously developed in the literature review.

According to Miles and Huberman (1994, p. 28): “A *conceptual framework explains, either graphically or in narrative form, the main dimensions to be studied – the key factors, or variables – and the presumed relationships among them.*”

In modern-day medical care, delivering healthcare is not only a matter of getting the patient well but also observing the overall experience of the patient while accessing health care. Patient satisfaction, which is a perception and attitude that a patient may have about an experience of health care, is multidimensional and is an important factor in the quality of health care delivery. Patient satisfaction is a subjective assessment of the objective management of factors of the hospitals. Therefore, when analyzing patient satisfaction, it is necessary to link patient satisfaction with hospital objective management indicators. A variety of dimensions significantly correlates with outpatient satisfaction. However, these dimensions only specify certain aspects of patient satisfaction; they are usually evaluated in various contexts and different studies. Therefore, it is important to consider different aspects of patient satisfaction and reflect each country’s peculiarities and its people. The primary key construct of patient satisfaction is service quality. Departing from the assumption that multidimensionality of service quality is equivalent to five quality dimensions as proposed by Parasuraman *et al.* (1988). Acknowledging the possibility that modifications can be made to adapt it to a specific type of service, and the strong need for modeling factors specific to the situation in which services are provided. The researcher was able to suggest the following dimensions of service quality (Cognitive determinants): physical characteristics (Tangibles), perceived waiting time, patient-provider relationship, accessibility, technical quality of care, and perceived cost which parsimoniously summarizes perceived service quality and are used as the base for measuring patient satisfaction. The second key construct of overall patient satisfaction is patients’ emotions. Patients and healthcare providers share the emotional burden of illness and the treatment they receive. While physicians focus on clinical outcomes, patients focus on the impact on their daily lives, which includes emotions. Therefore, it is recommended to examine the dimensions that drive patients’ emotions in healthcare. The medical treatment of patients is based on the level of trust between the supply and demand sides of the health service. Therefore, to obtain the best possible outcomes in healthcare, patients need to have trust in their doctors as they are going to share their private and sensitive information. If trust is affected, each step along the patient’s pathway is affected. Exploring the reasons behind patient trust in their

doctors and assessing ways to reshape a stronger relationship is highly recommended. The fact that every patient has his/her demographics, the key demographic factors affecting patients' choosing medical institutions of different levels showed a significant difference. The studies conducted on the association between these demographic factors and patient satisfaction revealed inconsistent and contradictory results across studies, which lead to the need to study these characteristics for every healthcare system to reflect its uniqueness and its specificity, therefore, the correlations between demographic factors and patient satisfaction cannot be disregarded in the studies of patient satisfaction.

Based on the above, there is little research examining the major constructs of patient satisfaction and their impact on it, along with the dimensions that drive these constructs. As patient satisfaction is multidimensional, context-specific, and represents an important driver for the quality of health care delivery, and because the research on patient satisfaction is still developing, this research focuses on all the facets of patient satisfaction. The new relationship between patient emotions, patient trust, and patient satisfaction, and at the same time, the dimensions that elicit patient emotions and build patient trust will give light to new theoretical interest in patient satisfaction studies. Following is a detailed discussion of the stages of the framework of this research.

The first stage identified the service quality dimensions included in this research that reflect the cultural context of the Lebanese patients as the technical quality of care, patient-provider communication, physical characteristics, perceived waiting time, perceived cost, and accessibility. These dimensions are considered unique to the Lebanese private healthcare system, based on the literature review (Hemadeh *et al.*, 2019; Haj-Ali *et al.*, 2014) and the focus group discussions (Discussed in the research Methodology chapter). Therefore, these factors help the researcher to address research objective 1 by examining the first hypothesis, including six sub-hypotheses, as indicated below:

H1: Perceived service quality has a positive impact on patient satisfaction.

SH1-1: The technical quality of care dimension has a significant positive impact on patient satisfaction

SH1-2: The Patient-provider communication dimension has a significant positive impact on patient satisfaction

SH1-3: The physical characteristics dimension has a significant positive impact on patient satisfaction

SH1-4: The perceived waiting time dimension has a significant positive impact on patient satisfaction

SH1-5: The perceived cost dimension has a significant positive impact on patient satisfaction

SH1-6: The accessibility dimension has a significant positive impact on patient satisfaction

The second stage of the preliminary framework relates to patient emotions, an important aspect of patient experience and driver of patient satisfaction. The importance of emotions in understanding patient satisfaction and their influence on related outcomes has been the call for further studies (Ladhari *et al.*, 2017; McColl-Kennedy *et al.*, 2017; Greco and Bere, 2020). However, the patient emotions are not random and they are driven by service quality dimensions (McColl-Kennedy *et al.*, 2017), therefore examining the dimensions that drive emotions in healthcare is recommended. To be able to answer the research objectives 2 and 3, it is important to examine the second and fourth hypotheses, as indicated below:

H2: Perceived service quality has a significant positive impact on patient emotions

SH2-1: The technical quality dimension has a significant positive impact on patient emotions

SH2-2: The Patient-provider communication dimension has a significant positive effect on patient emotions

SH2-3: The physical characteristics dimension has a significant positive effect on patient emotions

SH2-4: The perceived waiting time dimension has a significant positive impact on patient emotions

SH2-5: The perceived cost dimension has a significant positive effect on patient emotions

SH2-6: The accessibility dimension has a significant positive effect on patient emotions

H4: Patients' emotions have a significant impact on patient satisfaction

The third stage of the framework relates to patient trust, an essential foundation for fostering patient satisfaction and which has been given little attention in this context, and which factors that contribute to trust are not well developed (Chandra *et al.*, 2020; Riachy and Nemr, 2020). Therefore, to build patient trust in healthcare, it is important to explore the dimensions behind their trust. Thus, to be able to answer the second part of objectives 2 and 3, it is important to examine the third and fifth hypotheses, as indicated below:

H3: Perceived service quality has a significant impact on patient trust

SH3-1: The technical quality dimension has a significant positive impact on patient trust

SH3-2: The Patient-provider communication dimension has a significant positive impact on patient trust

SH3-3: The physical characteristics dimension has a significant positive impact on patient trust

SH3-4: The perceived waiting time dimension has a significant positive impact on patient trust

SH3-5: The perceived cost dimension has a significant positive impact on patient trust

SH3-6: The accessibility dimension has a significant positive impact on patient trust

H5: Patient trust has a significant positive impact on patient satisfaction

The final stage of the framework relates to patient demographics an important dimension that has a direct influence on the satisfaction level. As mentioned before, the correlations between demographic factors and patient satisfaction cannot be disregarded in the analysis of patient satisfaction (Hawrysz *et al.*, 2021; Miao *et al.*, 2020; Shen *et al.*, 2021). Therefore, it is expected that patients' demographics complement the picture of patient satisfaction by examining their impact on patient satisfaction, which respond to research objective 4, by addressing hypothesis 6 and sub-hypothesis.

H6: There is a significant positive relationship between patients' demographics (age, gender, educational level, marital status, income) and patient satisfaction.

SH6-1: There is a significant positive relationship between patients' age and patient satisfaction.

SH6-2: There is a significant positive relationship between patients' gender and patient satisfaction.

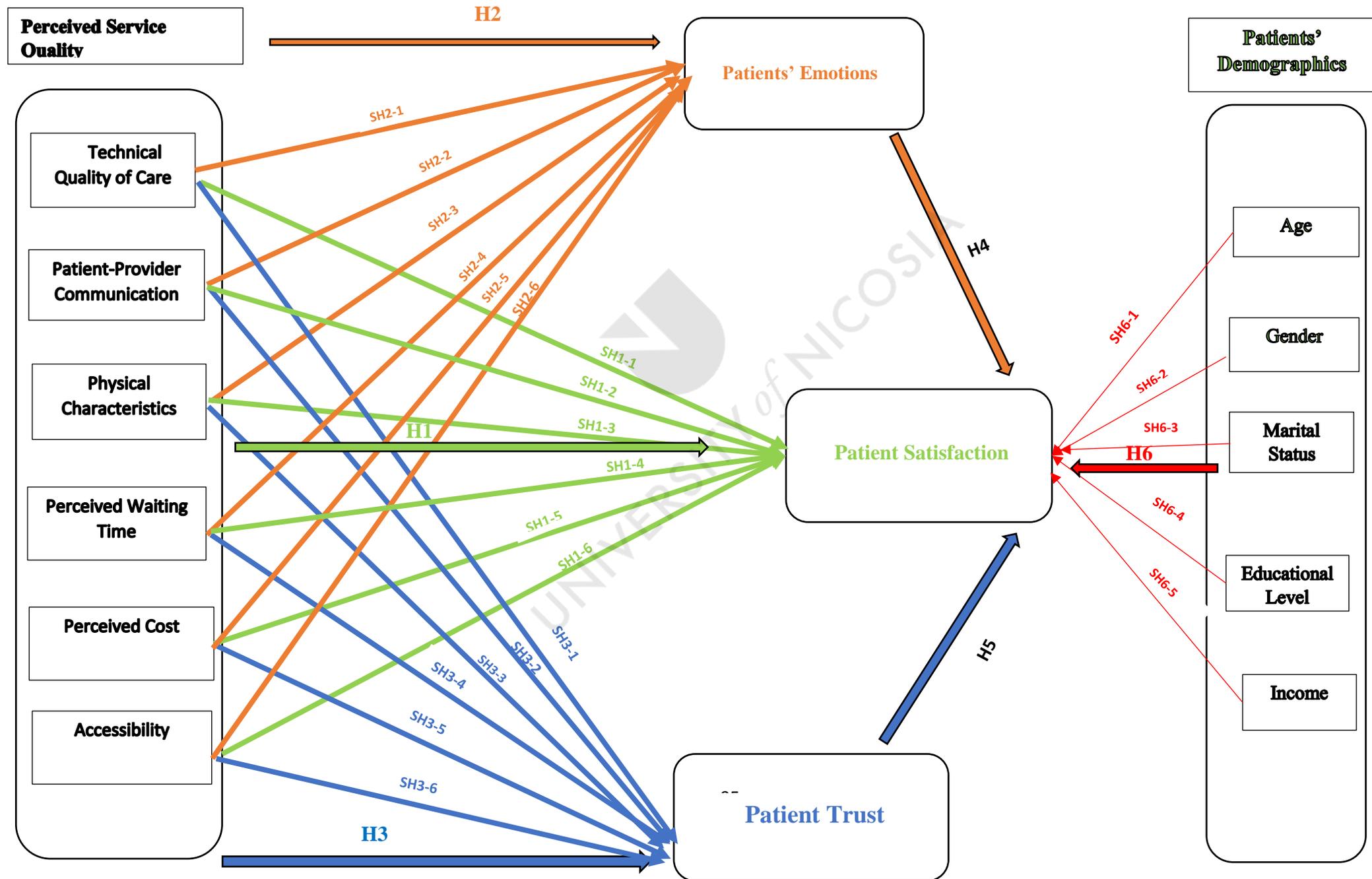
SH6-3: There is a significant positive relationship between patients' educational level and patient satisfaction.

SH6-4: There is a significant positive relationship between Patients' marital status and patient satisfaction.

SH6-5: There is a significant positive relationship between patients' income and patient satisfaction.

The framework is presented in Figure 2.1 below.

Figure 2.1: The Preliminary Conceptual Framework (Source: Author's Own)



2.11 Chapter Conclusion

This chapter addressed the topic under research, and then explored the identified gaps in the literature. The literature review provided a broad theoretical review of the concept of patient satisfaction where both determinants, cognitive and affective, were investigated. The literature focused on identifying the service quality dimensions that influence patient satisfaction, and further on the impact of emotions, trust, and demographics on patient satisfaction. On the completion of the literature, the researcher proposed a conceptual framework for outpatient satisfaction. The next chapter presents the research methodology, the research empirical setting, and the data collection methods.



CHAPTER 3- RESEARCH METHODOLOGY

 UNIVERSITY of NICOSIA

3.0 Introduction

This chapter describes the research methodology used to conduct the research for this thesis. It starts with the empirical setting of the research. It then outlines the research philosophical stand for this study. Subsequently, it provides a detailed description of the research design, including the research purpose and approach. Next, the data collection technique is discussed, followed by an explanation of the sampling approach and how data are analyzed, along with ethical considerations. Finally, data analysis and data quality are presented.

3.1 Empirical Setting of the Research

3.1.1 Requirements of an Appropriate Empirical Setting

First, the majority of studies on outpatient satisfaction have been conducted in Western countries and the scales often include items that are specific or applicable to only some cultures or regions. Many authors suggested that different healthcare systems require different instruments, and the results cannot be transferred from one country to another (Almeida *et al.*, 2015; Zinn *et al.*, 2016; Javed *et al.*, 2019; Hawrysz *et al.*, 2021). This highlights the need to study the concept in other regions, so it is important to have an empirical context that satisfies this requirement. Thus, the first key requirement is:

The country, to which patients belong, is an eastern country with a different culture and health setting.

Over the last decade, the overall trend towards providing access to affordable and high-quality health care has changed the way healthcare is delivered. Thus, the revenue from inpatient care and the healthcare reliance on these revenues is decreasing, and are likely to decline further in the near future. Inpatient hospital services are contributing less to health revenues, and are expected to be liabilities to a health system. In the last three decades, the health systems are witnessing a significant movement toward outpatient care. According to Gerhardt and Arora (2020), the hospital outpatient revenue grew at a higher cumulative annual rate (9%) than inpatient revenue (6%). They reported that the share of outpatient revenues has grown from 28% in 1994 to almost half (48%) in 2018. More recently, hospital outpatient revenue is expected to equate to inpatient revenue and is likely to exceed it in the coming years (Abrams *et al.*, 2019). This emphasizes that outpatients are the guaranteed future for the healthcare industry. As the main interest of this research is to investigate the concept of outpatient satisfaction and according to Haj-Ali *et al.* (2014) and Hemadeh *et al.*

(2019), there is no existing framework for assessing patient satisfaction in Lebanon and more specifically outpatients.

The country selected lacks sufficient studies on the concept of outpatient satisfaction.

Third, one of the main interests of this research is to explore the concept of outpatient satisfaction in terms of service quality dimensions, emotions, trust, and patient demographics. Given that researchers have encouraged the development or modification of the existing concept by adding dimensions or sub-dimensions important in their socio-demographic, cultural, and geopolitical context (Zinn *et al.*, 2016; Miao *et al.*, 2020; Shen *et al.*, 2021), the demographics of outpatients play an important role in the empirical framework of the research basic requirement:

The healthcare system selected has outpatients of various cultures and demographics.

3.1.2 Lebanon, an Ideal Background

First, Lebanon is an independent state in Western Asia. It is governed by Syria to the North and east and by Occupied Palestine to the south. Lebanon is deemed an Eastern country as being part of the Middle East countries. The previous literature review has shown that, even though patient satisfaction in medical care has been extensively studied, there is no gold instrument or even validated instrument for many different contexts, and each instrument reflects the specificity of each culture or health setting (Almeida *et al.*, 2015; Hawrysz *et al.*, 2021). Although many studies on outpatient satisfaction with hospital services have been conducted globally and regionally, none have been conducted or published for Lebanese outpatients (Hemadeh *et al.*, 2019). This study further aims to examine the dimensions that influence outpatients' satisfaction. Thus, it would be interesting to examine an empirical context in which such knowledge is lacking and fill the gap.

Second, the location of Lebanon which is at the crossroads of the Mediterranean Sea and the Arabian neighborhood enhanced its history and made a broadened cultural identity of different strict and ethnicities. More than seventeen sects and ethnicities inhabit Lebanon. The country's population is shaped by various religious groups, speaking different languages due to inheritance of different civilizations that goes back to thousands of years, and having diverse values, customs and mentalities have affected the country's educational system, the healthcare system, and others. In addition, the oversupply of doctors, graduates of many different countries, with significantly different backgrounds, and the absence of national clinical protocols have prompted contrasts in medical diagnosis and treatment, aggravated

by the absence of straightforward policies and procedures at the administrative and financial levels. This diversity has shaped the patients' perceptions of the healthcare system. Furthermore, Lebanon is a middle-income country with a population of 4.5 million residents and 1.5 million refugees (Syrian refugees due to the conflict in neighboring Syria). The majority of Lebanese, who constitute 88%, live in urban areas, two-thirds of whom are between the age of 15 and 64 (United Nations Department of Economic and Social Affairs, 2015). One also can notice that in practice, women's salaries are less than men's salaries in Lebanon and the highest salaries are offered in the capital compared to other regions. An in-depth review of the existing literature did not reveal any study that focuses on the impact of demographics on outpatient satisfaction in Lebanon. It is thus interesting to investigate an empirical context where the demographics of outpatients are not studied and thus filling up this research gap.

After taking into consideration the country where the empirical examination of the proposed conceptual framework will take place, it is interesting to explore the health system setting of the current study.

Since the mid-1970, Lebanon has passed through a myriad of political and socio-economic hardship resulting from a long period of conflicts, including civil war (1975-1990), July war (2006), and Syrian fallout. This long history of conflict has weakened the public healthcare sector and provided the private sector with a great opportunity to flourish. Consequently, the private sector has become the main provider of health care services in Lebanon and the main contractor for the Ministry of Public Health (MoPH). About 78% of outpatient visits take place in the private sector. It is followed by the Non-Governmental Organization (NGO) sector, which accounts for 12%, with the public sector accounting for only 9% of all visits. There are 163 hospitals in Lebanon (Health, 2020; Lebanese Ministry of Public Health, 2006-2018), about 82% of which are privately owned and run by doctors or religious charitable organizations (Ministry of Health, 2016; Khalife *et al.*, 2017). Most private hospitals in Lebanon have a capacity of 75 to 100 beds while University hospitals can receive up to 200 stay-in patients. In North Lebanon, Hospitals with 0-49 beds are considered small; 50-99 beds are medium hospitals, and more than 100 beds are large hospitals (Saleh *et al.*, 2013). Around 22 private hospitals are in North Lebanon (Refer to Table 3.1). There is an oversupply of physicians in Lebanon to meet healthcare needs. There are 22.71 physicians for every 10000 people, which is the fifth-highest density in the Eastern Mediterranean region (World Health Organization, 2020). The medicine in Lebanon is by law categorized

as a “Liberal profession” where physicians are allowed to work independently and can be self-employed and thus, their income is generated from professional fees and from hospital fees.

Somewhat under half of the Lebanese are covered by insurance schemes, including “the National Social Security Fund”; “Civil Servant Cooperative” and “Military funds”. The MoPH is the primary healthcare provider for the uninsured, while the predominant sources of health financing in Lebanon are private health insurance and out-of-pocket (OOP) expenditures (SHOPS Plus and HFG, 2018). In 2018, the “National Social Security Fund” and the “Civil Servant Cooperative” covered 23%, while private insurance companies covered 19.1% and the rest are out-of-pocket expenditures, which account for 33.2% of the healthcare expenditure (Statistics, 2019).

The MoPH’s budget has increased enormously from USD 232.294 million in 2005 to 485.899 million in 2018 (Lebanese Ministry of Public Health, 2006-2018). Over the past 15 years, Lebanon’s health expenditure increased by 57% in 2017. In terms of its GDP, Lebanon reached 8.2% in 2018, one of the highest health expenditures among Arab countries (The World Bank, 2020b). Based on the Ministry of Finance’s budget proposal, 48% of total public health expenditure funds private sector hospitalization, which constitutes a significant drain on public sector finance (Salti *et al.*, 2010). To address this, the Lebanese government has launched a series of reforms in the sector to reduce health care costs and improve the efficiency of the health system (Saleh *et al.*, 2013).

The strength of the health care system lays in the quality and quantity of available resources including; hospital capacity, advanced technology, and medical expertise. Over the last two decades and after the war, the Ministry of Public Health (MoPH) has worked hard to strengthen the health system and ensure better quality and access (Wim Van Lerberghe, 2018). Since May 2000, Lebanon has witnessed a paradigm shift in the quality assessment of hospital care. It shifts from a traditional focus on physical structure and equipment to a multidimensional approach taking into consideration the process, performance, and outcome. In the absence of consumers’ voice, the stimulus for change has come from the MoPH through proposing the implementation of the accreditation programs for hospitals (Ammar *et al.*, 2007). Thus, the evolutionary path of the Lebanese Accreditation experience has followed the quality management as described by Donabedian, by tackling the structure and process at first and involving the outcomes later (Donabedian, 1980). One of the main

objectives of the implementation of the accreditation program was to improve the responsiveness of health services to meet user expectations, and increase satisfaction. Therefore, to develop the service quality standards, patient satisfaction, access to health services, infrastructure, and the service process became the assessment and evaluation criteria of hospitals by the Institutional Performance and Quality Development. Becoming a patient-centered hospital is the key to delivering optimal patient care. Patient satisfaction has long been recognized as an integral part of people-centered care and an important indicator of the quality of care (Louw *et al.*, 2017; Asamrew *et al.*, 2020; Adhikari *et al.*, 2021; Hawrysz *et al.*, 2021). This care cannot be achieved without a complete human resources department made up of talented employees, first in class workforce capable of providing the best service, and leadership that guarantees the total commitment of the management. This emphasizes the importance of patient satisfaction as the inevitable path for all Lebanese healthcare institutions to maintain their performance and ensure their continuity (Saliba, 2013).

Table 3.1: Private Hospitals in North Lebanon Source: Ministry of Public Health (MoPH)

Name of Private Hospitals in North Lebanon	Location	Number of Beds
Al Monla Hospital	Tripoli	90
Nini Hospital	Tripoli	128
Albert Haykal Hospital	Al Koura	120
Al Koura Hospital	Al Koura	62
Centre Hospitalier du Nord University Hospital	Zgharta	144
Rahhal Hospital	Akkar	100
Al Youssef Hospital	Akkar	82
Notre Dame de Zgharta University Hospital	Zgharta	149
New Mazloun Hospital	Tripoli	105
Al Islami Hospital	Tripoli	138
Family Medical Center	Zgharta	120
Al Bourgi Hospital	Koura	35
Notre Dame de la paix Hospital	Akkar	91
Al Hanan Hospital	Tripoli	35
Khalaf Habtoor Hospital	Akkar	54
la Paix Hospital	Tripoli	78

Dar Al Chifaa Hospital	Abu Samra	78
Dar al Zahraa Hospital	Abu Samra	10
Al Kheir Hospital	Minieh	85
Chahine Hospital	Tripoli	36
Bissar Hospital	Tripoli	50
Emile Bitar-Batroun Hospital	Batroun	90

3.2 Research Philosophy

The main reason for research is to expand the limits of knowledge and develop concepts and theories. Research philosophy is a belief in how data on a particular phenomenon should be collected, gathered, analyzed, and used. Since this research will attempt to interpret observations in terms of measurable facts or units, it follows the positivist research paradigm (Fadhel, 2002).

In this paradigm, research is based on deductive logic, the formulation of hypotheses and testing them proposes an operational definition and mathematical equations to include conclusions. It attempts to give explanations and come up with predictions based on measurable outcomes.

The positivist researcher can observe incidents and events in the current case study under investigation and generalize what to expect in other parts of the world. The researcher must formulate new concepts from the beginning and not rely on lay notions. Therefore, this paradigm suggests the use of quantitative research because the researcher can accurately describe the parameters in the data collected, analyze, interp, and understand the relationships inferred from the data being analyzed.

The first aspect of the research philosophy is ontology. Ontology is a philosophical study that seeks to discover the nature of existence or reality, of being or becoming. It is about what constitutes reality, that is, *what is* (Scotland, 2012). It defines the researcher's view of the reality, being investigated through the researcher's responses to problems, which include; the nature of the world when the reality is orderly or lawful; if reality is stable or changing, and if it is unitary or multiple; and if was created by people involved in the current research. Ontology is important to a paradigm because it helps to understand the things that make up

the world, as it is known (Scott and Usher, 2004). The researcher's ontology is Positivist. The researcher is independent and distant from what is studied, and the results of the research are based on the nature of the data rather than on the preferences, personality, beliefs, and values of the researchers (Kivunja and Kuyini, 2017).

Ontology is the broadest and deepest level, followed by epistemology, which comes second and may be derived from ontology. Ontology refers to the different ways of acquiring knowledge, also known as methodology. The choice of methodology encompasses several specific methods, which in turn contain variable alternatives for data gathering and analysis (Fayolle *et al.*, 2005).

The second aspect of research philosophy is epistemology, the philosophy of knowledge. The word episteme means knowledge in the Greek language. In research, epistemology is used to describe how to come to know something; how to know the truth or reality. As referred by Cooksey and McDonald (2011), it refers to what is considered knowledge in the world. It is about the fundamentals of knowledge, where they come from, how they can be acquired and communicated, and the relationship between the researchers to what is being researched. According to Schwandt (1997), it is the study of the nature of knowledge and justification. It means that the researcher is capable of extending, broadening, and deepening the understanding of the area under research. According to Fayolle *et al.* (2005; p.136): *"looking at the concept of ontology and epistemology, we can see that they are some kinds of "rules of the game," and we have different rules...these rules are interconnected within each game. If we assume that knowledge is not one entity but many and it changes, it is reasonable to assume that we have different ways of studying it..."*

Epistemological considerations talk about the knowledge of social groups and social norms. According to Bryman and Bell (2007; p. 4-26), *"it is about the internal problems such as realism, interpretivism, and positivism"*. The philosophy of realism states that our senses show us that reality is the truth and it is independent of the human mind. The philosophy of interpretivism states that the researcher and every researcher must understand the differences between humans in our role as social actors.

From an epistemological point of view, the researcher will follow the positivism philosophy. In positivism, there is only one logic of science, to which any intellectual activity that aspires to the title of 'science' must conform. Positivism means "working with an observable social

reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientists” (Kivunja and Kuyini, 2017; p.30). The only way to obtain knowledge of reality is to follow a scientific method to develop and test hypotheses (Bryman and Bell, 2003, p. 19-20; Saunders *et al.*, 2009, p. 113- 116).

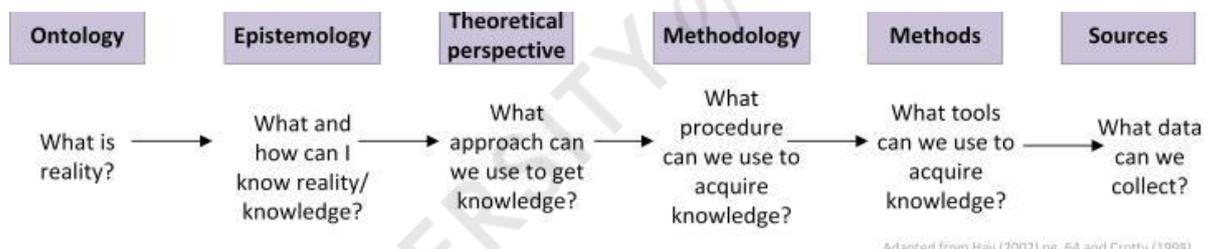
The choice of the researcher is justified since it is based on deducting from the current literature on patient satisfaction proposed models and theories, and pre-existing quantitative studies. The identification of gaps is also based on the literature review of the factors that influence patients to develop a relevant model for hospitals in Lebanon, which will undergo further testing and validation using appropriate methods and methodologies. This research process aims to generate new knowledge.

3.2.1 Research Philosophical Approach

In the next section, the different types of paradigms are described and detailed, and the best paradigm that fits this study is identified. It also presents the various methods and tools for acquiring knowledge and the use of these methods in generating and collecting data.

The following flow chart (Figure 3.1) shows how the researcher is guided by her research philosophy.

Figure 3.1: Research Paradigm (Source: Crotty, 1998)



3.2.2 Types of Paradigms

The term paradigm in educational research refers to the researcher’s ‘worldview’ defined as the perspective, mindset, thoughts, and beliefs that help to understand the meaning or interpretation of research data (Mackenzie and Knipe, 2006). The researcher’s world view, her actions, and her interpretations are shaped by abstract beliefs and principles that are constituted by paradigm. In addition, paradigms are the conceptual lens on which the researchers rely to discover the methodological aspects of their research project, find the research methods to use, and how the generated data will be analyzed. Creswell (2007; p.15) indicates that “*the research design process begins with philosophical assumptions that the*

enquirers make when deciding to undertake a study. Researchers bring their own world views, paradigms, or sets of beliefs to the research project, and these inform the conduct and writing of the study". As defined by Morgan (2007, p. 49), the term paradigm is “*all-encompassing ways of experiencing and thinking about the world, including beliefs about morals, values, and aesthetics*” (Kivunja and Kuyini, 2017).

A research paradigm helps the researcher summarize the discussion on ontology and epistemology. Defining the paradigmatic perspective of the researcher includes examining the interaction between ontological and epistemological assumptions, the meta-theoretical basis, the research questions, and the research methodology. Researchers have suggested that there are many paradigms, but they are grouped into three taxonomies: Positivist, Interpretivist, or Critical paradigms as proposed by Candy (1989), one of the leaders in the field. On the other hand, Tashakkori and Teddlie (2003a; 2003b) proposed a fourth paradigm, called the Pragmatic paradigm.

Table 3.2 describes the different types of paradigms. According to Lincoln and Guba (1985), a paradigm comprises four elements, namely; epistemology, ontology, methodology, and axiology.

Table 3.2: Types of Paradigms (Source: Crotty, 1998)

Paradigm	Ontology <i>What is reality?</i>	Epistemology <i>How can I know reality?</i>	Theoretical Perspective <i>Which approach do you use to know something?</i>	Methodology <i>How do you go about finding out?</i>	Method <i>What techniques do you use to find out?</i>
Positivism	There is a single reality or truth (more realist).	Reality can be measured and hence the focus is on reliable and valid tools to obtain that.	Positivism Post-positivism	Experimental research Survey research	Usually quantitative, could include: Sampling Measurement and scaling Statistical analysis Questionnaire Focus group Interview
Constructivist / Interpretive	There is no single reality or truth. Reality is created by individuals in groups (less realist).	Therefore, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	Interpretivism (reality needs to be interpreted) <ul style="list-style-type: none"> • Phenomenology • Symbolic interactionism • Hermeneutics Critical Inquiry Feminism	Ethnography Grounded Theory Phenomenological research Heuristic inquiry Action Research Discourse Analysis Feminist Standpoint research etc	Usually qualitative, could include: Qualitative interview Observation Participant Non participant Case study Life history Narrative Theme identification etc
Pragmatism	Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations.	The best method is one that solves problems. Finding out is the means, change is the underlying aim.	Deweyan pragmatism <i>Research through design</i>	Mixed methods Design-based research Action research	Combination of any of the above and more, such as data mining expert review, usability testing, physical prototype
Subjectivism	Reality is what we perceive to be real	All knowledge is purely a matter of perspective.	Postmodernism Structuralism Post-structuralism	Discourse theory Archaeology Genealogy Deconstruction etc.	Autoethnography Semiotics Literary analysis Pastiche Intertextuality etc.
Critical	Realities are socially constructed entities that are under constant internal influence.	Reality and knowledge is both socially constructed and influenced by power relations from within society	Marxism Queer theory feminism	critical discourse analysis, critical ethnography action research ideology critique	Ideological review Civil actions open-ended interviews, focus groups, open-ended questionnaires, open-ended observations, and journals.

3.2.3 Defining and Applying Positivism

The positivist paradigm asserts, “Real events can be observed empirically and explained with logical analysis”. It is the view that the only knowledge is scientific knowledge and can be generated by positive affirmation of theories through scientific methods. This concept was first developed by the French sociologist and philosopher Auguste Comte (1798 – 1857). The best-known positivists are Bacon, Descartes, Mill, Durkheim, Russell, and Popper (Hirschheim, 1985).

The term "positivism" describes this type of scientific research with no room for biased observation. Positivism is a straight line of information, a measurable collection of truthful records obtained from the source. Modern positivism is presented as a logical strategy to discover the laws by which physical and human events occur. Research using positivist quantitative methodology has a higher reputation in the social sciences than qualitative research, which is noted for its popularity. This research is generally considered progressively logical and increasingly precise and has a greater impact on policy and public opinion, but such decisions are discussed as often as possible by non-positivist researchers (Straub *et al.*, 2004).

The fact that the variables discussed in this research which are; patient satisfaction, perceived service quality factors, patient trust, and patient emotions have tangible realities, this research holds the positivist paradigm. As companies today think about competitiveness, development, and growth in the market organizations, this drives them to improve service quality factors, figure out the quality factors that drives the patient’s emotions, and inspire their trust, so they must satisfy their patients, but satisfaction is a utility and vary for every individual. The variables, perceived service quality factors, patient emotions, patient trust, and patient satisfaction are all variables having the characteristics of an object within an organization. From an objective reality, the researcher believes that the service quality factors, emotions, and trust are not all the same and differ with the organization, and patient satisfaction is also context-specific and the level of satisfaction will differ in different organizations. Therefore, the impact of perceived service quality dimensions, patient emotions, and patient trust on patient satisfaction will vary based on the organizations and the circumstances.

This research adopts the positivist paradigm because based on the practical experience and above literature review, the researcher believes that the perceived service quality dimensions, patient emotions, and patient trust have something to do with patient satisfaction and the previous studies proved this reality. The influence of perceived service quality factors, patient emotions, and patient trust on patient satisfaction can only be confirmed by testing the hypotheses that evolved through the literature. If the above literature review is not well developed in terms of the service quality dimensions that influence patient satisfaction, thus, it becomes necessary to explore the possible influence and therefore try to generate theory.

First, it was necessary to objectively understand the impact of perceived service quality, patient emotions, patient trust, and patient demographics on patient satisfaction. These factors exist independently of any influence on the part of the researcher. During the data collection, the research was independent and remained neutral when analyzing the data, which ensured the findings being objective. Finally, the researcher adopted a quantitative research methodology so the study results were findings rather than theories.

As mentioned above, this research will adopt the positivist paradigm. Why positivist? Because the methodology adopted through this paradigm focused on explaining relationships. Positivists look for causes that influence the outcome (Creswell, 2009). The aim is to generate laws that can be further generalized. The approach followed is the deductive approach. The evidence is verified through observation and experience by including empirical tests, random samples, and control variables (independent, dependent) and control groups. The data generated is quantifiable. It is suitable for this study because the research questions and research objectives are generated through known theories that can be tested in a new context (in this study, the Lebanese context) and no new theories need to be developed. In this special context of Lebanese patients, the dimensions that influence outpatient satisfaction, patients' socio-demographics, and patient satisfaction models were established from the literature. Data is analyzed using simple correlation, factor analysis, and linear regression modelling analysis. Therefore, positivism is the appropriate paradigm for this research since it is based on quantitative methodology (Sarantakos, 2005).

Positivists believe that there is a single view of science (single truth) and that the world view amounts to a quantitative paradigm. The choice of the positivist paradigm means that the data collected must be quantifiable for data analysis and, most of the data collected through

a structured questionnaire (Smith *et al.*, 2006), which fits the case of this study. Therefore, this research based its methodology on a positivism approach.

3.3 Research Strategy Approaches.

As mentioned earlier, the researcher follows the positivism philosophy as the researcher wants to quantify the collected data to reach a solid logical conclusion. In this part, an overview of various research approaches that can be used in business research studies is detailed, and the choice of the selected approach that best fits this study is justified.

3.3.1 Deductive Research versus Inductive Research

Deductive reasoning involves moving from the general to the particular; derive conclusions based on premises by using a logical system (Samuels, 2000; Shepherd and Sutcliffe, 2011). The deductive approach takes general principles and applies them to build a specific case. The deductive researcher works from the top-down, from theory to hypotheses to data, to complement or contradict theory (Creswell and Clark, 2007).

Inductive reasoning is a method of moving from particulars to generalities; derives knowledge from empirical experience from a sensory data management system (Samuels, 2000; Shepherd and Sutcliffe, 2011). The inductive approach is developed through observation, examination, and analysis of a specific case that can be applied to other cases in the same area (Holsapple and Joshi, 2002). The inductive researcher begins with specific observations and measures and then moves on to discover themes and patterns in the data. It works from the bottom-up, using the opinions of the participants to develop broader themes and generate a theory that connects the themes (Creswell and Clark, 2007).

Considering the requirement of this study, the deductive approach has proven to be the most appropriate for many reasons. It is suitable for this study because the research questions and research objectives are generated from known theories that can be tested in a new context (in this study, the Lebanese context) and no new theories need to be developed. Deductive reasoning is used when the conclusion is logically derived from a set of premises, the conclusion being true if all the premises are true (Ketokivi and Mantere, 2010). This study is interested in the correlates of patient satisfaction, including perceived service quality factors, patient emotions, and patient trust. Based on the “theory-the-research method”, this research chose a deductive approach to make and confirm predictions based on previous theories about the factors that influence patient satisfaction.

This research strategy is equally consistent with the research philosophy of the researcher because positivist researchers (Saunders *et al.*, 2012) mainly adopt the deductive approach. Furthermore, using a positivism philosophy, empirical research was employed to systematically identify which factors influence patient satisfaction by providing quantitative measurements of statistical analysis (Saunders *et al.*, 2012).

3.4 Research Design

A research design is defined as the “*procedures for collecting, analyzing, interpreting and reporting data in research studies*” (Creswell and Clark, 2007; p.58). More specifically, it specifies the procedure, the methods for collecting and analyzing data, and how all of these should answer the research question (Gray, 2014). The choice of research design is very important, as it helps the researcher clarify the research purpose and the research approach (Crotty, 1998).

3.4.1 Research Purpose

Many researchers have classified studies according to their purposes (Saunders *et al.*, 2007; Babbie, 2012; Gray, 2014). The study takes three possible forms: exploratory, descriptive, and explanatory (Refer to Figure 3.2). Based on this, research studies frequently have two or more research purposes.

Exploratory studies attempt to explore what is happening and to ask questions about it. They are especially useful when knowledge of a phenomenon is insufficient. They try to generate new knowledge, new insights, patterns, mechanisms, and understandings, and explore factors that affect the topic examined (Hair *et al.*, 2011; Sefiani, 2013). The objective is to thoroughly examine the topic under investigation and create the best image of it (Hair *et al.*, 2011). There are many ways to conduct exploratory research. This includes searching the literature, interviewing experts, conducting in-depth or focus group interviews.

Descriptive studies are adequate where a research area is relatively new or unexplored (Punch, 2005). The descriptive studies’ main purpose is to provide a complete picture of a phenomenon as it happens. They seek to gain an accurate picture of a situation, person, or event, or they show how things relates to each other (Gray, 2017).

Moreover, descriptive research is used to:

“...describe the characteristics of relevant groups, such as consumers, salespeople, organizations, or market areas, estimate the percentage of units in a specified population exhibiting a certain behaviour, determine the perceptions of product characteristics and determine the degree to which marketing variables are associated.” (Malhotra and Birks, 2000, p. 79).

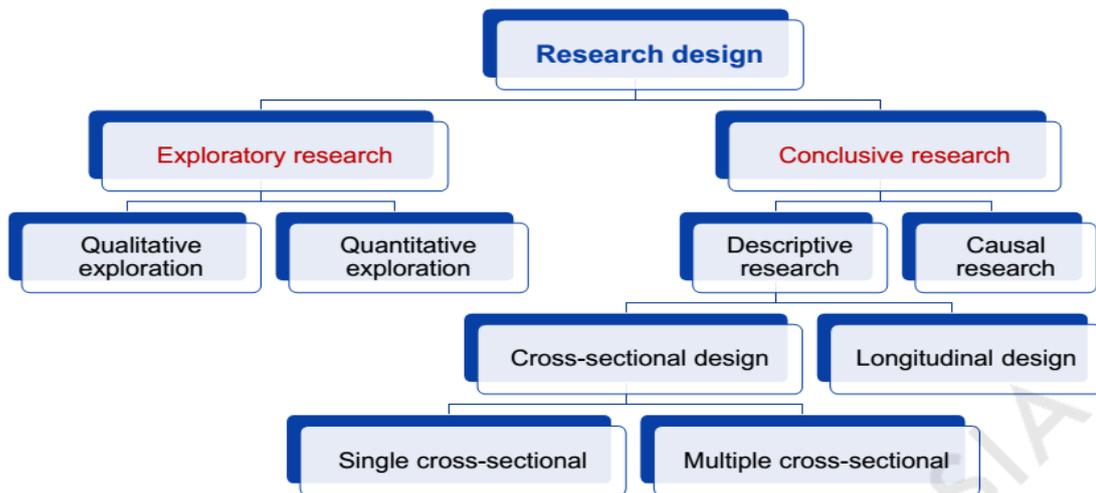
Explanatory research seeks to determine cause-effect relationships. The focus of these studies is to find out the relationships between different parts of the phenomenon under investigation (Slack and Parent, 2006; Sefiani, 2013). They go beyond description by explaining and accounting for the descriptive information (Gray, 2017).

Thus, this research study is classified as both exploratory and descriptive. It is important to note that the type of research questions is one condition that can distinguish the research purposes (Öner, 2010). While explanatory research poses “Why” types, descriptive research questions are likely to start with, or include, either ‘Who’, ‘What’, ‘Where’, ‘When’ or ‘How’. Therefore, during data collection, questions asked will also likely start with, or include, ‘Who’, ‘What’, ‘Where’, ‘When’ or ‘How’ to gain a description of a situation, person or event. Exploratory research poses vague questions to explore more deeply the phenomenon under investigation.

The first phase of the research aims is to identify service quality dimensions that influence outpatient satisfaction at Lebanese hospitals and their relative influence and impact on patient emotions and patient trust. The second part of the research aims to develop a framework that shows the functional relationship between patient satisfaction and related factors. Thus, it was decided to focus on the descriptive exploration to explore the service quality dimensions that influence outpatient satisfaction and how these dimensions are interrelated. The reason behind this decision is that by focusing on an insufficiently explored topic, new approaches related to patient satisfaction could be achieved. As perceived service quality dimensions, patients’ demographics, patients’ emotions, and patient’s trust impact on patient satisfaction have not been studied in the same framework, thus the exploratory path has been chosen for many reasons. At first, an in-depth exploration of the service quality dimensions may assist in the development of new knowledge to explain the concept of patient satisfaction in a specific cultural context. Second, it may be appearing that the already existing concepts behind these dimensions do not apply to this particular context. Thus, it is necessary for exploratory and framework development research. This allows having a better

understanding of the concept of patient satisfaction through the development of a more comprehensive framework.

Figure 3.2: Types of Research Designs (Source: Malhotra *et al.* 2013)



3.4.2 Research Approach

When it comes to the research approach, the researcher could follow many tactics, depending on what he/she wants to achieve and how plans to do so. Before presenting the research methods commonly used, it would be useful to examine how researchers interpret the concepts of valid and rigorous research. There are two main research strategies used by researchers quantitative and qualitative.

The two main research strategies are differentiated in many ways. Quantitative and qualitative research methodologies differ in their underpinning philosophy, in the methods, models, and procedures used. Though the research process is broadly the same in both, they are differentiated in the methods of data collection, the procedures of data processing and analysis, and the style of communication of findings. Table 3.3 summarizes the differences between quantitative and qualitative research.

Quantitative research is a research approach that aims to test theories, determine facts, demonstrate relationships between variables, and predict outcomes (Weinreich, 2009). Quantitative research allows researchers to quantify data to generalize the findings to cover a larger population, which means that the findings generated are applicable and relevant to the entire population. It is used to describe relationships between variables. It involves

collecting objective information about the world through measurement tools that include validated questionnaires (survey). Onwuegbuzie and Leech (2005) found that quantitative theorists believe in a single reality that can be reliably and validly measured using scientific principles, and that quantitative research is research that uses mathematical and statistical techniques to explore, describe, explain, predict, and control social and behavioral phenomenon.

Qualitative research is a research approach aimed at developing theories and understanding. It is a means of exploring human experiences, understanding the reasons for their behaviors, and understanding what those experiences mean (Holland and Rees, 2010). In this type of research, data is collected on participant's attitudes, inductively analyzed and the researcher makes interpretations of the meanings of data (Creswell, 2007). It is used to analyze non-numerical information. According to Berríos and Lucca (2006), Qualitative research is based on non-statistical principles, the flow of questions is unstructured, and is based on a small number of non-representative cases. Inductive reasoning or inductive thinking is used in qualitative research because it moves from specific individual observations to broader generalizations and theories.

Qualitative research tries to use a more comprehensive method to obtain a qualitative understanding of the underlying reasons and motivations (Malhotra *et al.*, 2013). This study has fewer participants and is based on a small number of non-representative cases. There is no order of the research questions; in this way, the questions asked will help the questions that follow. It is non-statistical based: each participant can have a unique perspective, so the outcomes become a starting point for an initial understanding rather than a conclusion.

According to Weinreich (2009), the purpose of qualitative research is to reflect the perspective of target audience members under study through direct interactions with them and engage them in a culture or a situation. This suggests that the researcher is the instrument of data collection, and the outcome of the study depends on who conducts the research.

The objective of qualitative research is to strengthen self-understanding and increase understanding of the human condition. Unlike quantitative research, which collects facts on human behavior that leads to the revision and extension of theories, qualitative research emphasized a better understanding of human behavior and experience.

Table 3.3: Difference between Quantitative and Qualitative Research (Source: Kumar, 2011)

Difference with respect to:	Quantitative research	Qualitative research
Underpinning philosophy	Rationalism: 'That human beings achieve knowledge because of their capacity to reason' (Bernard 1994: 2)	Empiricism: 'The only knowledge that human beings acquire is from sensory experiences' (Bernard 1994: 2)
Approach to enquiry	Structured/rigid/predetermined methodology	Unstructured/flexible/open methodology
Main purpose of investigation	To quantify extent of variation in a phenomenon, situation, issue, etc.	To describe variation in a phenomenon, situation, issue, etc.
Measurement of variables	Emphasis on some form of either measurement or classification of variables	Emphasis on description of variables
Sample size	Emphasis on greater sample size	Fewer cases
Focus of enquiry	Narrows focus in terms of extent of enquiry, but assembles required information from a greater number of respondents	Covers multiple issues but assembles required information from fewer respondents
Dominant research value	Reliability and objectivity (value-free)	Authenticity but does not claim to be value-free
Dominant research topic	Explains prevalence, incidence, extent, nature of issues, opinions and attitude; discovers regularities and formulates theories	Explores experiences, meanings, perceptions and feelings
Analysis of data	Subjects variables to frequency distributions, cross-tabulations or other statistical procedures	Subjects responses, narratives or observational data to identification of themes and describes these
Communication of findings	Organisation more analytical in nature, drawing inferences and conclusions, and testing magnitude and strength of a relationship	Organisation more descriptive and narrative in nature

Table 3.4 refers to the acquired characteristics of both quantitative and qualitative research methods. It also details how each of the research approaches works and explains each of the characteristics. The quantitative mode assumes that social facts have objective reality and that the researcher is independent of the phenomenon studied. However, the qualitative mode assumes that reality is socially constructed and the researcher's point of view is important to identify the phenomenon under research. In terms of purpose, the main purpose of quantitative research is to predict, explain and generalize the outcomes of the research; on the other hand, the main purpose of qualitative research is to interpret, contextualize and understand actors' perspectives.

When it comes to the approach, quantitative research begins with hypotheses and theories, it uses formal instruments and reduces data to numerical data. The qualitative research ends with hypotheses and grounded theory, and barely uses numerical data. In quantitative research, the researcher's role is that of an independent observer, i.e., the researcher is detached to guarantee objectivity, while in qualitative research, the researcher is fully involved and this may lead to partiality.

Table 3.4: Quantitative and Qualitative mode of Inquiry (Source: Glesne and Peshkin, 1992)

Quantitative mode	Qualitative mode
Assumptions Social facts have an objective reality Primacy of method Variables can be identified and relationships measured Etic (outsider 's point of view)	Assumptions Reality is socially constructed Primacy of subject matter Variables are complex, interwoven, and difficult to measure Emic (insider's point of view)
Purpose Generalizability Prediction Causal explanations	Purpose Contextualization Interpretation Understanding actors' perspectives
Approach Begins with hypotheses and theories Manipulation and control Uses formal instruments Experimentation Deductive Component analysis Seeks consensus, the norm Reduces data to numerical indices Abstract language in write-up	Approach Ends with hypotheses and grounded theory Emergence and portrayal Researcher as instrument Naturalistic Inductive Searches for patterns Seeks pluralism, complexity Makes minor use of numerical indices Descriptive write-up
Researcher Role Detachment and impartiality Objective portrayal	Researcher Role Personal involvement and partiality Empathic understanding

3.4.2.1 Methodological Choice

As was discussed earlier, researchers choose their research strategy according to the nature of the study under research. However, it is possible to mix or combine the methods. In particular, researchers can use a mono-method (either a qualitative or quantitative study) or multiple methods (choosing both qualitative and quantitative studies) (Saunders *et al.*, 2012). Mono method uses one method only, while multiple methods have been categorized mainly in two methods: 1) multi-method (more than one data collection is used, but either qualitative or quantitative design); 2) mixed-methods (both quantitative and qualitative methods are combined in the research design) (Tashakkori and Teddlie, 2010). This study applies the mixed-method. Followed is the justification for choosing this method.

3.4.2.1.1 Selecting Research Method

In patient-centered medical models, mixed methods can be an ideal technique for evaluating complex interventions (Homer *et al.*, 2008; Nutting *et al.*, 2009). The choice of mixed methods designs depends on the research questions and the resources available for the evaluation. It has been argued that the integration of quantitative and qualitative data in the form of mixed methods has great potential to enrich and strengthen the analysis and findings of any patient-centered models' evaluation (Wisdom and Creswell, 2013). Therefore, careful selection of the mixed-method design best suited to research questions and resource constraints can ensure deeper and more meaningful learning. Since perceived service quality, the primary construct of patient satisfaction is an elusive construct, its measurement is challenging for both academics and practitioners while focusing on diversified cultures. Different countries have different conditions, priorities, and requirements for their healthcare systems; this ensures the need for an exploratory study at the beginning of the research to develop the psychometric instrument for the main sample under study. There are five primary designs of mixed methods in patient-centered medical models that researchers can use of which is the "develop survey instruments" which is detailed later.

Developing survey instrument (Exploratory sequential design) is another mixed-study design that could support the development of appropriate quantitative instruments that provide accurate measures with patient-centered medical models (Wisdom and Creswell, 2013). The exploratory design involves collecting qualitative exploratory data later analyzed, and the findings are used to develop a psychometric instrument well adapted to the main sample under study. As described by Malhotra *et al.* (2013), qualitative research marks the beginning of the development of an initial understanding rather than a conclusion. Qualitative techniques are used to develop a better understanding of the research problem and to develop and pilot questionnaire (Malhotra, 2007). Later, this research shows how qualitative methods are employed in the design and the collection of quantitative data that concludes this study.

This exploration serves as a preliminary stage to develop an instrument using a rigorous scale development procedure (DeVellis, 1991). The instrument is then administered to a sample of a population. In this way, researchers can use a mixed-method approach to develop and test a psychometric instrument that complements current scales and measures, which is the case of this study.

There seems that positivist paradigm and qualitative research methods may contradict each other specifically that positivist paradigm aligns mainly with quantitative methods, however qualitative research aligns with more subjectivist positions of the researcher. However, the positivist paradigm and qualitative methods can harmonize. Ontologically, the positivist qualitative research assumes that reality is objective and external, can be apprehended, and summarized despite that it is not quantified. Epistemologically, the positivist qualitative researcher looks for relationships between different elements of reality through non-statistical means to come up with generalized findings.

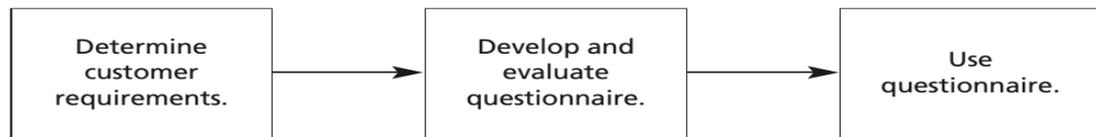
Qualitative methods enlarge the scope of positivist research. First, qualitative research is proper to explore emerging phenomena and to develop a new theory. Second, qualitative methods deepen the positivist research. Third, they make the context of positivist research richer. Qualitative methods help to explore embedded phenomena that cannot be seized adequately by quantitative techniques. Finally, positivist qualitative research can be incorporated with quantitative methods (Cassell *et al.*, 2018). In other words, the positivist perspective of qualitative research is that it is considered as a set of techniques that can be applied in the beginning as a preliminary stage to more rigorous techniques such as surveys and questionnaires (Malhotra, 2007). Moreover, some positivist researchers have advocated the use of qualitative studies to build theory and develop theoretical hypotheses, which can be tested subsequently. In this way, qualitative research is used as a complement to deductive research (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). This approach has been called “indicative research” which is mainly designed to reveal specific attributes rather than rich descriptions.

It is ideal for conducting qualitative research in the early stages of research development, as it helps to develop an initial understanding of the research problem. It helps to better understand the ideas and feelings about a topic that leads to the design of a quantitative study. However, quantitative research methods can extend the results to a larger population and describe the characteristics of relevant groups of people.

This study starts with a qualitative gathering method to arrive at the quantitative approach. If the qualitative methodology was not utilized in the designing of the questionnaire, getting the correct choice of questions would not have been reliable or accurate. Based on Hayes (2008), the development of a customer satisfaction questionnaire should follow a given path.

Therefore, to collect data accurately, the following research design is adopted by the researcher (Figure 3.3).

Figure 3.3: A general model for the development and use of customer satisfaction questionnaire (Source: Hayes, 2008)



The current research was carried out in three phases as follows:

The first phase comprises a literature review regarding patient satisfaction assessment, mainly in private hospitals, and the quality of hospital care. Table 3.5 showed the first version of the survey questions regarding service quality used in this study.

In the second phase, three focus group discussions were held to examine and identify additional dimensions of patient satisfaction.

Subsequently, a pilot test with an appropriate sample of respondents was carried out at Saydet Zgharta University Hospital and Centre Hospitalier du Nord University hospital to finalize the questionnaire for the main survey. The next section discusses the data gathering techniques.

Table 3.5: Survey Questions Developed through the Literature (Source: Author's Own)

<p>Physical Characteristics</p> <ul style="list-style-type: none"> -You are satisfied with the cleanness of the waiting area -You are satisfied with the cleanliness of the Examination/consultation/OPD -You are satisfied with the comfortability of chairs in the waiting are -You are satisfied with the number of chairs for the patients to sit on -You are satisfied with the professional and neat appearance of staff
<p>Patient-provider communication</p> <p>You are satisfied with the information provided by Doctor/Nurses (courteous and respectful)</p> <ul style="list-style-type: none"> -You are satisfied with the way health providers listened to you -Doctors treat you very friendly and in a courteous manner -There is honesty and truthfulness in dealing with patients

-The doctor cares about you as a person

Accessibility

- Outpatient department location is convenient for you
- You have easy access to the medical specialists I need
- You can get medical care whenever you need it
- It's easy to make an appointment by phone
- The clinic working days and hours are suitable

Technical Quality of care

- Doctors are very careful when examining and treating me
- Doctors are clear when they explain how to prevent your disease
- You are satisfied with professional and scientific skillfulness of doctors
- You are satisfied with doctors' ability to treat your problems
- Doctor's office has everything needed to provide complete medical care
- You are satisfied with measures taken to assure your confidentiality

Perceived waiting time

- You are satisfied with the waiting time to get outpatients services.
- You are satisfied with the time spent to get services and get back
- You can see the doctor at the appointed Time
- The amount of time spent in the waiting room before a consultation was reasonable
- You are satisfied with the consultation duration

Perceived Cost

- You feel that you can get the medical care you need without being set back financially
- You are satisfied with the reasonableness of medical costs
- You are satisfied with the medical services provided by the hospital versus the paid money
- The cost of your visit is within your ability to pay

3.5 Research Data Gathering Technique

Data collection technique forms the basis of any social research. Defining and presenting the data collection technique is an important step of research. There exist different research designs in qualitative and quantitative methodologies; like ethnography, case study, critical incident, etc. for qualitative approach; and survey, experiment, etc. for quantitative approach (Gray, 2004; Hayes, 2008; Gray, 2017). This study employs the focus group discussions using the critical incident technique for the qualitative study and the survey for the quantitative study and the rationale behind these choices are detailed below.

3.5.1 The Focus Group for the Qualitative Study

The focus group discussions for the qualitative study were applicable because according to (Van Campen *et al.*, 1995, p. 127), “*patients are experts by experience of care and should participate in the development of the instrument from the beginning*”. These focus groups would play an exploratory role in the process of examining and defining the instrument to explore possible dimensions of the concept of patient satisfaction with the hospital services. Patient satisfaction has been widely investigated and lots of measuring instruments have been developed in the past decades (Van Campen *et al.*, 1995). Five instruments were found to have superior utility based on five criteria: “Theoretically sound, Reliable and valid, Easily feasible in large populations, Applied in-home care”. They include the patient satisfaction questionnaire (PSQ), client satisfaction questionnaire (CSQ), the patient judgments of hospital quality instrument (PJHQ), the satisfaction with physician and primary care scale (SPPCS), and the service quality instrument (SERVQUAL). However, none of these instruments has been truly satisfactory because the patient satisfaction instrument is culture-specific. Therefore, it is important to conduct focus groups discussions because the existing scales may not cover all the satisfaction factors in the context of cultural characteristics in Lebanon, and some aspects need to be adapted to be organizationally, culturally, and socially relevant. The information is collected from the statements made in the focus group to draft the items that will be used in the questionnaire.

The focus group is carried out with outpatients from private hospitals in North Lebanon. Given that the main reason for conducting focus group discussions is to explore possible service quality dimensions relating to satisfaction in addition to the possible dimensions of service quality already mentioned in the literature, the technique used is critical incidents (Hayes, 2008). According to Flanagan (1954, p. 357), the critical incident technique is “*any*

observable human activity that is sufficiently complete in itself to permit inferences and predictions". According to Woolsey (1986), "*Critical incident studies are particularly useful in the early stages of research because they generate both exploratory information and theory or model-building*". The critical incident technique has been largely used in healthcare and clinical studies (Schluter *et al.*, 2007; Sharoff, 2008; Kvarnström, 2008; Peña and Rojas, 2014). Using this technique, the researcher can identify behaviors not discovered by traditional methods (Keaveney, 1995).

According to this technique, there should be between 10 and 20 participants. This high number of interviewees is suggested based on the idea that if the information is missed from one, enough information is recovered from another. In-group interviews, critical incidents reported by one person can lead to other group members bringing up the incidents (Hayes, 2008; p.19).

3.5.1.1 Conducting the focus group discussions

As mentioned earlier, the critical incident technique was implemented for the qualitative study. Based on this technique, patients are asked to identify the specific personal incidents they experienced while using the services (Hayes, 1998). There are many ways to collect critical incidents. However, in service research, participants are asked to tell stories about their experiences with the service (Gremler, 2004). In this research, these focus group discussions aimed to explore the possible dimensions of patient satisfaction besides those already stated in the literature. Using the critical incident technique, outpatients are asked to list all the positive and negative points they experienced while using the services. These incidents are then categorized by different service quality dimensions of satisfaction.

For this, three groups of 10 participants each gathered to discuss the items of the questionnaire suggested by the researcher who has reviewed the literature thoroughly and played the role of a moderator. The researcher stimulated the discussion to draft the items to be used in the questionnaire. The results of the three meetings were summed up to come up with the final questionnaire.

During focus group discussions, the principal investigator played the role of a coordinator. A quality manager attended the focus group and played the role of a note-taker. All discussions were digitally recorded after verbal consent was taken by all participants and lasted between 45 to 60 minutes. The tapes were transcribed and the transcripts were used

in the data analysis. Discussions were guided around the factors that influence patient satisfaction, including the physical environment of the hospital, patient perception regarding the demeanor and sympathy of providers, their expertise, and the cost of treatment, the wait time, and the accessibility to the hospital. The discussion guide served as an outline for the focus group sessions, although the researcher strayed from the guide when important knowledge emerged and that might lead to valuable insights.

Factors influencing patient satisfaction

Private hospital outpatients' focus group participants identified the following dimensions as the primary issues that had influenced their level of satisfaction at the outpatient department of private hospitals. There was a diversity in patients in focus group discussions. 30 participants of which 21 females and 9 males were part of the discussions. The oldest participant was 76 years old and the youngest was 21 years old. The dimensions that were reported most are the following:

Physical Environment: This includes space availability (patients and relatives), hygiene conditions (toilet and cleanliness), noise, and so on. Many patients complained about the hygiene conditions of the toilets, the noise, the comfortability of chairs, the availability of space for patients, and their relatives. Next, illustrative quotations from the focus group regarding the physical environment follows:

<i>Physical Environment</i>
<p><i>“The toilets are not very clean. There are no toilet papers. There is no soap. Patients came in and out, and cleaners do not manage due to their workload”.</i> A 45-years-old patient said.</p> <p><i>“I see the noise is very annoying. I came to the hospital with an abdominal cramp and I had too much pain. I felt so disturbed and distracted due to the noise from the nurse station. There were many out-loud laughs. Instead of being relieved from pain, I suffered much and felt discomfort”.</i> A 28 years-old lady said.</p> <p><i>“A 50-years-old man was disappointed with the quality of chairs. He criticized the broken chairs. This will make the patient feel bothered”.</i></p> <p><i>“Patients diagnosed with a serious condition need someone to take care of. Therefore, in a room with unavailable space, there is a place for the patient and no place</i></p>

for the relative. This will make the patient feel uncomfortable. And for the hospital, it would be so messy". A 21-years-old young girl said.

However, not all patients shared the same dissatisfying experience. Some patients were satisfied with the physical environment in the hospital, especially in the external clinic department.

"The hospital is very clean. The toilet facilities are very tidy. Toilet cleanliness is checked regularly". A 28-years-old lady said.

Perceived Waiting Time: It is one of the most important aspects that were raised in all focus group discussions. Their concern was the waiting time in the outpatient department, waiting time in the emergency, and waiting time regarding the patients' requests response. Next, illustrative quotations from the focus group regarding the waiting time follow.

Perceived Waiting Time

"A 27-years-old young lady came to the emergency late at night with aggressive abdominal cramps. There was an accident and the emergency room is so busy. I had to wait and my pain was so hard. The pain becomes aggravated. I called the nurses and they said one moment. A moment was 30 minutes, while I was more fatigued. I called the second time, the nurse replied, the doctor would be here just in a moment. The resident came until I called the third time".

"A 35-years-old patient complained that the pediatric clinic was very crowded. I had to wait in the waiting room. At that time, my kid was stable. A moment later, my kid's condition become very serious. The oxygen level dropped and he became blue. I had to run to call the doctor and assistants for help. They replied one moment. One moment was almost one hour. I called repeatedly until I got their help. It was the worst experience of my life".

"A 60-years-old patient expressed his disappointment. Honestly, I had to wait for a long time. No one took care of me. I felt like I was heading for a fatal death, while doctors were late, not responding".

"A 40-years-lady had an appointment with an orthopedist. I came and waited for almost two hours and the doctor did not show up. She repeated, two hours, I am waiting, and the doctor still did not come. I see it is a complete waste of time".

“Another 60-years-old patient complained about the scheduled appointment. You schedule an appointment, and you insist while scheduling to see your doctor at the appointment time and you get a positive reply. The day you show, you keep on waiting and the assistants claim that the doctor was late, so all appointments are delayed. There is no respect for time. It is a complete mess”.

Many patients expressed their satisfaction regarding the amount of time spent for consultation.

“The doctor took enough time to check on me. He examined me very carefully. The duration of the medical examination was very good. I am very satisfied, very encouraged”,
A 55-years-old patient said.

Perceived Cost: This includes the cost regarding the consultation, the service rendered, and the consideration of the cost for old patients. The issue of cost was dependent on whether the patient had any type of medical coverage or not. Non-insured patients showed too much concern regarding the cost. The cost is a serious issue for them. They were too much afraid of not getting the right treatment for their condition because of the cost. Illustrative quotations from the focus group discussions follow.

Perceived Cost

“A 75-years-old patient said I have a very serious condition. I suffer from a urological disorder. I should check on my condition regularly. Sometimes, I skip a visit to the urologist because I am not able to afford the cost”.

“A 25-years-old patient accompanying his mother to the orthopedist clinic complained about the cost. I have to pay before the consultation. I had a simple question regarding my treatment and it will not take more than a few minutes just to make sure, if I stay on the same medications or not, the assistant refused to let me enter before I pay a consultation fee. I found this unreasonable”.

“A 35-years-old patient complained about the cost. I am a patient of this hospital for ten years now, and I would choose this hospital for any medical act. However, no consideration for the cost. You must pay much more than you expect or you can afford. Mom’s consultation was so fast; the doctor has nothing to do unless a bit of check-up and despite this, I had to pay much. He again said, when it comes to money, there is “no mercy”.

On the other hand, many patients expressed their satisfaction regarding the cost. They found the cost reasonable compared to the medical care you get.

“A 35-years-old patient expressed her satisfaction regarding the cost. I am a diabetic patient. I came here almost three times for regular check-ups. Every time I come, the endocrinologist tests my glucose level, assists me, and guides me to take medication for nothing. The only time I pay is the first time and then all check-ups are granted for almost six months. I am very satisfied”.

Accessibility: This includes the staff assistance for appointments, the location, and the operation hours of the hospital. There were many criticisms regarding the availability of staff in the outpatient department and the information given by them to assist you, operating hours of the outpatient department clinics, and the location of the hospital. Following are some illustrative quotes from the focus group discussions.

Accessibility

“A 27-years-old lady said I wanted to make an appointment for EEG for my grandpa. I called many times and there was no reply. The time they responded to my call, it was just direct to the point. There was no communication, it is on a given day and time. On the day of the appointment, I have discovered that he must have his head showered to be able to do his EEG. It was a complete mess”.

“A 40-years-old lady said In case you call for an appointment, you continue to ask them many questions to get the needed information, and their answers are so unclear and not guided”.

“A 60-years-old man complained about the assistance. I come to the hospital to schedule my appointment not to miss an appointment. I am a dialysis patient and I have sessions every week. I am frustrated not to be able to get an appointment on my session’s day”.

“A 35-years-old woman lady complained about the operating hours of the outpatient department. I am a working patient, and I have to leave work just to see a specialist for my case. I have allergic dermatitis and I should be followed regularly because I am on corticosteroids”.

Further to that, another important aspect raised by many patients is the location of the hospital that must be convenient especially for serious cases. However, the location of the

hospital is not the only reason for patients to choose a given hospital. Even if it is very far from their home, they show interest in driving long distances due to their connection with a given doctor.

On the other hand, there are positive feedbacks regarding staff's attention and professionalism in case you call for appointments. Below is a quote, clarifies further.

“A 30-years-old woman whose child is epileptic expressed her satisfaction regarding the professionalism of the staff. My child has epilepsy; I should come to the hospital twice every month for follow-up. I used to call the outpatient department clinics for the appointment. Everything is so good and the staffs are very kind”.

Patient-Provider Communication: This includes demeanor, honesty, truthfulness, courtesy, respectfulness, and sympathy, not only of physicians but also of assistants. Many discussions were raised regarding the doctors' and hospital staff's demeanors in the focus group discussions. They were mentioned in almost every focus group discussion. The issues regarding patient-provider communication that were reported most pertain not only to patient-related information but also to the compassion of doctors and hospital staff in sharing patients' conditions. Below are some illustrative quotes from the focus group discussions.

Patient-Provider Communication

“A 29-years-old lady said My sister's daughter came to the emergency room; she was crying from pain. I know that my sister's daughter is very soft; I thought she is pretending pain. However, she had 30 minutes of non-stop crying; I had to call the nurse for assistance. She was very rude and not even ready to hear. She said the doctor is on his way. She put on the serum and left. She did not even allow us to ask any questions and in case we did, she did not answer. I am completely disappointed”.

“A 30-years-old mother whose baby was treated at the infectious clinic shared a situation where a doctor behaved very unpleasantly. While my baby has a serious condition and his temperature is very high, I was waiting for just a single word from the doctor to calm me down. I asked him, could you please say something about his case? He shouted; Don't you think that I am doing my job? I was so anxious and caring, but he did not want to answer. He said if he is okay, I'll send it out to you”.

“A 70-years-old patient criticized the inter-communication between the patients and hospital staff. When you wanted to ask about something, they ignored you. You kept on trying to ask, they didn’t answer”.

Further to that, the way doctors examine their patients is very important for patients to feel confident and satisfied with the quality of care in the hospital. The judgment of patients regarding hospital service quality generally depends on the behavior and the demeanor of the doctor responsible for the medical examination.

“A 37-years-old woman expressed her satisfaction regarding the demeanor of the doctor in charge. The doctor examined me in a very friendly way. The doctor shares nice stories while diagnosing me, with a big heart”.

“Another 55-years-old man also said: The doctor is very cooperative. He relaxes you. He exchanges with you. You feel respect while treated. I really found myself following his recommendation because the communication between us is built on trust.”

“A 54-years-old lady talked about the way a doctor behaved toward her. I have diabetes, and I come for a follow-up on my glucose level every week. I feel every time warmly welcomed. From glucose level check-up to prescribing medication, the doctor treats me very gently and respectfully, she is very kind”.

Technical Quality of Care: In addition to patient-provider communication, this aspect showed the importance in almost every focus group discussion. This includes the professionalism of medical professionals in providing complete medical care and sufficient clinical information related to patients ‘conditions. This dimension is evaluated based on; whether the doctor is providing the patient with complete medical care, offering an adequate clinic, and giving sufficient clinical information related to patients ‘conditions, such as disease self-control and prevention. Below are some quotes, clarify further.

Technical Quality of Care

“A 35-years-old lady complained about the professional expertise. A car hit me; I came to the outpatient department to check on my case. I saw the orthopedist, he asked for an X-ray to have a complete diagnosis. After checking on me, and the results of the X-ray, I was told that I have nothing to worry about and everything is doing well. After 5

days of continuous pain, I decided to check another medical expert, and here was the case, I had severe inflammation and I had to start medication, I see it's so unreasonable".

"A 50-years-old lady who attended the ear-nose-throat doctor's clinic complained about the professional expertise. I want to complain about the doctor. I had a buzzing in my ear for almost many years. So, I usually feel dizzy and about to fall. I asked him to examine my ear and helped me to solve the problem. However, he said nothing new. I asked him to tell me something different to know about my condition, he again repeated, nothing new. This is very disappointing".

"A 36-years-old patient who attended the gastroenterologist clinic for gastric ulcer. The doctor asked me to lie down on my left-hand side and he inserted the endoscope into my throat. He said swallow it and he continue to move it down. I felt uncomfortable and sick and he continues to move it down. I felt like ill stop breathing and he did not take it seriously. I really felt so disappointed. Because of my case, so I must support that, frankly".

"A 38-years-old lady showed her appreciation of the doctor's caring to explain treatment carefully. I have focal epilepsy and I used to have seizures frequently. A neurologist has examined me. He was very professional and he explained much. He carefully examined my case and helped me to feel comfortable. He explained the treatment and the dosage carefully. I am very happy and blessed".

"A 27-years-old lady whose dad has been operated for hip replacement attended the orthopedist clinic for check-up said that The doctor examined him very carefully and he was very professional in his diagnosis. However, no directions or instructions were given to us before leaving the clinic. I felt completely lost".

"A 30-years-old patient said that the doctor both checked on me and gave me advice. The advice was very professional and include the medication that should be taken, how to change lifestyle and how to take medicines".

"A nurse emphasized the importance of medical education is becoming lately very important to the patient. When you educate the patient, he/she feels very satisfied and gives you more trust, and become more cooperative. The better explanation given to the patients makes the parents feel so relaxed so the scene changes a lot".

As a conclusion, several insights were gained from the focus group discussions regarding the dimensions that influence patient satisfaction. The results of focus group discussions revealed that the most issues raised included physical characteristics, waiting time, the demeanor of doctors and hospital staff, accessibility, and the cost. The Focus group

discussions results confirmed that the dimensions that influence patient satisfaction are consistent with the current literature. The sub-dimensions included some aspects related to the cultural aspects of Lebanon. All the new modifications were incorporated in the newly developed perceived service quality scale (refer to Appendix IV).

3.5.2 The Survey Method for Quantitative Study

A survey refers to collecting information from the participants about the variables. They create data that allows statistical calculations. The main survey here is the patient satisfaction survey and considers the service quality factors, patient trust, patient emotions, and socio-demographic factors for outpatient satisfaction.

The survey method was chosen for this study for many reasons:

First, it helps to discover how a variable affects another variable (Gray, 2004). This quantitative research study will help to discover how the independent variables (perceived service quality, patient trust, patient emotions, and patient demographics) are affecting patient satisfaction as the dependent variable.

Second, the survey method provides a broader view for the subject under study (Saunders *et al.*, 2009). Thus, this will help to create an all-inclusive vision of patient satisfaction and the factors driving their satisfaction in the Lebanese healthcare system. Third, it is the best choice to be employed when the population is large enough (Gray, 2009), which is the case of this study addressing Lebanese outpatients. Finally, using the survey method, this study permits to target a representative sample of respondents to collect the required information about Lebanese outpatients. This will allow the generalization of findings, where inferential statistics are used to make inferences from the sample chosen to a larger population.

The survey is conducted, using a proper structured questionnaire to quantify patient satisfaction compared to the benchmarks of the above-mentioned service quality dimensions. The questionnaire uses constructed questions, often ranking or scoring options or uses closed-ended questions to limit the answers of respondents. Respondents will be outpatients. The questionnaire will be paper-based and takes around fifteen minutes per respondent. The data collected is statistically analyzed by SPSS, one of the most powerful statistical software used for research.

The measurement and the coding methods for the variables are shown in Table 3.6 below:

Table 3.6: Measurement Scale and Code

Factor	Scale	Code
Gender	Categorical	1=Male, 2=Female
Age	Categorical	18-30 31-45 46-60 Over 60
Marital Status	Categorical, nominal	1-Single 2-Married 3-Divorced 4-Widowed
Income (USD)	Categorical	less than700 701-1300 1300-2000 2000-3000 ≥ \$ 3000
Educational Level	Categorical, nominal	1-Elementary/Primary 2-Secondary/High school 3-College/University 4-post-Graduate
Item scores	Likert Scale	1-5
Overall satisfaction	Likert Scale	1-5
Patient Emotions	Likert Scale	1-5
Patient Trust	Likert Scale	1-5

3.5.2.1 The Questionnaire

A questionnaire is a pre-formulated written questions designed to capture respondents' responses for data comparison, statistical analysis, and bias reduction. It is considered a competent data collection technique when the researcher knows what is required and how to measure the variables under investigation. There are many ways to collect data through questionnaires. They include personal administration, mailing, or electronic distribution (Sekaran, 2003).

Three principles are required for the design of the questionnaire. First, the wording of the questions; second, planning how variables will be categorized, scaled, and coded once answers are received; and finally, the general appearance of the questionnaire. Questions can be both open-ended and closed-ended. An open-ended questionnaire allows respondents to reply freely by generating their responses. In contrast, closed-ended questions require

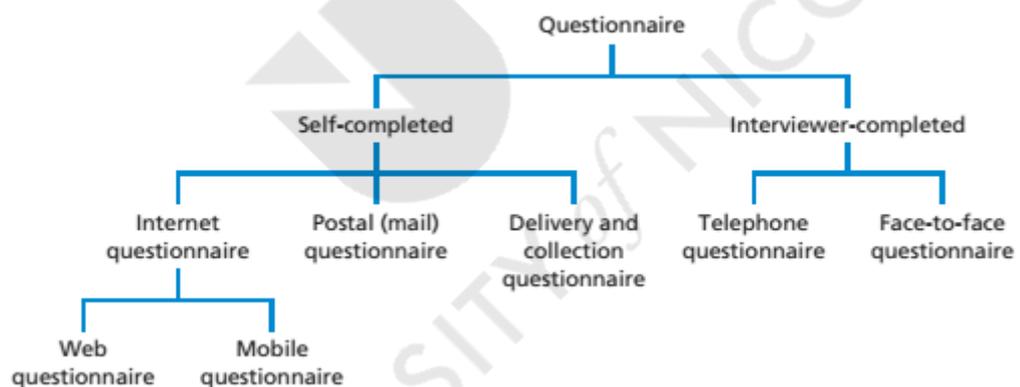
respondents to choose from a set of alternatives given by the researcher. Closed questions facilitate the respondents' choices and help them to make quick replies. They also facilitate the coding of information collected, which facilitates analysis. In the questionnaire, the flow of questions is going from general to more specific and from questions relatively easy to those more difficult.

Looking worldwide, most of the studies on patient satisfaction and service quality used the questionnaire technique and they proved the adequacy of this technique in healthcare (Parasuraman *et al.*, 1988; Marshall and Hayes, 1994; Hu *et al.*, 2019; He *et al.*, 2018). Relying on the fact that open-ended questions are used in surveys that target a small number of respondents where results cannot be generalized because of the unique responses of each respondent, this study employs close-ended questions. Certainly, close-ended questions are commonly used when the number of respondents is big and they are designed in a way that can be quantified. The fact that close-ended questions are coded quickly ensures their convenience in terms of the statistical significance of the questionnaire's results. As demographic characteristics of respondents are important in this study, looking at the worldwide studies, most demographic studies used closed-ended questions to collect information regarding patients age, gender, marital status, educational level, and others (Sitzia and Wood, 1997; Quintana *et al.*, 2006; Levinton *et al.*, 2011; Yan *et al.*, 2011; Kimani *et al.*, 2016; Shan *et al.*, 2016; Pandey *et al.*, 2019). According to Saunders *et al.* (2009), demographic questions usually are left for the end of the questionnaire because they are seen as personal questions, and may affect the respondents' willingness to complete the questionnaire.

To get the best results of close-ended questions, the topic under investigation should be clearly assimilated, because a lack of assimilation will result in missing choices in the questions set, and thus research objectives will not be reflected properly. For this reason, a deep understanding of the literature review for the topic under investigation is done. The questions are constructed in a way that includes all aspects for the respondents to choose among. This will help to get a clear perception of the patients on the dimensions that drive their satisfaction in relation to their characteristics, so all responses can be analyzed statistically and an all-inclusive exploration of these dimensions and their effect on Lebanese outpatient satisfaction will be achieved.

As shown in Figure 3.4, there are different types of questionnaires: self-completed or interviewer-completed. Self-completed questionnaires are usually filled completely by the respondents on their own and can be distributed to respondents through the internet (Internet questionnaire), the post (Postal or mail questionnaire), and hand delivery and later collection (Delivery and Collection Questionnaire). Interviewer-completed questionnaires are those where the interviewers present the questions through telephone (Telephone questionnaire) or face-to-face (face-to-face questionnaire). In brief, self-completed questionnaires have many advantages: they are not expensive in terms of money and time, the flow of data is quick and can cover many people, the respondents can fill the questionnaire at their ease, and the data can be easily coded and analyzed, and assure respondents' anonymity (Gray, 2017). Accordingly, this study uses the interviewer-completed face-to-face questionnaire with close-ended questions as the data collection technique for the quantitative study enabling an easy data collection from Lebanese outpatients that later can be easily analyzed.

Figure 3.4: Types of Questionnaires (Source: Saunders *et al.* 2016, p.440)



3.5.2.2 Internal Consistency

Internal consistency is a statistical approach that correlates responses to questions in the questionnaire with each other. It examines whether the items are homogenous within a scale or measure (DeVellis, 2006). This means it measures the consistency of responses across a subgroup of the questions which means the extent to which the items on the instrument are related (Pallant, 2013; Sekaran and Bougie, 2013). Internal consistency can be measured through a variety of methods, this research applies Cronbach's alpha, the most frequently used. This statistic frequently measures the consistency of responses to a set of questions combined as a scale to measure a given concept. The alpha coefficient score has a value between 0 and 1. When the alpha score is 0.7 and above, the results are then considered acceptable and reliable (Gray, 2017). In this study, Cronbach's alpha coefficient is used in

this research to measure the internal consistency to assess the reliability of the satisfaction scales.

3.5.2.3 Unit of analysis

The unit of analysis is the entity that is considered the focus of the study. Mason (2002) suggests that the unit of analysis should be identified especially when analyzing the data. The unit of analysis can be an individual, an organization and community, or a phenomenon determined by the researcher in the research study (Gray, 2017). The study aims to identify and examine the correlates of patient satisfaction to develop a comprehensive framework that encompasses, and interrelates these factors toward managerial utilization by Lebanese private hospitals. Thus, the unit of analysis for the survey and focus groups is “Lebanese patients”. More specifically, the unit of analysis is Lebanese outpatients visiting private hospitals.

3.5.2.4 Time Scope of Research

Research studies also differ in the way they cope with time. This difference is observed between cross-sectional and longitudinal research studies (Hair *et al.*, 2011). Longitudinal studies employ continuous or repeated measures over a longer period of time-often years. Their main strength is their capability to study change and development (Caruana *et al.*, 2015). Therefore, they are more appropriate for research studies where research questions and hypotheses are related to events that change over time. However, Cross-sectional studies analyze multiple variables at a given time but do not give any information regarding the influence of time on the variables measured-being static by its very nature. Cross-sectional studies usually employ the survey strategy. They seek to describe the incidence of a phenomenon (Caruana *et al.*, 2015). Most research studies are cross-sectional, because of limited resources and time (Gray, 2009).

This study is considered a cross-sectional study for the following reasons. First, the aim of the study is not to examine how patients’ responses to the different factors that influence patient satisfaction differ with time in response, a longitudinal study would not make sense. Second, the research questions and hypotheses are cross-sectional in nature and do not investigate variations over time. Finally, since this study is a thesis that must be completed within a certain period, as well as the researcher’s funding limitations, a cross-sectional study is the most appropriate.

3.5.2.5 Selection and Justification of the Main Respondents

As mentioned, the context of this research study is the satisfaction correlates and the unit of analysis is the Lebanese outpatients visiting private hospitals. Therefore, the selected patients are chosen based on the following criteria.

First, each selected patient should be an outpatient of the selected private hospitals in North Lebanon.

Second, outpatients should be Lebanese as stated in the research setting. In conclusion, all respondents' names are substituted by numbers (respondent 1) due to the confidentiality agreement between the researcher and the respondent.

3.5.3 Research Sample Approach

Sampling techniques are broadly categorized into two major types: 1) Probability sampling methods 2) non-probability sampling methods (Taherdoost, 2016; Alvi, 2016).

Probability sampling, also known as random sampling or representative sampling, is any method that uses some form of random selection. In probability sampling, such as simple random or stratified random sampling, each member of the population has a known (non-zero) probability of being included in the sample (Alvi, 2016). This category allows statistical inferences and is typically used in quantitatively-based research strategies. On the contrary, in non-probability sampling also called judgment or non-random sampling, each member does not have an equal chance of being selected and the selection is made based on the subjective assessment of the researcher (Alvi, 2016). It is most appropriate for exploratory studies that seek to generate new ideas and is generally used in case study research (Saunders *et al.*, 2007).

The current research adopted the focus group discussions using the critical incident technique for the qualitative part. As mentioned earlier, using the Critical incident technique, the number of participants should be 10 to 20 in each group.

During the procedure of choosing the main respondents for the qualitative part, the researcher follows the purposive sampling technique. In this technique, the respondents are chosen based on the judgment of the researcher that fits into the given criteria of the respondents (Cooper and Schindler, 2001). This technique has been considered as the best choice for qualitative research (e.g., Suri, 2011; Poulis *et al.*, 2013), as it serves the aim, the

research objectives, and the research questions of the study (Patton, 1990; Silverman, 2000). Concerning the purposive sampling technique, choosing cases is based on an in-depth overview and understanding of the subject of study is offered, rather than empirical generalization (Dubois and Araujo, 2007). For this study, it is the best fit since it helps to have a representative sample by targeting the appropriate respondents for the study. The participants are chosen on a voluntary basis. Information on the focus group discussion is communicated to north hospitals. The patients who agreed to participate in the focus group left their names and contact information for the final invitation by the principal investigator.

For the quantitative research part, the procedure of choosing the main respondents follows a simple random sampling technique, which is a part of the probability category and addresses the characteristics of the population of the study (Malhotra, 2007). In this technique, every member has an equal chance of being selected and to be chosen as part of the sample. According to Moore *et al.* (2004), a simple random sample of size n is defined as every set of n individuals from the population chosen having an equal chance of being the sample selected. It has been stated, “The logic behind simple random sampling is that it removes bias from the selection procedure and should result in representative samples” (Gravetter and Forzano, 2011). For every hospital, a list of all Lebanese outpatients who have at least one prior visit to the hospital attending the outpatient departments during the data collection period is provided, every outpatient has been allotted a number. The numbers are then selected randomly using a table of random numbers.

For the quantitative research study, to be able to determine the appropriate sample size for the survey, the accurate number of main respondents should be identified. The sample size is an essential factor of any scientific research. It should be wisely selected so that it is appropriate to draw valid and generalized conclusions. It is primordial in research studies in which the aim is to make inferences about a population (Singh and Masuku, 2014). Deciding on the sample size is affected by the following factors: “(1) the desired level of precision (the confidence interval); (2) the acceptable risk in predicting this level of precision (confidence level); (3) the degree of variability in the population itself; (4) time and cost limitations; and, in some cases, (5) the size of the population itself” (Sekaran, 2003; p.296). In most researchers, the most accepted margin of error is 5%, which allows a negative or positive 5% deviation on the survey results for the sample, and the most used confidence level is 95%, which refers to the 95% of the population lying between the boundaries of the margin of error. In quantitative research, these percentages are pretty much the standards.

The sample size of this study was determined using the formula:

$$N = \frac{Z^2 pq}{d^2} \text{ (Kimani et al., 2016)}$$

Where N is the desired sample size if the target population is greater than 10.000

Z is the standard normal deviation at the required confidence interval (in this case 1.96)

P is the proportion of the target population that is estimated to have the existing variable being measured

$$q = 1 - p$$

d is the level of statistical significance set (in this case 0.05)

Therefore, the sample size for a population greater than 10.000 would be $n = \frac{(1.96)^2 (0.5)(1-0.5)}{(0.05)^2} = 384$ patients.

The sample size for this research is 535 patients to ensure a robust sample of completed questionnaires.

When sampling, many reasons are taken into account, they are “better speed of data collection, results’ accuracy, and cost efficiency” (Cooper et al., 2003).

Knowing that the sample frame of the study is the outpatients from private hospitals in North Lebanon, a list of the twenty-two private hospitals was gathered (Refer to Table 3.1). Recalling the fact that a big sample size is a waste of time and money and a small sample would not generate reliable results, the accurate sample size would represent the big population from where it is selected so that inferences about a population can be generalized. For this study, the researcher targeted large private hospitals located in North Lebanon for data collection (Refer to Table 3.1, Bold), however, only five large hospitals accepted to participate in the study. The hospitals are Saydet Zgharta University Hospital; Albert Haykal Hospital; Centre Hospitalier du Nord University Hospital; New Mazloum Hospital; and Islami Hospital. These hospitals accept patients from every gender, marital status, income, age, and educational level. In addition, these hospitals are of different costs for services, different physical characteristics, and different doctor’s statuses. Thus, overall, the researcher has a diversified sample in terms of age, gender, marital status, educational level, income, costs for services, type of building, and doctors’ status.

Verbal consent was required by outpatients who accepted to participate in the study. Through this consent, many issues have been shared with informants: the research purpose, their anonymity, the researcher’s identity, the amount of time needed to complete the survey, and the way data will be used.

3.6 Developing the Survey Questionnaire

Measuring patient satisfaction is challenging because, as already mentioned, there is a lack of a universal tool that can be applied. The majority of problems faced when various scholars have administered the original version of patient satisfaction questionnaires were: (a) The patient satisfaction instrument is culture-specific. An instrument that showed reliability, relevance, and validity in one country could not be used in another country with a different culture; (b) The patient satisfaction instruments failed to reach an agreement on the theoretical model of patient satisfaction and/or its constituent dimensions in the studies; (c) The absence of sufficient evidence to fully recognize the psychometric properties of the instruments as having a nomological net of validity evidence (Van Campen *et al.*, 1995). For this research, a structured questionnaire was adapted for data collection after reviewing relevant studies (Marshal and Hayes, 1994; Allan *et al.*, 2009; Roberge *et al.*, 2013; Geberu *et al.*, 2019). However, since the patient satisfaction questionnaire is culturally specific, three focus group discussions were employed to reflect the cultural context of Lebanon. As a result, it is proposed that the patient satisfaction questionnaire is customized by redefining the dimensions of patient satisfaction and integrating the additional items (Refer to Appendix IV).

The need to develop and test a new satisfaction questionnaire is based on the fact that most questionnaires to measure patient satisfaction were developed in Western countries. These questionnaires may not be applicable to Lebanon, a developing country with unique outpatient care due to the differences in medical conditions and facilities. Moreover, the lack of a primary care system (family doctors and community clinics), as in developing countries results in more patients attending general hospitals. As a result, viewing patient satisfaction from a different perspective by addressing all its correlates support policymakers with a customized view on the unique characteristics of the Lebanese healthcare system.

Regarding the patient perception of the quality of care, as mentioned in chapter 2, waiting time, waiting environment, and facilities in the waiting room are very critical to patient satisfaction. Meanwhile, the definition of waiting time is different between developed and developing countries. In developed countries, there is an appointment system and patients wait at home. However, in developing countries like Lebanon, there is a lack of an appointment system, and the volume of outpatients is larger, so many patients have to wait in hospitals. Furthermore, most medical insurance in Lebanon does not cover outpatients

compared with other regions and in addition, most Lebanese patients are not covered, so the costs may have a greater impact on outpatient satisfaction compared with other countries.

As a result of the aforementioned discussions related to the various theoretical gaps and in order to develop the conceptual model of the research, the patient satisfaction questionnaire is customized by evaluating; 1) Physical Characteristics, 2) Patient-Provider communication (combining both interpersonal manner and communication), 3) Accessibility (Accessibility and convenience), 4) technical quality of care (Technical Care), 5) perceived waiting time (time spent with doctor), and 6) perceived cost (Financial aspects). For the current research purpose, all the dimensions were incorporated in a newly developed conceptual framework. The service quality dimension (Physical characteristics) was highly recommended by Haj-Ali *et al.* (2014) and Hemadeh *et al.* (2019) to be included in the patient satisfaction questionnaire for Lebanon. This revised version of the patient satisfaction questionnaire was then customized by adding this service quality dimension. Moreover, the modifications that resulted from the focus group discussions helped to explore the possible dimensions of patient satisfaction that reflect the cultural characteristic of Lebanese outpatients.

To explore the degree to which “Trust” correlates with patient satisfaction, patients’ trust levels were measured using a previously validated measure, “The Multidimensional Trust in Health Care Systems Scale” (MTHCSS), developed by Egede and Ellis (2008). The trust scale consists of 10 items to assess the interpersonal trust in patient-physician relationships. The higher the scale score, the higher the level of trust patients have toward the healthcare providers. Following are the 10 items:

- | |
|---|
| <p>T1-your health care provider is usually considerate of your needs and put them first</p> <p>T2-you can trust your health care providers’ decisions on which medical treatments are best for you</p> <p>T3-you have so much trust in your health care provider that you always try to follow his/her advice</p> <p>T4-your health care provider offers you the highest quality in medical care</p> <p>T5-Because your health care provider is an expert, he is able to treat medical problems like yours</p> <p>T6-you trust your health care provider so much that whatever he/she tells you it must be true</p> |
|---|

T7- Sometimes, you do not trust my health care provider's opinion, and therefore you feel you need a second one
T8-you can trust your health care providers' judgments concerning your medical care
T9-your health care provider will do whatever it takes to give you the medical care that you need
T10-All things considered; you completely trust my health care provider

To measure emotions, based on previous studies (Russell, 1980; Bigné and Andreu, 2004; Gill and White, 2009; Paul, 2009), Respondents were asked to circle the number that best reflected their feeling about the quality of services received from the hospital with the following statements:

For negative emotions, the statements were: a) You felt lost; b) You felt Nervous; c) You felt embarrassed; d) You felt you were wasting my time. For positive emotions, the statements were: a) You felt guided; b) You felt reassured; c) You felt happy; d) You learned something new about your health conditions.

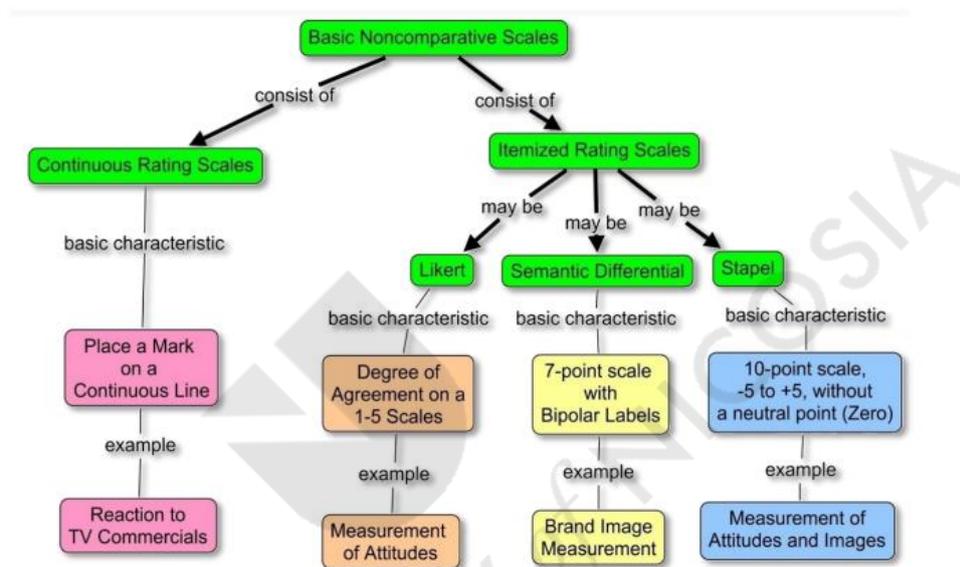
3.6.1 Measurement Instruments using the Likert Scale

Many authors have emphasized the importance of proper scale development (DeVellis, 2012). There are five major steps involved in developing a scale: define the construct; Design scale; Pilot test; Administer and run item analysis, and finally validate and standardize.

The first and very important step is the definition of the construct. The design of the scale includes the decision on the exact format of the scale and the response choices. Figure 3.5 shows the measurement scales used in quantitative studies that can easily measure the responses of participants' views. The Likert scale is a widely used scaling approach due to its many advantages. Through this scale, the questions asked are based on a statement about how well the participant agrees or disagrees with it. The Likert scale is widely used in the evaluation of patient satisfaction (Poot *et al.*, 2019). According to the literature on the measurement of healthcare quality, the scales can range from four points to ten points (Pai and Chary, 2013). The scale depends on the culture, so scaling must be taken into accounts in cross-cultural research. For Ware *et al.* (1983, p. 250), the scale of five choices contains more information than the two or three choices. Hendriks *et al.* (2004) concluded that studies based on two different response formats to measure patient satisfaction (a 5-point scale and 1-10), did not show any difference regarding the characteristics of the sample and the psychometric properties of the instruments. According to (Lam, 1997), a five-point scale

increases the response rate and quality and reduces the frustration of the respondents. According to Sekaran (2003), the possible ranges for scaling are "strongly agree to strongly disagree". It is the best scale to guarantee completion. Therefore, for this study, the scale was from 1 to 5. All items were scored on an ordinal scale of one to five so that high scores reflect satisfaction with health care (Gaur *et al.*, 2020). This approach helps patients to share their thoughts with a statement.

Figure 3.5: A concept Map for Scales (Source: Malhotra *et al.* 2013)



3.6.2 Questionnaire Pre-Testing

For each hospital, a formal visit was done by the researcher to the participating private hospitals, which involved a detailed description of the study to the medical directors and quality managers to seek approval to conduct the study. Before approval, medical directors and quality managers of the selected hospitals reviewed the questionnaire. According to Gorard (2003), field experts' review of the questionnaire can guarantee its quality. It was advised to delete some items of the quality dimensions due to redundancy which might cause confusion and to remove some items due to their inapplicability during the COVID-19 pandemic (Refer to Table 3.7). Following this review, a thorough analysis was conducted by reviewing their suggestions and refining the words and the content of the questions. The researcher refines the items and response options to be listed in the outpatient questionnaire.

The medical directors in charge then granted the researcher permission to distribute and collect the questionnaire. They also assigned assistants to help the researcher.

The researcher made another visit to the selected hospitals. A meeting was held with the enrolled assistants who assisted the researcher to better locate the outpatient departments, and get to know the head of outpatient departments.



Table 3.7: Survey Questions after Focus Group Discussions and Hospital Review

Initial survey questions	Adjusted survey questions	Changes that have occurred
<p>Physical Characteristics</p> <p>-You are satisfied with the cleanness of the waiting area</p> <p>-You are satisfied with the cleanliness of the Examination/consultation/OPD</p> <p>-You are satisfied with the comfortability of chairs in the waiting area.</p> <p>-You are satisfied with the number of chairs for the patients to sit on</p> <p>-You are satisfied with the professional and neat appearance of staff</p>	<p>Physical Characteristics</p> <p>-You are satisfied with the cleanness of the Waiting area.</p> <p>-You are satisfied with the cleanliness of the Examination/consultation room /OPD.</p> <p>-You are satisfied with the comfortability of chairs in the waiting area.</p> <p>-You are satisfied with the cleanliness of toilets</p> <p>-You are satisfied with the general atmosphere and the calm</p>	<p>Deleted (not applicable because of Covid-19)</p> <p>Raised in focus group discussions</p>
<p>Patient-provider communication</p> <p>-You are satisfied with the information provided by Doctor/Nurses (courteous and respectful)</p> <p>-</p> <p>-You are satisfied with the way health providers listened to you</p> <p>-Doctors treat you very friendly and in a courteous manner</p> <p>-There is honesty and truthfulness in dealing with patient</p>	<p>Patient-provider communication</p> <p>-You are satisfied with the information provided by the Doctor/Nurse (Courteous and respectful)</p> <p>-Doctors provided you with enough time to ask all the questions you had about your illness and treatments</p> <p>-You are satisfied with your participation in making the appropriate decision for your health condition (Treatment and tests)</p> <p>-You are satisfied with the way health providers listened to You</p> <p>-Doctors treat you very friendly and in a courteous manner</p>	<p>Raised in focus group discussions</p> <p>Deleted (due to redundancy)</p>

<p>-The doctor/provider cares about you as a person</p>	<p>-The doctor/provider cares about you as a person</p>	
<p>Accessibility</p> <p>-Outpatient department location is convenient for you</p> <p>-I have easy access to the medical specialists I need</p> <p>-You get medical care whenever you need it</p> <p>-The clinic working days and hours are suitable</p> <p>-It's easy to make an appointment by phone</p>	<p>Accessibility</p> <p>-Hospital has accessible location to all patients</p> <p>-It is possible to contact a professional by phone when needed</p> <p>-Hospital has operating hours suitable to all patients</p> <p>-It's easy to make an appointment by phone</p> <p>-When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information</p> <p>-The kindness and professionalism of the receptionist</p>	<p>Restated after focus group discussions</p> <p>Deleted (Not applicable due to Covid-19 Restated after focus group discussions</p> <p>Raised in focus group discussions</p>
<p>Technical Quality of care</p> <p>-Doctors are very careful when examining and treating me</p> <p>-Doctors are clear when they explain how to prevent your disease</p> <p>-You are satisfied with the professional and scientific skillfulness of doctors</p> <p>-You are satisfied with doctors' ability to treat your problems</p> <p>-Doctor's office has everything needed to provide complete medical care</p> <p>-You are satisfied with measures taken to assure your confidentiality</p>	<p>Technical quality of care</p> <p>-Doctors are very careful when examining and treating me</p> <p>-Doctors are clear when they explain how to prevent your disease</p> <p>-You are satisfied with the professional and scientific skillfulness of doctors</p> <p>-You are satisfied with the doctors' ability to treat your problems</p> <p>-Doctor's office has everything needed to provide complete medical care</p> <p>-You are satisfied with measures taken to assure your confidentiality</p> <p>-You are satisfied with your doctor/nurses' explanation of any work they do</p>	<p>Raised in focus group discussions</p>
<p>Perceived waiting time</p> <p>-You are satisfied with the waiting time to get outpatients services.</p> <p>-You are satisfied with the time spent to get services and get back (overall waiting time)</p> <p>-You can see the doctor at the appointed Time</p>	<p>Perceived waiting time</p> <p>-You are satisfied with the waiting time to get outpatient services</p> <p>-You are satisfied with the time spent to get services and get back (overall waiting time)</p> <p>-You can see the doctor at the appointed time</p>	

<p>-The amount of time spent in the waiting room before the consultation was reasonable</p> <p>-You are satisfied with the consultation duration</p>	<p>-You are satisfied with the time given to you by the staff to listen to you and answer your questions</p> <p>-You are satisfied with the consultation duration</p>	<p>Deleted due to redundancy</p> <p>Raised in focus group discussions</p>
<p>Perceived Cost</p> <p>-I feel that I can get the medical care I need without being set back financially</p> <p>-You are satisfied with the reasonableness of medical costs</p> <p>-You are satisfied with the medical services provided by the hospital versus the paid money</p> <p>-The cost of your visit is within my ability to pay</p>	<p>Perceived cost</p> <p>-You feel confident that you can get the medical care you need without being set back financially</p> <p>-You are satisfied with the reasonableness of medical costs</p> <p>-You are satisfied with the medical services provided by the hospital versus the paid money</p>	<p>Deleted due to redundancy</p>

3.6.2.1 Pilot Study

Before the main data collection for the quantitative research, a pilot study was conducted. Based on Bell and Waters (2014, p.167) advice, “however pressed for time you are, do your best to give the questionnaire a trial run”, as, without a trial run, you have no way of knowing whether your questionnaire will succeed. A pilot test is a small-scale preliminary study conducted to improve the design of the study and to determine the appropriate sample size for the main research study.

Therefore, the researcher employs a pilot study or questionnaire pre-testing with appropriate samples of respondents that took place at Saydet Zgharta University Hospital and Centre Hospitalier du Nord University hospital to finalize the questionnaire part regarding service quality factors. The results of this step have finalized the questionnaire for the main study. The pilot study is the best way to improve the data gathering process (Tsanis, 2013). Other reasons are the rationale behind conducting a pilot study: 1) to make sure questionnaire directives are well understood, 2) to identify misinterpreted or weekly structured questionnaires, 3) to ensure correct application of rating scales, 4) to know the exact time for a completed questionnaire, 5) to get respondents’ feedbacks regarding the survey, and 6) to run preliminary reliability of measurement scales (Merriam, 2009). It was also suggested

by Iarossi (2006, p.189) that the pilot test has three basic goals which are: “(1) To evaluate the adequacy of the questionnaire, (2) To estimate the length of the survey, and (3) To determine the quality of the surveyor”.

The pilot study was a small-scale replication of the main study, targeting a small number of patients whose characteristics followed the same criteria for selecting respondents for the main study to make sure that they are suitable. For this research, the respondents were outpatients visiting private hospitals. The questionnaire was distributed by hand to the participants. As for the sample of the pilot study, some agree that the sample should be approximately 10% of the main sample size (Robinson and Callan, 2001; Connelly, 2008), while others consider that the sample size should follow the rationale of the researcher (Leon *et al.*, 2012). Thus, based on the aforementioned rationale, 127 outpatients were considered eligible respondents and filled the questionnaire, before conducting the main study. The respondents were chosen based on convenience sampling. The pilot study assisted in formulating the initial outcome of the data analysis process. Knowing that the factors and items chosen reflect the cultural context of Lebanese patients, the panel of experts (quality experts and medical directors) agreed that the current questionnaire reflected the situation in the patient satisfaction, meaning that the items were convenient, relevant, and suitable to be examined on outpatients.

The construction of the questionnaire, as mentioned above, was done with the assistance of quality managers and medical doctors of the participating hospitals, the findings of the focus group discussions, and Professor Salim Haddad, a statistician expert at the AZM University, who advised on the validity of items for statistical purposes.

The pilot study was conducted to determine the feasibility of the study, to test the reliability and the validity of the instrument; to address any problems before the main study; to ensure that the instrument is appropriate, understandable, and practical; and to check the amount of time required to complete the questionnaire. The pilot study has been useful and valuable in many ways. It demonstrated that the items in the questionnaire are not confusing and the respondents found it simple and quick to complete.

After the completion of the questionnaire, the statistician expert professor Salim Haddad was consulted for the analysis of data. The findings of the pilot study have guided the researcher in the planning of the main research study and the consideration of the research population.

3.7 Survey Questionnaire to Test Hypotheses

For the purpose of the current research, all the above modifications regarding the perceived service quality factors proposed were incorporated in the final version of the questionnaire to research outpatients for evaluating the newly developed comprehensive framework. The main Questionnaire consists of four sections.

Independent variable: Perceived Service Quality

Perceived service quality factors refer to six dimensions of satisfaction with 32 items as displayed in the section above; technical quality of care, patient-provider communication, physical characteristics, perceived waiting time, perceived cost, and accessibility. Items measuring each service quality dimension appear in the first section. For the purpose of rating, a five-point Likert scale was used, ranging from Strongly Disagree =1.0 –1.49, Disagree = 1.50 –2.49, Neutral = 2.50 –3.49, Agree = 3.50 – 4.49, Strongly Agree = 4.50 – 5.0”. This format has been recommended for healthcare surveys (Elbeck, 1987; Steiber, 1989).

Technical Quality of Care

Doctors are very careful to check everything when examining and treating me
Doctors are clear when they explain how to prevent your disease
You are satisfied with the professional and scientific skillfulness of doctors
You are satisfied with the doctor’s ability to treat your problems
The doctor's office has everything needed to provide complete medical care
You are satisfied with your doctor/nurses’ explanation of any work they do
You are satisfied with measures taken to assure your confidentiality

Patient-Provider Communication

You are satisfied with the information provided by doctor/nurses (courteous and respectful)
Doctors provided you with enough time to ask all the questions you had about your illness and treatments
You are satisfied with your participation in making the appropriate decision for your health condition (Treatment and tests)
You are satisfied with the way health providers listened to you
Doctors treat you very friendly and in a courteous manner
Doctors care about you as a person

Perceived Waiting Time

You are satisfied with the waiting time to get outpatient services after registration
You are satisfied with the time spent to get services and get back (overall waiting time)
You can see the doctor at the appointed time
You are satisfied with the time given to you by the staff to listen to you and answer your questions

You are satisfied with the consultation duration
<p><u>Perceived Cost</u></p> <p>You feel confident that You can get the medical care you need without being set back financially. You are satisfied with the reasonableness of medical costs. You are satisfied with the medical services provided by the hospital versus the paid money</p>
<p><u>Physical Characteristics</u></p> <p>You are satisfied with the cleanness of the Waiting area You are satisfied with the cleanliness of the Examination/consultation room /OPD You are satisfied with the comfortability of chairs in the waiting area You are satisfied with the cleanliness of toilets You are satisfied with the general atmosphere and the calm</p>
<p><u>Accessibility</u></p> <p>Hospital has accessible location to all patients Hospital has operating hours suitable to all patients It's easy to make an appointment by phone When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information The kindness and professionalism of the receptionist</p>

Independent variable: Patient trust

The patient trust scale includes 10 items directed at exploring the degree to which “trust in physician” correlates with satisfaction. The items appear randomly in the second section. Responses were scored on a 5-point Likert-type scale ranging from strongly agree (5) to strongly disagree (1), and higher scores indicated higher levels of trust.

T1-your health care provider is usually considerate of your needs and put them first
T2-you can trust your health care providers’ decisions on which medical treatments are best for you
T3-you have so much trust in your health care provider that you always try to follow his/her advice
T4-your health care provider offers you the highest quality in medical care
T5-Because your health care provider is an expert, he is able to treat medical problems like yours

T6-you trust your health care provider so much that whatever he/she tells you it must be true
T7- Sometimes, you do not trust my health care provider's opinion, and therefore you feel you need a second one
T8-you can trust your health care providers' judgments concerning your medical care
T9-your health care provider will do whatever it takes to give you the medical care that you need
T10-All things considered; you completely trust your health care provider

Independent variable: Patient emotions

Patient emotions scale includes eight items directed at exploring their feeling toward the quality of services received from the hospital. Items appear randomly in the third section. Responses were scored on a 5-point Likert-type scale ranging from not at all (1) to very much (5) for positive statements and reversely coded for negative statements.

Patient Emotions
E1-You felt guided
E2-You felt reassured
E3-You felt happy
E4-You learned something new about your condition
E5-You felt lost
E6-You felt nervous
E7-You felt embarrassed
E8-You felt you were wasting your time

Dependent variable: Patient Satisfaction.

A general satisfaction question was added at the end of the questionnaire to get the general perception of patients about satisfaction with hospital services. This variable serves as the dependent variable. Responses were scored on a 5-point Likert-type scale ranging from strongly satisfied (5) to strongly dissatisfied (1) and higher scores indicated higher satisfaction. This is the most widely used measure of patient satisfaction, and the most widely used approach to scaling responses in survey research "In general, how satisfied are you with the health care you received?" (Argyle, 2013; Carey and Seibert, 1993; Chunuan, 2002; Yellen *et al.*, 2002).

In addition, patients' demographics such as age, gender, marital status, educational level, and income were collected.

For the data collection process, the researcher approached randomly selected adult patients waiting for their appointment with their healthcare providers at the OPD and briefly described the study to the patients. To ensure patient confidentiality, patients who accepted to participate in the study were told that collected information would be strictly confidential, the survey is anonymous and no confidential information was requested. Qualified patients were asked to fill out the survey; however, patients preferred that the researcher filled the data.

One hundred seven outpatients are chosen randomly from each of the five private hospitals according to the random sampling techniques.

For this study, the scale was from 1 to 5. This approach helps patients to share their thoughts with a statement. The questions were designed to address the Hypothesis statements (Refer to Appendix VI for the link between the questions and hypotheses).

3.8 Data Analysis

As defined by Hitchcock and Hughes (1995), data analysis is how the researcher moves from a description of what is the case to an explanation of why. Moreover, Scherman (2018) pointed out that data analysis is the tool used to generate and validate interpretations, formulate inferences, and draw conclusions. Before analysis, data should be prepared in simple steps, namely: Questionnaire checking (which questions to answer and the number of variables to examine), Editing, Coding, Transcribing, and Cleaning, making statistical adjustments and selecting well-recognized statistical data analysis software (Zikmund, 2003).

Before data analysis, it is very important to look at the type of data used in this study. As the research main study is quantitative and the analysis is quantitative, the data is classified into two types, mainly numerical or categorical. Numerical data is data whose values are measured or counted numerically, or when the measuring scales are numerical values, and which are then classified into quantitative variables. Categorical data is data whose values cannot be measured but can be classified into sets or when the data measurement scale is a set of categories, and then classified as categorical variables (Agresti and Finlay, 2009, p. 12-14).

There are different methods for every research study for data analysis, i.e., qualitative, and quantitative data analysis. In this research, quantitative data analysis methods were used because the data collected from patients through questionnaires are quantitative data.

Another reason for the choice of quantitative analysis is the objective of the study, which is to examine the service quality dimensions that influence patient satisfaction combining trust and emotions. Carrying this study, hypotheses were stated and they need to be tested. To better understand the patient satisfaction drivers, all the dimensions must be tested to know which dimensions have a positive effect on patient satisfaction, for these hypotheses were stated.

Descriptive and inferential statistics were used to analyze the data. Using descriptive statistics, “*data were put in tables to summarize the data collected to help the reader easily examine the results*” (Agresti and Finlay, 2009, p. 4). Patient demographics were described in frequency and percentages. The researcher calculated the mean and standard deviation of the Likert scale for each item of the scale. In addition, the researcher calculated the frequencies and percentages of “strongly agree, agree, neither agree nor disagree, disagree and strongly disagree” for perceived service quality, and patient trust and of “not at all, not really, neutral, somewhat, very much” for patient emotions.

As for inferential statistics, many statistical tests can be applied. Inferential statistics are used to generalize and do predictions based on the results of the collected data (Agresti and Finlay, 2009, p. 4). For the data, the following statistical procedures are used for Analysis:

Exploratory factor analysis (EFA) using Principal Components Analysis (PCA), reliability and validity analysis were used for the accuracy of the variables and the consistency of the data, to redefine the final questionnaire for the main study. The reliability was examined using the most widely reliability measures used in related studies of psychometric properties. They include Cronbach’s alpha, item analysis, Cronbach’s alpha if item deleted, and item-total correlations (Cronbach, 1971; Polit and Beck, 2011). Values of Cronbach’s alpha that are close to 1 show high internal consistency, When the alpha score is 0.7 and above, the results are then considered acceptable and reliable (Gray, 2017). The validity criteria included item-total correlations.

To retain the factors in Exploratory Factor Analysis, the following criteria are taken into consideration: eigenvalues (greater than 1); percent of extracted variance (approximately 5% or more); cut-off value for item-to-total correlation is higher than 0.3 (Polit and Beck, 2011); The cut-off for meaningful factor loadings is defined as greater than 0.5 as “minimum” (Hair *et al.*, 2010); and according to (Field, 2009, p. 664), “non-redundant residuals shown in the

reproduced correlations Table of Statistical Package for Social Science (SPSS) outputs should not exceed 50 percent”.

Bartlett’s test of sphericity is used to find out whether the correlation matrix is an identity matrix or not. If the test has a significance less than 5% means that the null hypothesis (the correlation matrix is the identity matrix) will be rejected. It is used to examine whether there is a relationship between the variables in the universe (Malhotra and Dash, 2016).

Factor loading was performed to determine the weights and associations between each factor and its related items to determine uniqueness. Uniqueness is the unique variance for each item and is not shared with other items in the general factor model will be. The higher the load of an item, the better defined its dimensionality. The more unique an item is, the less relevant it is to the general factor model. According to (Hair *et al.*, 2010), the items should have factor loading values above 0.5.

The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is the indicator used to compare the correlation coefficient’s magnitude between two variables with their partial correlation coefficient’s magnitude. A larger KMO index means that the item’s common part is larger, so the better the KMO index the better it is. According to Kaiser (1975), KMO > 0.9 were marvelous, in the 0.80s, meritorious, in the 0.70s, middling, in the 0.60s, mediocre, in the 0.50s, miserable, and less than 0.5, unacceptable. Based on Tabachnick and Fidell (2001), the Bartlett test of sphericity must be significant at ($P < 0.05$) for the FA to be considered appropriate, while the KMO index varies from 0-1, with 0.6 being the minimum recommended for a good FA.

The sample size: It was agreed that the sample size must be large for exploratory factor analysis (EFA). However, according to Hair *et al.* (2006), a minimum sample of 50 is required, better if being more than 100 as well as each item requires at least 5 observations, better to be 10. As mentioned earlier, for this study, the researcher contacted 535 outpatients to fill the questionnaire.

This analysis allowed the researcher to fully control the key factors related to service quality factors in a regression model and to know the impact of various independent variables on patient satisfaction as a dependent variable.

As for the possible relationship between the outcome variable and explanatory variables, Spearman Correlation and regression models are used. Multivariate analysis is used to find the relationships between the independent variables and the dependent variable, and to discover the possible model that explains these relationships.

Due to the importance of these concepts for the development and application of rating scales in health research, it is worth adding details about the reliability and validity of an instrument.

3.9 Data Quality

3.9.1 Validity

Validity refers to the degree of the ability of an instrument to measure what it is required to measure (Blumberg *et al.*, 2005). A research instrument validity is used to evaluate its capability to measure what is already intended to measure (Robson, 2011). It reflects the extent to which the results are truthful. Thus, there is a need for a research instrument (questionnaire) to measure effectively the concepts under the study (Pallant, 2011). It incorporates the whole exploratory idea and builds up whether the outcomes acquired meet many of the requirements of the scientific research technique.

Validity asserts that all the requirements of the research method have been approved and well monitored during the process of coming up with research findings. It is an important requirement for every conducted study regardless of its type (Oliver, 2010).

In behavioral and social sciences, the researcher needs to assure that the measures are valid and reliable. The proper measurement of validity and reliability is the key indicator for the quality of measure. Research is classified as good when data are trustworthy (reliable and valid), thus decisions can be made; otherwise, a good decision cannot be made.

According to Miller (2003), validity is defined as the extent to which the instrument measures what it asserts to measure, it includes these forms: content validity, face validity, criterion-related validity (or predictive validity), construct validity, factorial validity, concurrent validity, convergent validity, and divergent validity (or discriminate validity).

The most common types of validity are content validity, construct validity, and criterion-related validity (Hayes, 1998; Creswell, 2005; Streiner and Norman, 2008; Pallant, 2011; DeVellis, 2012).

Content Validity: It refers to the degree to which all questions are asked and their scores reflect all possible questions that can be asked about the content (Creswell, 2005; Cooper and Schindler, 2012). Content validity is higher when the scale items include all aspects of the concept under study (Sekaran and Bougie, 2010). It is related to the suitability of the items for reviewers who already know the subject. The judgments of consulting experts on questionnaires indicate the content validity of the satisfaction scales in this research.

In addition, this study used a back-translation procedure in two phases. During the first phase, the original questionnaire was translated from English into Arabic by an expert professor. In the second phase, a private translation company translated the Arabic questionnaire back into English. The two translations showed similar results. This process, therefore, provides a test of the content validity of the scale (Lei and Jolibert, 2012).

Face validity: refers to the extent to which a test appears to quantify what it claims to measure (Leedy and Omrod, 2004). It is a general estimate of what the test measures. It is the simplest and least precise strategy to decide on validity, which depends entirely on the skill of the reviewer and the recognition of the topic and recognition of the assessor concerning the topic (Nwana, 2007). Because the questionnaire originates from an English bibliography, Face validity was checked by a panel of experts (Malhotra and Bricks, 2006). The panel includes medical quality managers to find out if it was clear what was asked and accurate in questioning.

The fact that the questionnaire was presented to medical directors and quality managers for approvals for data collection, the face validity was approved.

Criterion-related validity: It is most often used to anticipate current or future performance. It is often called predictive validity because it is concerned with prediction, not understanding (DeVellis, 2012). It shows how well an instrument correlates with an instrument from another study. It works by correlating test results with another criterion of interest. In social and behavioral research, it is very rare to implement this type of validity as it is very hard to find a “gold standard” comparable to the tested scale.

Construct validity: It is the most important for empirical measure and hypothesis testing. Researchers are developing theoretical constructs to better understand, clarify and predict behaviors (Thatcher, 2010). It reflects the usefulness of the instrument in practice. It shows the fit between the results of measurement and the theories and is assessed using convergent and discriminant validity (Sekaran and Bougie, 2010). Convergent validity is the degree to which the values of one scale correlate with the values of other scales, intended to evaluate the same construct. On the contrary, discriminant validity refers to the basis that the measures of different constructs are moderately related to each other, or not correlated with other unrelated ones (Streiner and Norman, 2008). In this research, construct validity was determined by Exploratory Factor Analysis (EFA) with Varimax rotation. Exploratory Factor Analysis was carried out to identify the fundamental structure of a large set of variables and to find the relationships between measured variables.

The researcher has consulted a second opinion, a statistician, who double-checked the analysis and confirmed how the analysis was conducted and confirmed that they are correctly done. This is part of validating data analysis. The statistics expert is Dr. Salim Haddad, who is an owner and managing director for statistical analysis and research institute- Star Freelance, and an associate professor at Notre Dame University, Université Antonine, and AZM University.

3.9.2 Reliability

As suggested by Blumberg *et al.* (2005), Reliability refers to a measurement that offers consistent results with the same values. It refers to measuring the consistency, precision, repeatability, and reliability of an investigation (Chakrabarty, 2013). It indicates the level of precision and ensures consistent measurement of various items on the instrument over time. Reliability is used to assess the safety of measures administered to similar people at different times and the comparability of sets of things from a similar test (Kimberlin and Winterstein, 2008). Higher reliability ensures more accurate results and therefore reflect the correct decisions in research. Reliability alone is important but is not sufficient for the validity of the research.

The two main types of reliability are stability reliability and internal consistency. Stability refers to the ability of the measurement to remain the same over time despite uncontrollable conditions (respondents or tests). A measure is perfectly stable when the score generated is the same over time. Stability can be tested by two methods: test-retest reliability and parallel-form reliability.

Test-retest reliability: It is defined as repeating the same measurement a second time (Graziano and Raulin, 2006). It is a method of measuring that the same respondents complete a survey at different times to see how many responses are stable, quantified through reliability coefficient. For this study, it is neither possible nor practical to assess the same patients at different times.

Alternate-form reliability: This form of reliability is achieved by measuring different versions of the assessment tool responses from the same group of people. The scores generated can be correlated to show how consistent the results are in alternative versions (DeVellis, 2006).

Therefore, in this study, the reliability of the satisfaction scales was assessed by internal consistency with Cronbach's alpha coefficient.

3.10 Analysis for Testing Hypotheses and Addressing Objectives

In this section, the methods used in testing hypotheses and addressing research objectives are addressed.

For research objective 1, the independent variables, which are the six service quality dimensions that influence outpatient satisfaction identified in the literature, are tested against the dependent variable, which is patient satisfaction. The analysis is performed by using the Spearman correlation test and multiple linear regression between independent variables and a dependent variable. The results help in identifying which dimensions influence outpatient satisfaction, measure the strength of the relationship between these dimensions and outpatient satisfaction, and help to predict which dimensions have a stronger influence on outpatients.

For research objectives 2 and 3, to examine the influence of patient trust and patient emotions on patient satisfaction, including the influence of service quality dimensions on patient trust and patient emotions, the researcher divided the analysis into two parts. For the influence of patient trust and patient emotions on patient satisfaction, the analysis is made through Spearman correlation. For the influence of service quality dimensions on patient emotions and patient trust, the analysis is performed through the Spearman Correlation and multiple linear regression.

For research objective 4, to determine the relationship between patient demographics and patient satisfaction, a Chi-square test is adopted. Then, to determine if the dimensions of patient satisfaction vary significantly regarding socio-demographic characteristics, a Factorial analysis of variance (ANOVA) and t-student test were conducted depending on whether the demographic variable is categorical or numerical. Such a method is tested to identify if any significant difference exists between patient socio-demographics and independent variables; and which characteristic is affected more.

All the factors that show to have a positive relationship with the dependent variable (overall patient satisfaction) are then included in multivariate analysis using Ordinary Least Square Regression (OLS) for patient satisfaction as the dependent variable with all independent variables. These results will verify how the patient satisfaction framework should be designed for hospitals.

As the researcher is testing the relationship of the conceptual model, it is needed to confirm if parts of the model correlate with the process. To do so, the researcher uses multiple linear regression, Spearman correlation, and Chi-Square to confirm the relationship between independent variables and dependent variables.

- ***Multiple Linear Regression***

To identify the service quality dimensions that influence patient satisfaction, their relative influence and impact on patient trust and patient emotions, the Multiple Linear Regression model is used to identify the relative importance of perceived service quality factors in explaining the variation in the patient satisfaction, patient trust and patient emotions based on prediction from variables relationships.

Multiple linear regression (MLR) is a statistical method used to define a linear relationship between multiple independent variables and a single dependent variable, where the independent variables are being used to predict the dependent variable. The MLR was used in this research to measure the strength of the relationship between perceived service quality dimensions such as patient-provider communication, physical characteristics, technical quality of care, accessibility, perceived waiting time and perceived cost and patient satisfaction, patient trust, patient emotions respectively.

This type of statistical test relies on the initial assumption that there is, in fact, a linear relationship between each independent variable and the dependent variable and a linear relationship between the composite of the independent variable and the dependent variable. Linearity is verified by the ANOVA Table, which contains tests for linear, non-linear, and joint relationships. When the value sig. is less than 0.05, indicating that there is a linear relationship.

Other statistical instruments detailed below verify the robustness of the results and the assumptions in the regression model.

Test for multicollinearity: Multicollinearity occurs when two independent variables highly correlate with each other, which might cause bias in the effect of a single independent variable in the form of under or over-estimation. The multicollinearity can be best tested by checking the correlation coefficients and the resulting tolerance and Variance Inflation Factor (VIF). The co-linearity tolerance was above 0.1, the VIF values were below 10, therefore it can be deduced that there are no co-linearity problems (Hair, 2007).

In addition, a correlation analysis was required to verify the associations between the independent variables, and between the independent variables and the dependent variable. This step helps to check for multicollinearity problems between the independent variables and test the relationship between the independent and the dependent variable. In correlation analysis, the correlation coefficients are between -1 and +1; where a perfect positive correlation is reflected as +1, a perfect negative correlation is reflected as -1, and correlation is close to 0 as no correlation.

Autocorrelation: To test for autocorrelation, the Durbin Watson test is checked. This assumption of independence of observation is designed to test the 1st-order autocorrelation, which means that adjacent observations (specifically, their errors) are correlated. It is a study design issue because the observations in multiple regression must not be related. It is best checked using the Durbin-Watson statistic. The Durbin-Watson statistic range between 0 to 4, and a value of approximately 2 indicates that there is no correlation between residuals. In this research, the value is close to 2, so it can be accepted that there is independence of errors.

The relationship between the dependent variable and independent variables can be expressed in the following equation, whereby Y constitutes the dependent variable (patient

satisfaction). B represents the slope parameters, where β_0 is the intercept (also known as the constant) and β_1 as the slope parameter for the first independent variable X_1 and so forth, and ε represents the errors.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon.$$

B is the regression coefficient, which refers to the amount of change in the dependent variable Y when the independent variable changes by one unit. The constant value C refers to the value of the dependent variable Y when all independent variables are null. The B coefficients ratio represents the ratio of the relative predictive power of the independent variables.

To analyze the results of MLR, the researcher should examine the following statistics. These are Sig. value, unstandardized regression coefficient (b), standardized regression coefficient (β), standard error (SE), R^2 and the F -statistic.

Sig. Value

In the regression output value, the Sig. value represents the results of hypothesis tests for the slopes of the independent variables. The null hypothesis states that the slope of independent variables is not different from zero, which means that it does not influence the prediction of the dependent variable. Therefore, all regressions coefficients with Sig. values lower than 0.05 are considered significant predictors of the dependent variable.

Standardized Regression Coefficients (β)

The standardized regression coefficient (β) allows the comparison of the independent variables in the same model since the variables used in the model are not measured in the same units (Weisburd and Britt, 2014).

Unstandardized Regression Coefficients (b)

The unstandardized regression coefficients denote the slope of the line between the independent variables and the dependent variable, while the effects of the other variables in the model remain constant. These coefficients can be interpreted as an increase in X (independent variable) by one unit corresponding to an increase/decrease in y (dependent variable), independently of the effects of the remaining variables in the model. It is important to note that only significant coefficients (when Sig. < 0.05) should be interpreted. When examining results across studies, the unstandardized regression coefficients are used.

Standard Error (SE)

The standard error that appears in the regression output Table represents the estimated amount of error in the estimate versus the actual value in the population. As the sample size increases, the standard error decreases.

R-Square (R^2)

The (R^2) or coefficient determination is used to evaluate how well the overall model fits the data. It represents the percentage of variation explained in the dependent variable explained by the independent variables in the model. It is important to note that the value of R^2 increases with the inclusion of more independent variables. Some researchers choose to use the adjusted R-Square (Adj. R^2), which is a measure of the proportion of variance in the dependent variable explained by the independent variables, compared to the mean model (Fox, 2015). This value does not necessarily reflect the sample as the R^2 , but it is the value that is expected in the real population (Fox, 2015).

F-statistic

The F-statistic is interpreted to assess whether the overall regression model is significant. This statistic comes from an F-test (an omnibus test like the one used in ANOVA). It indicates whether adding independent variables helps to create a model that predicts the dependent variables when compared to the mean model. Moreover, a Significant F-statistic suggests that the full model, which includes all independent variables, has a significantly better fit to the data than the mean model. A significant F-value means that at least one regression slope (b) in the model is significantly different from zero.

- ***Spearman Correlation***

Spearman's rank-order correlation is a rank-based, non-parametric version of the Pearson product-moment correlation. It measures the strength and the direction of the relationship between two ranked variables. It presents an alternative to the Pearson product-moment correlation, violating the assumptions for Pearson's correlation coefficient which do not hold—that is, if at least one variable is measured on an ordinal scale, or a linear association cannot be assumed if neither variable is distributed normally (Sedgwick, 2014).

In the context of the present analysis, it is particularly suitable for the relationship between each of the independent variables perceived service quality factors, patient trust, patient emotions, and the dependent variable patient satisfaction.

When the Spearman correlation test is used, the researcher seeks the nature, strength, and significant relationship between the independent variables and the dependent variables. To recognize if there is a significant relationship between two variables, the Sig. value must be less than 0.05. To know the strength of the relationship, the Spearman correlation coefficient must be checked, r_s can take values from +1 to -1. An r_s of +1 indicates a perfect association of ranks, an r_s of zero indicates no association between ranks and an r_s of -1 indicates a perfect negative association of ranks. The closer r_s is to zero, the weaker the association between the ranks (Laerd statistics, 2018). Although this differs from source to source, the following rule applies:

- Coefficient between -0.3 and $+0.3$ = weak correlation
- Coefficient less than -0.7 or greater than $+0.7$ = strong correlation
- Coefficient between -0.3 and -0.7 or between $+0.3$ and $+0.7$ = moderate correlation (General Social Survey, 2012).

The correlation results support further regression analysis of overall patient satisfaction against the six perceived service quality factors to examine the possible significant contributions of perceived service quality dimensions to overall satisfaction.

- **Chi-Square Test of Independence**

The Chi-Square Test of Independence, also known as Pearson's chi-square test, is a non-parametric test that is used to determine whether there is a relationship between two categorical variables (i.e., whether the variables are independent or related). It is often used to test the statistical independence or the association between two or more categorical variables. In this research, it is employed to test the relationship between patient satisfaction and patient demographics. The null hypothesis of the Chi-Square test is that there is no relationship with the categorical variables in the population. The null hypothesis (H_0) and the alternative hypothesis (H_1) of the Chi-Square Test of Independence can be expressed in two different but equivalent ways:

H_0 : "[Variable 1] is independent of [Variable 2]"

The necessary assumptions of the test include a) two categorical variables (this criterion is met since both patient satisfaction and patient demographics are categorical variables; patient satisfaction is an ordinal variable measured on a 5-point Likert scale and patient demographics are either nominal like educational level, marital status, gender and categorical like income and age); b) Your two variables should consist of two or more categorical, independent groups (this criterion is met as gender has 2 groups male and female, the educational level variable has more than 2 groups single, married, widowed, divorced; and, c) Expected frequencies should at least 5 of the majority of cells.

The Chi-Square test uses a contingency table to analyze the data. A contingency table, also known as cross-tabulation or crosstab, shows the distribution of the two categorical variables. The test of independence assesses whether there is an association between the two variables by comparing the observed frequencies to the expected frequencies. By calculating the Chi-Square statistic and comparing it to a critical value of the Chi-Square distribution, the researcher can assess whether the observed cell counts are significantly different from the expected cell counts.

The calculation of the Chi-Square statistic is quite straightforward:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Where f_o = the observed frequency (the observed counts in the cells)
and f_e = the expected frequency if no relationship existed between the variables

Based on the formula above, the Chi-Square statistic is based on the difference between the observed and expected frequencies when there was no real relationship between the variables.

The Chi-Square statistic used in the Test of Independence is labeled Pearson Chi-Square. To interpret the result, the *Sig*-value provided by SPSS is examined. To conclude the hypothesis with 95% confidence, the value labeled Asymp. Sig. (which is the p -value of the Chi-Square statistic) should be less than 0.05 (which is the alpha level associated with a 95% confidence level (Laerd Statistics, 2018)).

- ***Conceptual Model Fit Test***

To test the fit of the conceptual model, multivariate analysis using Ordinary Least Square Regression (OLS) for patient satisfaction as the dependent variable with all independent variables was performed. It is the best method used to estimate coefficients that best fit line in linear regression.

The OLS regression method of analysis fits a regression plane to a “cloud” of data that is believed to have a linear trend (Fox, 2015). Although the regression plane does not touch all the data points, it models the partial relationships between each slope (i.e., each regression coefficient “*b*”) and the outcome variable, holding the effects of the remaining variables constant. Therefore, in OLS, the regression coefficients are estimated by minimizing the sum of the squares of the differences between the fitted values in the regression plane and the observed values in the data.

To analyze the results of OLS, and to find the best fit, the researcher examined the following statistics. These are Sig. value, unstandardized regression coefficient (*b*), R^2 , and the *F*-statistic which are discussed in the section of Multiple Linear Regression.

3.11 Ethics and Good Practice in Survey Design

In research, ethics is one of the most important parts of conducting a research project and is applied in many phases of the research; from data collection to analysis and reporting (Sekaran and Bougie, 2010; Sefiani, 2013). Two of the key principles of ethical conduct are informed consent and a confidentiality agreement. This means that respondents should be informed about the purpose of the survey, who is supporting the research, and the amount of time required for the survey to be completed (Gray, 2017).

This research follows the ethics guideline set by the research ethics Principles and Procedures of the University of Nicosia, for Doctoral students. The final version of the questionnaire was presented to the University of Nicosia – Ethics Principles and Procedures for approval. Once approved, the researcher proceeds with the data collection technique.

The data collection started after gaining access to the hospitals located in North Lebanon. The participating outpatients were provided detailed information regarding the purpose of the research at the beginning of the survey. They had the right to refuse to fill the questionnaire and withdraw at any time. There is also no risk to the participants when answering the questions. No patients’ name was requested and their anonymity is guaranteed.

3.12 Chapter Conclusion

This chapter described the research philosophy stand of this study. It then described the research design and the rationale behind the critical incident technique for the qualitative study, and the survey for the quantitative study. Subsequently, the sampling method, sampling size, and procedure were detailed. The researcher highlighted the ethical considerations that preserve the anonymity of the respondents. Furthermore, the researcher discussed the method of developing the questionnaire. Finally, the researcher introduced some quantitative tools of data analysis such as the index named Cronbach's Alpha for scale's reliability, Exploratory Factor Analysis for construct validity, Spearman Correlation, Chi-Square, and Multiple Linear Regression to test hypotheses, and Ordinary Least Square regression to test the suggested model. The next chapter presents the results of the data analysis and provides a thorough explanation of the results.



CHAPTER 4-DATA ANALYSIS AND DISCUSSION



4.0 Introduction

This chapter will show in detail the results of the research. It will illustrate the retained results of the scales' reliability and validity through the technique namely Exploratory Factor Analysis (EFA) and will test the suggested hypotheses. In each section of the hypotheses, there will be subsections that explain what these results mean. In addition, this chapter compares the results of each hypothesis with previous studies to reach a final conclusion that answers the research objectives. Finally, the regression analysis results will reveal the final model as a whole.

4.1 Participants Surveyed

In accordance with the study protocol, the researcher approached adult patients waiting for appointments with their doctors at the outpatient department of the hospitals that are part of the study. Of 535 survey questionnaires distributed by the principal researcher, of which 107 questionnaires at every outpatient department, 521 questionnaires were considered usable for all subsequent analysis accounting for a 97.3% response rate, which is considered a perfect response rate within this field of research. As a result, the final sample was 521. The sample size of 521 was evaluated to be large enough, both considering the target population of outpatients from the 22 private hospitals located in the North, as well as determination of the sample size calculated.

These 521 outpatients were distributed as follows:

Islamic Hospital: 100 respondents out of 107 filled the questionnaire (seven questionnaires were discarded because of missing data).

Centre Hospitalier du Nord (CHN) University Hospital: 106 out of 107 filled the questionnaires (one questionnaire was discarded because of missing data).

Albert Haykal Hospital: 104 out of 107 filled the questionnaire (three questionnaires were discarded because of missing data).

Saydet Zgharta University Hospital: 106 out of 107 filled the questionnaire (one questionnaire has missing data; it was discarded).

New Mazloum Hospital: 105 out of 107 filled the questionnaire (two questionnaires were discarded because of missing data).

As illustrated in Table 4.1, both university hospitals (Centre Hospitalier du Nord and Saydet Zgharta University Hospital) achieved a higher response rate of 99% where 106 out of 107 filled the questionnaire. The next highest response rate was at New Mazloum Hospital, which was 98.1%, followed by Albert Haykal Hospital with a response rate of 97.2%.

Islamic Hospital achieves the lowest response rate of 93.4%, as only 100 patients filled the questionnaire.

Table 4.1: Rate of Respondents

Hospital	Population	Sample	%
Islamic Hospital	107	100	93.4
Centre Hospitalier du Nord University Hospital	107	106	99
Albert Haykal Hospital	107	104	97.2
Saydet Zgharta University Hospital	107	106	99
New Mazloum Hospital	107	105	98.1
Total	535	521	97.3

N=521

4.1.1 Characteristics of the Sample

To better understand the sample structure, frequencies were calculated for demographic variables, namely age, gender, educational level, marital status, income, and health insurance. Refer to Table 4.2 for the categorical ranges of the respective demographic variables.

Table 4.2: Characteristics of the Sample

Variable	Population	%
Gender	Female	307 58.9
	Male	214 41.1
Age	18-30	76 14.6
	31-45	140 26.9
	46-60	160 30.7
	More than 60	145 27.8
Income (in USD)	Less than 700	283 54.3
	Between 701-1300	164 31.5
	Between 1301-2000	42 8.1
	Between 2001-3000	12 2.3
	Above 3000	20 3.8
Marital Status	Single	86 16.5
	Married	368 70.6
	Divorced	16 3.1
	Widowed	51 9.8

Educational Level Completed	Elementary/Primary	249	47.8
	Secondary/High school	109	20.9
	College/University	115	22.1
	Post-Graduate	48	9.2

(N=521)

The final sample included 521 participants. The characteristics of the sample are shown in Table 4.2. The majority of respondents were females (58.9%). In terms of age, 14.6% of respondents are between 18 and 30 years old, 26.9% between 31 and 45 years old, 30.7% between 46 and 60, and 27.8% 60 years old or more. More than two-third (70.6%) of patients were married, and 41.5% of patients had no health insurance. Almost half (47.8%) of the respondents completed their elementary levels or are illiterate.

4.2 Test Results of the Three Independent Variables

For this research, as discussed in the methodology chapter, it was required to develop a perceived service quality measurement, a patient trust scale, as well as patient emotions scale. These three scales are selected to research patient satisfaction. Among them, perceived service quality is a multidimensional variable including technical quality of care, patient-provider communication, perceived waiting time, perceived cost, accessibility, and physical characteristics. The items, observable variables in another world, are derived from the literature and the preliminary research. Therefore, testing the reliability and the validity of the scales are essential to prove a suitable level of scales in the research context.

4.2.1 Test Results of the Construct Validity, Internal Consistency and Reliability-Item Analysis

Construct validity was determined by Exploratory Factor Analysis (EFA) with Varimax rotation. An Exploratory Factor Analysis was performed to identify the fundamental structure of a large set of variables and find the relationships between the measured variables. The extraction method in EFA was Principal Components Analysis (PCA). The procedure was similar to that used in other studies that measure construct validity (Kimani *et al.*, 2016; He *et al.*, 2018). Before conducting the principal component analysis (PCA), the appropriateness of the data for factor analysis for each scale was verified in relation to the Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Based on Tabachnick and Fidell (2001), the Bartlett test of sphericity must be significant at

($P < 0.05$) for the FA to be considered appropriate, while the KMO index ranges from 0-1, 0.6 being the minimum value for an FA is highly recommended. The criteria for selecting relevant factors were based on an eigenvalue greater than 1.00, and a percent of the extracted variance of approximately five percent or more. As suggested by Hair *et al.* (2010), the cut-off for meaningful factor loadings is greater than 0.5, therefore, all items with loadings below 0.5 were removed.

The internal consistency and reliability of the scales and subscales were examined using the most widely reliability measures in related studies of psychometric properties, including Cronbach's alpha, item analysis, and Cronbach's alpha if item deleted, and item-total correlations (Cronbach, 1971; Polit and Beck, 2011). Cronbach's alpha values close to 1 show high internal consistency. When the alpha score is 0.7 and above, the results are considered acceptable and reliable (Gray, 2017).

Following are the results of the scale validity and reliability.

Scale 1 Results- Perceived Service Quality (Independent Variable)

As shown in Table 4.3, the Kaiser-Meyer-Olkin (KMO) measure for sampling adequacy was 0.893, and Bartlett's test of sphericity was statistically significant at $\text{Sig.} < 0.005$ indicating the suitability of the sample for factor analysis (Tabachnick and Fidell, 2001).

Table 4.3: KMO and Bartlett's Test of perceived service quality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.893
Approx. Chi-Square		20806.092
Bartlett's Test of Sphericity	df	406
	Sig.	.000

N=521

By applying the Kaiser criterion, six subscales (dimensions) were extracted that accounted 82.229% of the total variance above the recommended value of 60% (Hair *et al.*, 2009). As can be seen in Table 4.4, the technical quality of care dimension was the most important service quality dimension, accounting for 39.605% of the explained variance, with factor loadings in this subscale (dimension) ranging from 0.818 to 0.880. Followed by the patient-provider communication dimension, which explains 12.73% of the explained variance. The accessibility dimension is the lowest dimension of 6.238%.

For construct validity, the items must have factor loading values greater than 0.5 (Hair *et al.*, 2010). Items with factor loadings less than 0.5 should be removed. The loadings in all the

subscales (factors) of perceived service quality were similarly satisfactory, above 0.5. All items had moderate to large standardized loadings, which means that they are reliable indicators of their corresponding dimensions. The only exception was the accessibility dimension, for which three items (Hospital has an accessible location to all patients; It is possible to contact a professional by phone when needed; Hospital has operating hours suitable to all patients) had a factor loading lower than 0.5. They were deleted. Table 4.4 represents all EFA results.

Table 4.4: The Factor Analysis of Perceived Service Quality

	Eigenvalue	Factor loading	Explained variance
Technical Quality of Care	11.485		39.605%
Doctors are very careful when examining and treating me		.857	
Doctors are clear when they explain how to prevent your disease		.875	
You are satisfied with Professional and scientific skillfulness of doctors		.874	
You are satisfied with the doctor's ability to treat your problems		.880	
Doctor's office has everything needed to provide complete medical care		.858	
You are satisfied with your doctor/nurses' explanation of any work they do		.861	
You are satisfied with measures taken to assure your confidentiality.		.818	
Patient-Provider Communication	3.692		12.73%
You are satisfied with the information provided by doctor/nurses		.891	
Doctors provided you with enough time to ask all the questions you had about your illness and treatments		.828	
You are satisfied with your participation in making the appropriate decision for your health condition		.828	
You are satisfied with the way health providers listened to you		.889	
Doctors treat you very friendly and in a courteous manner		.909	
The Doctors cares about you as a person.		.836	
Physical characteristics	2.638		9.096%
You are satisfied with the cleanness of the Waiting area.		.793	
You are satisfied with the cleanliness of the Examination/consultation room /OPD.		.773	
You are satisfied with the comfortability of chairs in the waiting area		.670	
You are satisfied with the cleanliness of toilets		.684	

You are satisfied with the general atmosphere and calm		.754	
Perceived Waiting Time	2.316		7.897%
You are satisfied with the waiting time to get outpatient services after registration		.947	
You are satisfied with the time spent to get services and get back (overall waiting time)		.949	
You are able to see the doctor at the appointed time		.936	
You are satisfied with the time given to you by the staff to listen to you and answer your questions		.815	
You are satisfied with the consultation duration		.880	
Perceived Cost	1.906		7.496%
You feel confident that You can get the medical care you need without being set back financially.		.975	
You are satisfied with the reasonableness of medical costs.		.980	
You are satisfied with the medical services provided by the hospital versus the paid money		.951	
Accessibility	1.809		6.238%
It's easy to make an appointment by phone		.912	
When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information		.931	
The kindness and professionalism of the receptionist		.910	
Perceived service quality			82.229%

N=521

As the results showed, the perceived service quality scale shown in Table 4.5 showed a good internal consistency ($\alpha=0.913$). Cronbach's alpha reliability coefficients are at an acceptable level and are between 0.792 and 0.982. High and significant alpha coefficients were shown for the dimensions perceived cost (0.982), technical quality of care (0.969), perceived waiting time (0.894), Patient-provider communication (0.965), and accessibility (0.968). The physical characteristics dimension has an acceptable alpha coefficient (0.792). The perceived service quality scale showed a Cronbach's alpha of 0.913. As shown in the literature, the results are considered acceptable and reliable from an alpha score of 0.7 (Gray, 2017). These Cronbach's alphas indicate that the dimensions used in the questionnaire measured the constructs satisfactorily.

Item analysis showed that if any item was to be deleted from the scale, the alpha turned to be slightly higher as compared to when all items were included; (0.984 vs 0.982 for the item “You are satisfied with measures taken to assure your confidentiality” of the dimension technical quality of care; 0.800 vs 0.792 for the item “You are satisfied with the cleanliness of toilets” of the dimension physical characteristics; 0.899 vs 0.894 for the item “You are satisfied with the time given to you by the staff to listen to you and answer your questions” of the dimension perceived waiting time); 0.991 vs 0.982 for the item “You are satisfied with the medical services provided by the hospital versus the paid money” of the dimension perceived cost. This means that all items were considered reliable and were thus retained. The corrected item-total correlation ranged from 0.489 to 0.980. All items met or exceeded the item-total correlation of 0.30 or higher, which means that all items measure the same underlying construct (Polit and Beck, 2011). The corrected item-to-scale correlations and Cronbach’s alpha if an item is deleted are presented in Table 4.5.

Table 4.5: Reliability Analysis of 29-items Perceived Service Quality Scale

Factors	Items in each factor	Corrected Item-Factor correlation	Alpha if item deleted
Technical Quality of Care ($\alpha=.982$)	Tec1-Doctors are very careful when examining and treating me	.944	.978
	Tec2-Doctors are clear when they explain how to prevent your disease	.931	.978
	Tec3-You are satisfied with Professional and scientific skillfulness of doctors	.939	.978
	Tec4-You are satisfied with the doctor’s ability to treat your problems	.968	.976
	Tec5-Doctor's office has everything needed to provide complete medical care	.933	.978
	Tec6-You are satisfied with your doctor/nurses’ explanation of any work they do	.955	.977
	Tec7-You are satisfied with measures taken to assure your confidentiality.	.846	.984
	Com1-You are satisfied with the information provided by doctor/nurses	.895	.957
	Com2-Doctors provided you with enough time to ask all the	.877	.959

Patient-Provider Communication ($\alpha=.965$)	questions you had about your illness and treatments		
	Com3-You are satisfied with your participation in making the appropriate decision for your health condition	.860	.961
	Com4-You are satisfied with the way health providers listened to you	.928	.953
	Com5-Doctors treat you very friendly and in a courteous manner	.914	.955
	Com6-Doctors care about you as a person.	.846	.962
Physical Characteristics ($\alpha=.792$)	Phy1-You are satisfied with the cleanness of the Waiting area.	.686	.733
	Phy2-You are satisfied with the cleanliness of the Examination/consultation room /OPD.	.674	.738
	Phy3-You are satisfied with the comfortability of chairs in the waiting area	.521	.771
	Phy4-You are satisfied with the cleanliness of toilets	.511	.800
	Phy5-You are satisfied with the general atmosphere and calm	.637	.733
Perceived Waiting Time ($\alpha=.894$)	wait1-You are satisfied with the waiting time to get outpatient services after registration	.841	.847
	wait2-You are satisfied with the time spent to get services and get back (overall waiting time)	.896	.833
	wait3-You can see the doctor at the appointed time	.891	.834
	wait4-You are satisfied with the time given to you by the staff to listen to you and answer your questions	.601	.899
	Wait5-You are satisfied with the consultation duration	.498	.890
Perceived Cost ($\alpha=.982$)	Pc1-You feel confident that You can get the medical care I need without being set back financially.	.966	.968
	Pc2-You are satisfied with the reasonableness of medical costs.	.980	.958

	Pc3-You are satisfied with the medical services provided by the hospital versus the paid money	.933	.991
Accessibility($\alpha=.968$)	Acc1-It's easy to make an appointment by phone	.920	.960
	Acc2-When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information	.950	.937
	Acc3-The kindness and professionalism of the receptionist	.922	.958
Perceived Service Quality ($\alpha=.913$)			

N=521; Bold if item deleted

- **Scale 2 Results-Patient Emotions Scale**

As shown in Table 4.6, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.839, and the Barlett's test of sphericity is statistically significant at Sig. <0.005, indicating the suitability of the sample for factor analysis (Tabachnick and Fidell, 2001).

Table 4.6: KMO and Bartlett's Test of Patient Emotions

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.839
Approx. Chi-Square	4653.422
Bartlett's Test of Sphericity	df
	28
	Sig.
	.000

N=521

As expected, when applying EFA with varimax rotation, the results showed that two subscales were extracted that explain 85.5% percent of the variance. Positive emotions were the subscale with the highest eigenvalue of 5.128 and the highest percentage of explained variance of 64.106% after rotation. The factor loading in this subscale ranged from 0.852 to 0.920 (Refer to Table 4.7). For construct validity, the items must have factor loading values

greater than 0.5 (Hair *et al.*, 2010). The factor loadings in both subscales were similarly satisfactory, higher than 0.5.

Table 4.7: The Factor analysis of Patient Emotions

Patient Emotions			
Items	Eigenvalue	Factor Loading	Explained Variance
Positive Emotions	5.128		64.106%
E1-You felt guided		.920	
E2-You felt reassured		.911	
E3-You felt happy		.937	
E4-You learned something new about my condition		.852	
Negative Emotions	1.712		21.394%
E5-You felt lost		.869	
E6-You felt nervous		.838	
E7-You felt embarrassed		.916	
E8-You felt you were wasting your time		.895	
			85.5%

N=521

The emotions scale showed good internal consistency (Cronbach's alpha 0.913). Item analysis showed that if any item was to be deleted from the scale, the alpha was slightly lower than when all items were included, meaning that all items were considered reliable and therefore retained.

The corrected item-total correlation ranged from 0.637 to 0.850. All items met or exceeded the item-total correlation of 0.30 or more, which demonstrates that the corresponding item correlates well with the overall scale (Polit and Beck, 2011). The corrected item-to-scale correlations and Cronbach's alpha if an item is deleted are presented in Table 4.8.

Table 4.8: Reliability Analysis of 8-items Patient Emotions' Scale

Patient Emotions		
Items	Corrected item-Total Correlation	Alpha if item deleted
Positive Emotions ($\alpha = .947$)		
E1-You felt guided	.802	.893
E2-You felt reassured	.850	.889
E3-You felt happy	.818	.892
E4-You learned something new about my condition	.711	.908
Negative Emotions ($\alpha = .927$)		
E5-You felt lost	.669	.907
E6-You felt nervous	.637	.907
E7-You felt embarrassed	.694	.905
E8-You felt you were wasting your time	.654	.907
Emotions Scale ($\alpha = .913$)		

N=521

- **Scale 3 Results- Patient Trust Measure**

As shown in Table 4.9, the Kaiser-Meyer-Olkin (KMO) of sampling adequacy is 0.947, and the Bartlett's test of sphericity was statistically significant at Sig. <0.05, indicating the suitability of the sample for factor analysis (Tabachnick and Fidell, 2001).

Table 4.9: KMO and Bartlett's Test of Patient Trust Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.947
Approx. Chi-Square		7062.214
Bartlett's Test of Sphericity	df	36
	Sig.	.000

N=521

Applying EFA with varimax rotation showed that the items of trust scale loaded onto one scale explaining 80.531% of the variance (Refer to Table 4.10).

Table 4.10: Total variance explained of Patient Trust scale

Factor	Extraction sums of squared loadings		
	Total –(Eigenvalue)	% Of Variance	Cumulative %
1	8.0531	80.532	8.0531

Table 4.11 presents the factor loading for the patient trust items. The factor loadings on this scale range from 0.581 to 0.929 (Higher than 0.5), and are therefore satisfactory. The only exception was the item “T7-Sometimes, you do not trust my health care provider’s opinion, and therefore you feel you need a second one” with a factor loading of 0.473.

For construct validity, items must have factor loading values above 0.5 (Hair *et al.*, 2010). Items with factor loadings less than 0.5 should be removed. The factor loading for item T7 is 0.473 below 0.5, so it should be deleted.

Table 4.11: The Factor Analysis of Patient Trust

Items	Extraction
T1-your health care provider is usually considerate of your needs and put them first	.581
T2-you can trust my health care providers’ decisions on which medical treatments are best for you	.840
T3-you have so much trust in your health care provider that you always try to follow his/her advice	.941
T4-your health care provider offers you the highest quality in medical care	.929
T5-Because your health care provider is an expert, he is able to treat medical problems like yours	.603
T6-you trust your health care provider so much that whatever he/she tells you it must be true”	.636
T8-You can trust your health care providers’ judgments concerning your medical care	.853
T9-Your health care provider will do whatever it takes to give you the medical care that you need	.935
T10-All things considered; you completely trust my health care provider	.929

N=521

The trust scale showed good internal consistency (Cronbach’s alpha 0.960). Item analysis showed that if any item is deleted, Cronbach’s alpha decreases, all are retained.

The corrected item-total correlation ranged from 0.640 to 0.941. All items met or exceeded the item-total correlation of 0.30 or more, which shows that the corresponding item correlates well with the overall scale (Polit and Beck, 2011). The corrected item-to-scale correlations and Cronbach’s alpha if an item is deleted are presented in Table 4.12.

Table 4. 12: Reliability Analysis of 10-Items Patient Trust Scale

Patient Trust		
Items	Corrected item-total Correlation	Alpha if item deleted
T1-Your health care provider is usually considerate of your needs and put them first	.724	.960
T2-You can trust my health care providers' decisions on which medical treatments are best for you	.880	.954
T3-You have so much trust in your health care provider that you always try to follow his/her advice	.941	.952
T4-Your health care provider offers you the highest quality in medical care	.933	.952
T5-Because your health care provider is an expert, he is able to treat medical problems like yours	.712	.962
T6-You trust your health care provider so much that whatever he/she tells you it must be true	.789	.957
T8-You can trust your health care providers' judgments concerning your medical care	.882	.954
T9-Your health care provider will do whatever it takes to give you the medical care that you need	.939	.952
T10-All things considered; you completely trust my health care provider	.939	.952
Trust Scale ($\alpha = .960$)		

Note: N=521

4.2.2 Discussion

The patient satisfaction questionnaire is an extended version, and it is specifically designed, to examine for the first time, the joint effect of perceived service quality, patient emotions, and patient trust on the overall patient satisfaction.

Patient Satisfaction is composed of three scales: perceived service quality consisting of six subscales (scale 1), patient emotions consisting of two subscales (scale 2), and patient trust scale (scale 3).

The construct validity of the three scales was examined using a sample of 521 outpatient with Exploratory Factor Analysis using Varimax rotation. The reliability of the scales was satisfactory, where Cronbach's alpha ranged from 0.913 (Scale 2) to 0.965 (Scale 3), while the alpha values of subscales were also satisfactory.

Exploratory Factor Analysis (EFA) for scale 1 showed that six subscales (Technical quality of care, patient-provider communication, physical characteristics, perceived waiting time, perceived cost, and accessibility) were extracted. EFA for scale 2 showed that two subscales (positive and negative emotions) were extracted. EFA for scale 3 showed one scale.

The strongest subscale for scale 1 was the technical quality of care. The factor loadings ranged from 0.818 to 0.880. The strongest subscale for scale 2 was positive emotions with loadings ranging from 0.852 to 0.937. As for scale 3, the loadings ranged from 0.712 to 0.941.

The patient satisfaction questionnaire developed in this research offers the opportunity to measure all the constructs affecting patient satisfaction taking into consideration all aspects of all probable environments in which the instrument could be assessed. Thus, the patient satisfaction questionnaire in this research is valid and reliable to evaluate patient perceptions of various perceived service quality dimensions, patient emotions, and the level of trust, which can affect their level of satisfaction to the hospital. Knowing that patient satisfaction is culture-specific, and the dimensions that influence patient satisfaction are context-specific, a great and urgent need for systematically empirical data collected with valid reliable instruments is evident. The instrument was currently tested and validated in a sample of Lebanese outpatients. It would be interesting to cross-validate this instrument in other contexts and cultures.

In conclusion, the above scales are valid and reliable. Thus, the patient satisfaction instrument is valid and reliable, which can be used in studies to test the role of the above-mentioned scales, namely perceived service quality dimensions including, technical quality of care, patient-provider communication, perceived waiting time, perceived cost, accessibility, and physical characteristics; patient emotions and patient trust on outpatient satisfaction.

4.3 Descriptive Statistics

As already mentioned in the previous sections, the final sample included 521 Lebanese outpatients. First, the factor scores of each scale and subscale were created by taking the mean of items in each scale and subscale. Based on the scale coding, the minimum value for all scales was 1, and the maximum was 5. Then, descriptive statistics were created, including

the mean and standard deviation of each of the three scales. The mean and the standard deviation of the corresponding subscales were also presented. The results on descriptive statistics of the three scales and their corresponding subscales are presented in Table 4.13.

Table 4.13: Mean and SD of the Three Scales and Corresponding Subscales

	Number of items	Mean	SD
Scale 1-Perceived Service Quality	29	4.48	.414
Technical quality of care	7	4.84	.446
Patient-provider communication	6	4.65	.505
Perceived waiting time	5	4.19	.654
Perceived cost	3	3.88	1.045
Physical characteristics	5	4.41	.599
Accessibility	3	4.73	.431
Scale 2-Patient emotions	8	4.83	.416
Positive emotions	4	4.73	.611
Negative emotions	4	4.92	.424
Scale 3-Patient trust	9	4.64	.557

SD Standard deviation

4.3.1 Descriptive Statistics for Scale 1-Perceived Service Quality

A total of 29 items were used to measure the level of satisfaction with the quality dimensions (Table 4.13). As mentioned above, these items were grouped into six dimensions: technical quality of care, patient-provider communication, perceived waiting time, perceived cost, accessibility, and physical characteristics. The scores for each dimension were determined by the means of the items that compose it. The mean values were taken and not the sum because the dimensions have a different number of items. The scale score is also calculated by the mean of item scores. Therefore, the scale score will range between 1 and 5. Table 4.14 presents the mean score and standard deviation in six dimensions of patient satisfaction. For mean rating, this format was used as it is recommended for healthcare surveys; Strongly disagree (SD) = 1.0-1.49, Disagree (D) = 1.50-2.49, Neutral (N) = 2.50-3.49, Agree (A) = 3.50-4.49, Strongly Agree (SA) = 4.50-5.0.

The primary analysis showed that the scale mean for perceived service quality is 4.48 (SD=0.601). The highest level of satisfaction was observed in the dimension of the technical quality of care (Mean value=4.84). This dimension includes the professionalism of medical professionals in providing complete medical care and sufficient clinical information related to patients' conditions, followed by the accessibility dimension with a mean of 4.73. This dimension relates to the ease of getting an appointment and the assistance of the staff.

Patient-provider communication resulted in a mean value of 4.65. This dimension implies demeanor, honesty, truthfulness, courtesy, respectfulness, and sympathy of doctors, followed by the physical characteristics dimension. The mean value of the physical characteristics factor is 4.43. This dimension is related to hygiene, noise, and comfort.

The lowest level of patient satisfaction was observed in the dimensions perceived cost and perceived waiting time with a mean value of 3.88 and 4.19, respectively. The perceived cost dimension is related to the consultation fee, the service rendered, and the cost versus service rendered; and perceived waiting time relates to the amount of time spent to get the service and the amount of time given for consultation and responding to questions.

Based on the above, the researcher can conclude that patients have similar concerns on all the perceived service quality dimensions except perceived cost and perceived waiting time. Therefore, the quality of service must be consistent and professional to ensure the customer's expense is worth it and that the required service is received within the accepted time frame.

Table 4.14: Descriptive Statistics of Perceived Service Quality Items

	Mean	SD	Rating
Technical Quality of Care	4.84	.446	SA
Tec1-Doctors are very careful when examining and treating me	4.84	.452	SA
Tec2-Doctors are clear when they explain how to prevent your disease	4.84	.479	SA
Tec3-You are satisfied with Professional and scientific skillfulness of doctors	4.84	.477	SA
Tec4-You are satisfied with the doctor's ability to treat your problems	4.85	.454	SA
Tec5-Doctor's office has everything needed to provide complete medical care	4.84	.475	SA
Tec6-You are satisfied with your doctor/nurses' explanation of any work they do	4.84	.459	SA
Tec7-You are satisfied with measures taken to assure your confidentiality.	4.83	.488	SA
Patient-Provider Communication	4.65	.505	SA
Com1-You are satisfied with the information provided by doctor/nurses	4.64	.537	SA
Com2-Doctors provided you with enough time to ask all the questions you had about your illness and treatments	4.67	.545	SA
Com3-You are satisfied with your participation in making the appropriate decision for your health condition	4.65	.566	SA
Com4-You are satisfied with the way health providers listened to you	4.65	.549	SA

Com5-Doctors treat you very friendly and in a courteous manner	4.66	.527	SA
Com6-Doctors care about you as a person.	4.65	.563	SA
Physical characteristics	4.41	.599	A
Phy1-You are satisfied with the cleanness of the Waiting area.	4.63	0.61	SA
Phy2-You are satisfied with the cleanliness of the Examination/consultation room /OPD.	4.66	0.59	SA
Phy3-You are satisfied with the comfortability of chairs in the waiting area	4.41	.873	A
Phy4-You are satisfied with the cleanliness of toilets	3.91	1.096	A
Phy5-You are satisfied with the general atmosphere and calm	4.46	.776	A
Perceived Waiting Time	4.19	.654	A
Wait1-You are satisfied with the waiting time to get outpatient services after registration	4.03	.950	A
Wait2-You are satisfied with the time spent to get services and get back (overall waiting time)	4.00	.984	A
Wait3-You can see the doctor at the appointed time	4.00	.985	A
Wait4-You are satisfied with the time given to you by the staff to listen to you and answer your questions	4.50	.734	SA
Wait5-You are satisfied with the consultation duration	4.59	.691	SA
Perceived Cost	3.88	1.045	A
Pc1-You feel confident that You can get the medical care I need without being set back financially.	3.88	1.068	A
Pc2-You are satisfied with the reasonableness of medical costs.	3.87	1.076	A
Pc3-You are satisfied with the medical services provided by the hospital versus the paid money	3.90	1.049	A
Accessibility	4.73	.431	SA
Acc1-It's easy to make an appointment by phone	4.74	.600	SA
Acc2-When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information	4.73	.637	SA
Acc3-The kindness and professionalism of the receptionist	4.74	.625	SA
Perceived service quality	4.45	.409	A

N=521; SA Strongly agree and A, agree

4.3.1.1 The Individual Items

The individual items were examined with concerning their frequency and distribution. Table 4.15 summarizes the satisfaction level of the participants according to each item of the perceived service quality.

Overall, the majority of patients agreed with all statements about the technical quality of care dimension. In general, they agreed that doctors are very careful when examining and

treating them (97.5%); they have clearly explained to them how to prevent their disease (97.1%); that they are very professional and scientifically competent (96.9 %); who can treat their problems (97.3%); have everything they need to provide complete medical care (96.7%); explain to them of any work they do (97.3%); take all measures to assure their confidentiality (97.3%). This means that patients are very satisfied with the professionalism of healthcare professionals in providing complete medical care, and providing sufficient clinical information on the patients 'conditions.

Regarding the items of patient-provider communication, the majority of patients overall agreed that; the doctors/nurses provided them with enough information (98.7%); gave them enough time to ask all the questions about their disease and treatment (97.7%); allowed their participation to make the appropriate decision for their health condition (96.9%); they listened to them (97.9%); they treat them with great kindness and courtesy (98.4%); they take care of them as people (97.5%). This means that most patients are very satisfied with the way doctors treat and care for them.

In addition, in terms of accessibility, a high proportion of patients (95.8%) stated that; it is easy to make an appointment by phone, 96.2% are satisfied with the attention of the staff and are provided with sufficient and accurate information; 96.1% are satisfied with the kindness and professionalism of the receptionists. This means that most patients are very satisfied with the accessibility of the healthcare center.

Regarding the physical characteristics domain; 94.2% of the patients were very satisfied with the cleanliness of the waiting area, 95% with the cleanliness of the examination/consultation room, 87% with the comfortability of chairs in the waiting area, and 89.1% of patients rated the general atmosphere and calm as very good. Approximately 40% of patients disagreed with the level of cleanliness of toilets. From this result, it can be seen that the cleanliness of toilets is unsanitary. The reason for the poor hygiene of toilets in the outpatient department was the fact that all patients and their families use multi-specialty clinics having a bathroom for each gender.

In the domain of time spent with doctors, the majority of patients (95.2%) affirm that their doctors spend plenty of time with them (consultation duration) and that the staff gives them enough time to answer their questions (93.9%). About 76% of patients said they can see their doctors at the appointment time. Almost three-quarters of the patients overall agreed with

the waiting time to get service, while the majority of the patients are satisfied with the amount of time given for consultation and questions. This means that patients are very satisfied that their doctors spend a lot of time with them, but are considerate of the waiting time for the service.

In the domain of financial considerations, about 27% disagreed with the statement they could obtain get the medical services they needed without financial setbacks, 28% disagreed that medical costs were reasonable, and 25% disagreed that medical costs versus the service provided are acceptable. When compared to the patients' overall perception of the other dimensions, where they strongly agree with the majority of items, this means that patients are considering cost versus performance.



Table 4.15: Satisfaction Level of the Participants by Each Item of Perceived Service Quality

Items	Strongly Disagree		Disagree		Neither agree nor disagree		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
Technical Quality of Care										
Tec1-Doctors are very careful when examining and treating me			3	.6	10	1.9	52	10	456	87.5
Tec2-Doctors are clear when they explain how to prevent your disease	1	.2	3	.6	10	1.9	49	9.4	458	87.9
Tec3-You are satisfied with Professional and scientific skillfulness of doctors	-	-	4	.8	12	2.3	48	9.2	457	87.7
Tec4-You are satisfied with the doctor's ability to treat your problems	-	-	3	.6	11	2.1	48	9.2	459	88.1
Tec5-Doctor's office has everything needed to provide complete medical care	-	-	3	.6	14	2.7	48	9.2	456	87.5
Tec6-You are satisfied with your doctor/nurses' explanation of any work they do	-	-	3	.6	11	2.1	52	10	455	87.3
Tec7-You are satisfied with measures taken to assure your confidentiality.	1	.2	3	.6	10	1.9	56	10.7	451	86.6
Patient-Provider Communication										
Com1-You are satisfied with the information provided by doctor/nurses	-	-	3	.6	6	1.2	167	32.1	345	66.6
Com2-Doctors provided you with enough time to ask all the questions you had about your illness and treatments	-	-	4	.8	8	1.5	142	27.3	367	70.4
Com3-You are satisfied with your participation in making the appropriate decision for your health condition	-	-	4	.8	12	2.3	147	28.2	358	68.7
Com4-You are satisfied with the way health providers listened to you	-	-	4	.8	7	1.3	157	30.1	353	67.8
Com5-Doctors treat you very friendly and in a courteous manner	-	-	3	.6	5	1	157	30.1	356	68.3
Com6-Doctors cares about you as a person.	-	-	5	1	8	1.5	153	29.4	355	68.1
Perceived Waiting Time										
Wait1-You are satisfied with the waiting time to get outpatient services after registration	13	2.5	22	4.2	82	15.7	221	42.4	183	35.1
Wait2-You are satisfied with the time spent to get services and get back (overall waiting time)	16	3.1	25	4.8	81	15.5	220	42.2	179	34.4

Wait3-You can see the doctor at the appointed time	15	2.9	27	5.2	81	15.5	217	41.7	181	34.7
Wait4-You are satisfied with the time given to you by the staff to listen to you and answer your questions	5	1	9	1.7	18	3.5	176	33.8	313	60.1
Wait5-You are satisfied with the consultation duration	4	.8	8	1.5	13	2.5	149	28.6	347	66.6
Perceived Cost										
Pc1-You feel confident that You can get the medical care I need without being set back financially.	8	1.5	76	14.6	56	10.7	212	40.7	169	32.4
Pc2-You are satisfied with the reasonableness of medical costs.	9	1.7	76	14.6	57	10.9	210	40.3	169	32.4
Pc3-You are satisfied with the medical services provided by the hospital versus the paid money	10	1.9	66	12.7	56	10.7	222	42.6	167	32.1
Accessibility										
Acc1-It's easy to make an appointment by phone	3	.6	3	.6	16	3.1	84	16.1	415	79.7
Acc2-When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information	6	1.2	2	.4	12	2.3	87	16.7	414	79.5
Acc3-The kindness and professionalism of the receptionist	5	1	3	.6	12	2.3	84	16.1	417	80.0
Physical Characteristics										
Phy1-You are satisfied with the cleanness of the Waiting area.	-	-	3	.6	27	5.2	131	25.1	360	69.1
Phy2-You are satisfied with the cleanliness of the Examination/consultation room /OPD.	-	-	3	.6	23	4.4	123	23.6	372	71.4
Phy3-You are satisfied with the comfortability of chairs in the waiting area	7	1.3	16	3.1	45	8.6	141	27.1	312	59.9
Phy4-You are satisfied with the cleanliness of toilets	18	3.5	21	4	168	32.2	99	19	215	41.3
Phy5-You are satisfied with the general atmosphere and calm	5	1	5	1	47	9	151	29	313	60.1

In the domain of overall satisfaction, 95.7% of the patients surveyed stated that were satisfied (68.1%) or very satisfied (27.6%) with the services of the outpatient departments of private hospitals (see Table 4.16). The mean value for general satisfaction is 4.23, which means that patients are overall satisfied.

Table 4.16: Patient Satisfaction with General Satisfaction

Variable	Strongly dissatisfied		Dissatisfied		Neither satisfied nor dissatisfied		Satisfied		Very satisfied		Mean	SD	Rating
	F	%	F	%	F	%	F	%	F	%			
Overall Satisfaction	1	.2	2	.4	19	3.6	355	68.1	144	27.6	4.23	.543	Satisfied



4.3.2 Descriptive Statistics for Scale 2- Patient Emotions

The factor scores of patient emotions were determined by the means of the items that compose the scale. The scale score was calculated by the mean of item scores. Therefore, the scale score will range between 1 and 5. For mean rating, this format has been as recommended for healthcare surveys, Not at all (NA) =1.0-1.49, Not Really (NR) = 1.50-2.49, Neutral (N) = 2.50-3.49, Somewhat (SW) = 3.50-4.49, Very much (VM) = 4.50-5.0.

The primary analysis showed that the scale means for patients' emotions is 4.83 (SD=0.416). The mean value of positive emotions is 4.73 (SD=0.611), and the mean value of negative emotions is 4.92 (SD=0.424). Negative emotions showed a higher mean value because the items are reversely coded (5 not at all to 1 very much). The four items that represent positive emotions have a mean value between 4.68 and 4.75.

Table 4.17 summarizes the items that measure the patients' emotions scale; 95.4% of the surveyed patients felt being very much (80.4%) or somewhat (15%) guided, 95.4% being very much (81%) or somewhat (14.4%) reassured and happy, and 92.9% said that they have learned something new about their conditions. Also, 96.5% of patients said they did not feel lost at all; 95.2% did not feel nervous at all; 96.5% did not feel embarrassed at all, and; 96.2% did not feel at all wasting their time. The overall mean for positive emotions is 4.73, which means that patients feel very positive when receiving services; the overall mean for negative emotions is 4.92, which means that patients do not feel negative at all.

Table 4.17: Descriptive Statistics of the Patient Emotions Scale

Items	Not at all		Not really		Neutral		Somewhat		Very much		Mean	SD	Rating
	F	%	F	%	F	%	F	%	F	%			
E1-You felt guided	1.0	.2	4	.8	19	3.6	78	15	419	80.4	4.75	.576	VM
E2-You felt reassured	-	-	5	1.0	19	3.6	75	14.4	422	81	4.75	.563	VM
E3-You felt happy	1.0	.2	5	1.0	18	3.5	75	14.4	422	81	4.75	.581	VM
E4-You learned something new about your condition	6	1.2	7	1.3	24	4.6	72	13.8	412	79.1	4.68	.727	VM
Positive Emotions											4.73	.611	VM
E5-You felt lost	503	96.5	5	1.0	9	1.7	4	.8	-	-	4.93	.379	NA
E6-You felt nervous	496	95.2	7	1.3	10	1.9	7	1.3	1.0	.2	4.90	.482	NA
E7-You felt embarrassed	503	96.5	5	1.0	7	1.3	6	1.2	-	-	4.93	.403	NA
E8-You felt you were wasting your time	501	96.2	6	1.2	6	1.2	8	1.5	-	-	4.92	.435	NA
Negative Emotions											4.92	.424	NA
PATIENT EMOTIONS											4.83	.416	

N=521, F Frequency; % percentage; VM Very Much; NA Not at all

4.3.3 Descriptive Statistics for Scale 3- Patient Trust

The factor score of the patient trust scale was determined by the means of the items that compose the scale. Therefore, the scale score will range between 1 and 5. This format was used for mean rating, as recommended for healthcare surveys; Strongly Disagree (SD) = 1.0-1.49, Disagree (D) = 1.50-2.49, Neutral (N) = 2.50-3.49, Agree (A) = 3.50-4.49, Strongly Agree (SA) = 4.50-5.0.

The patients' mean score for the trust scale is 4.64 (SD=0.557). The mean for the items that constitute the trust scale range between 4.57 and 4.69. Table 4.18 summarizes the results of the patient trust items. In general, patients strongly agreed with most of the statements. Of these statements, which were generally strongly overall agreed by most patients; "Your health care provider is usually considerate of your needs and put them first" (92.5%), "You can trust your health care providers' decisions on which medical treatments are best for you" (95.4%), "You have so much trust in your health care provider that you always try to follow his/her advice"(95.8%), "Your health care provider offers you the highest quality in medical care" (96%), "Because your health care provider is an expert, he is able to treat medical problems like yours" (93.3%), "You trust your health care provider so much that whatever he/she tells you it must be true" (95.2%), "You can trust your health care providers' judgments concerning your medical care" (95.4%), "Your health care provider will do whatever it takes to give you the medical care that you need" (95.6%), and "All things considered, you completely trust your health care provider" (95.5%). The overall mean of the patient trust scale is 4.54, which means that most patients have a high level of trust in their doctors.

Table 4.18: Descriptive statistics of Patient Trust Scale

Items	Strongly Disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree		Mean	SD	Rating
	F	%	F	%	F	%	F	%	F	%			
T1-your health care provider is usually considerate of your needs and put them first	2	4	6	1.2	31	6	131	25.1	351	67.4	4.58	.692	SA
T2-you can trust your health care providers' decisions on which medical treatments are best for you	2	4	5	1	17	3.3	122	23.4	375	72	4.66	.629	SA
T3-you have so much trust in your health care provider that you always try to follow his/her advice	-	-	5	1	17	3.3	117	22.5	382	73.3	4.68	.584	SA
T4-your health care provider offers you the highest quality in medical care	-	-	5	1	16	3.1	116	22.3	384	73.7	4.69	.578	SA
T5-Because your health care provider is an expert, he is able to treat medical problems like yours	8	1.5	6	1.2	21	4	113	21.7	373	71.6	4.61	.757	SA
T6-you trust your health care provider so much that whatever he/she tells you it must be true	3	.6	4	.8	18	3.5	111	21.3	385	73.9	4.67	.637	SA
T7-you can trust your health care providers' judgments concerning your medical care	2	.4	6	1.2	16	3.1	116	22.3	381	73.1	4.67	.632	SA
T8-your health care provider will do whatever it takes to give you the medical care that you need	-	-	5	1	18	3.5	114	21.9	384	73.7	4.68	.586	SA

T9-All things considered; you completely trust my health care provider	-	-	5	1	18	3.5	118	22.6	380	72.9	4.68	.589	SA
PATIENT TRUST											4.64	.557	SA

N=521



4.4 Research Model and Hypotheses Results

The next section focuses on testing the hypotheses developed through the literature. In particular, this chapter seeks to test the hypothesis to validate the conceptual model of the research:

To test hypotheses H1 to H5, the researcher uses Spearman's correlation test and multiple linear regression. To test hypothesis **H6**, the researcher uses the Chi-Square test.

To test the hypotheses of **H1** (SH1-1, SH1-2, SH1-3, SH1-4, SH1-5, SH1-6), **H2** (SH2-1, SH2-2, SH2-3, SH2-4, SH2-5, SH2-6), and **H3** (SH3-1, SH3-2, SH3-3, SH3-4, SH3-5, SH3-6), the researcher used Spearman correlation test and multiple linear regression. For hypotheses **H4** and **H5**, Spearman's correlation was employed.

4.4.1 Hypothesis 1: The Impact of Perceived Quality dimensions on Patient Satisfaction

In this section, the researcher tests the impact of perceived quality dimensions on patient satisfaction (H1). This is to achieve Research objective one (RO1); to identify and examine service quality dimensions that influence hospital outpatient satisfaction. The analysis is based on a multiple linear regression with the dependent variable "overall satisfaction" against the six extracted dimensions of perceived service quality "technical quality of care, patient-provider communication, perceived waiting time, perceived cost, accessibility, and physical characteristics". In this way, the researcher can identify the relative importance of perceived service quality dimensions to explain the variation in the level of patient satisfaction. Then, stepwise regression analysis attempts to find the best regression model that fits the dependent variable.

The form of analysis was:

Overall patient satisfaction = $B_0 + B_1$ (technical quality of care) + B_2 (patient-provider communication) + B_3 (perceived waiting time) + B_4 (perceived cost) + B_5 (accessibility) + B_6 (physical characteristics)

Before multiple linear regression, the associations between the independent variables and between the dependent variables were verified by correlation analysis. These steps are necessary to check for multicollinearity problems and test the relationship between the dependent and the independent variables.

Step1-Correlation Analysis between Independent Variables-Service Quality Factors

Table 4.19 shows the correlation analysis between the independent variables, service quality dimensions; technical quality of care, patient-provider communication, perceived waiting time, perceived cost, accessibility, and physical characteristics. The results showed that all the correlations are significant (less than 0.05). According to the recommendations of the tolerance statistics, the correlation matrix, which describes the relationship between all independent variables, should not have a correlation exceeding 0.8, which is the case here. Therefore, there are no multicollinearity problems in the proposed model.

Table 4.19: Correlation between Independent Variables

	F1	F2	F3	F4	F5	F6
F1-Technical quality of care	1					
F2-Patient-provider communication	.719**	-				
F3-Perceived waiting time	.374**	.368**	-			
F4-Perceived cost	.168**	.149**	.542**	-		
F5-Accessibility	.457**	.433**	.209**	.091*	-	
F6-Physical characteristics	.387**	.387**	.316**	.102**	.300**	-

Note: N=521 ** Significant at the 0.01 level (2-tailed)

Step 2-Correlation Analysis between Overall Patient Satisfaction and each Service Quality Dimensions

Table 4.20 describes the correlation between perceived service quality dimensions and patient satisfaction. To analyze the results, if the level of significance (*Sig.*) is less than 0.05, means that there is a significant relationship between perceived service quality dimensions and patient satisfaction. Based on the results, the significance is .000, which confirms the significant positive relationship between patient satisfaction and the perceived service quality dimensions. To understand the strength of the relationship, the correlation is analyzed. The correlation analysis shows a significant positive correlation between overall satisfaction and the six dimensions at the level of 0.01 with the highest correlations with perceived cost (0.519) and perceived waiting time (0.484). Therefore, all the dimensions were included in the regression analysis.

Table 4.20: Correlation between Perceived Service Quality Dimensions and Patient Satisfaction

		Physical Characteristics	Technical Quality of Care	Patient-Provider Communication	Accessibility	Perceived Cost	Perceived Waiting Time	Perceived Service Quality
Patient Satisfaction	Spearman Correlation	.321**	.285**	.301**	.265**	.519**	.484**	.569**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N (521)							
	Strength	Moderate	Moderate	Moderate	Weak	Moderate	Moderate	Moderate

** Significant at the 0.01 level (2-tailed)

Multiple Linear Regression Predicting Overall Patient Satisfaction from Perceived Service Quality Dimensions

In this section, MLR is used to examine the impact of service quality dimensions on patient satisfaction. It is a statistical method used to analyze the impact of satisfaction dimensions such as technical quality of care, patient-provider communication, perceived cost, perceived waiting time, accessibility, and physical characteristics on patient satisfaction.

The previous correlation analysis of overall patient satisfaction and the six perceived service quality dimensions showed significant positive correlations at the significance level of 0.01. Further regression analysis is then supported to examine the possible significant contributions of the associated dimensions of perceived service quality to overall patient satisfaction.

According to the multiple regression summary in Table 4.21, the multiple correlation coefficient R has a value of 0.596 and positive, which means that there is a positive linear relationship between perceived service quality dimensions and patient satisfaction.

The R-square value (coefficient of determination) $R^2 = 0.355$, which means that approximately 35.5% of the variance in the general patient satisfaction is explained by the six dimensions of the scale. This result suggests that there are many other dimensions besides service quality dimensions, which are likely to influence patient satisfaction with medical services.

Table 4.21: Model Summary

Model	R	R^2	Adjusted R^2	Std. error of the Estimate
1	.596	.355	.347	.439

R² R-Square

Analysis of Variance (ANOVA) was used to test whether there was a significant linear relationship between the service quality dimensions and overall patient satisfaction. According to Table 4.22, the Sig. value is .000, which indicated that the dimensions overall have a significant influence on patient satisfaction.

Table 4.22: ANOVA Results

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	54.357	6	9.059	47.075	.000
Residuals	98.918	514	.192	-	-
Total	153.274	520	-	-	-

For the relationship between overall satisfaction and the six dimensions of satisfaction, a coefficient table is another important way for examination. Based on the column of significance in Table 4.23, only five of six dimensions (technical quality of care, perceived waiting time, perceived cost, accessibility, and physical characteristics) show a positive and significant relationship with patient satisfaction and added statistically significantly to the model Sig. < 0.05. This means that most of the service quality dimensions have a significant relationship with patient satisfaction.

The results also showed that perceived cost was the largest contributor to patient satisfaction as illustrated by the standardized beta coefficients of 0.296. Thus, the hypothesis (SH1-5), that “the perceived cost dimension has a significant positive impact on patient satisfaction”, is accepted. Perceived waiting time receives the next contribution to patient satisfaction, as illustrated by beta coefficients of 0.215. Thus, the hypothesis (SH1-4), “the perceived waiting time dimension has a significant positive impact on patient satisfaction”, is accepted. Technical quality of care received the third contribution with the coefficients of 0.203; thus, the hypothesis (SH1-1), “the technical quality of care dimension has a significant positive impact on patient satisfaction”, is accepted. The dimension physical characteristics ranked fourth after the technical quality of care, with a coefficient of 0.159. Thus, the hypothesis (SH1-5), “the physical characteristics dimension has a significant positive impact on patient satisfaction”, is accepted. The accessibility dimension received the lowest contribution with a coefficient of 0.093; Thus, the hypothesis (SH1-6), “the accessibility dimension has a significant positive impact on patient satisfaction”, is accepted. Furthermore, the positive signs of the five estimates show that the higher the perceived service quality dimensions, the higher the level of patient satisfaction.

Patient-provider communication, a key construct identified in previous patient satisfaction research, is found to have no relationship with patient satisfaction. This is an interesting and unexpected finding from this study. Thus, the hypothesis (SH1-2); “the patient-provider communication dimension has a significant positive impact on patient satisfaction”, is rejected.

As the most affected dimension on overall satisfaction is the perceived cost (0.296). Therefore, private hospitals should focus on the 3-items of the perceived cost dimension represented in Table 4.14 for a better quality of hospital care.

In summary, it can be said that the first hypothesis (H1), “perceived service quality has a significant positive impact on patient satisfaction”, was accepted. In particular, the five dimensions of perceived service quality: technical quality of care (SH1-1), physical characteristics (SH1-3), perceived waiting time (SH1-4), perceived cost (SH1-5), and accessibility (SH1-6) are strong predictors of patient satisfaction.

Table 4.23: Regression Model of Perceived Service Quality on Patient Satisfaction

	Model	B	Bs	Sig.
SH1-1	F1-Technical Quality of Care	.247	.203	.000
SH1-2	F2-Patient-provider Communication	-.136	-.108	.113
SH1-3	F6-Physical Characteristics	.029	.159	.000
SH1-4	F3-Perceived Waiting Time	.178	.215	.000
SH1-5	F4-Perceived Cost	.154	.296	.000
SH1-6	F5-Accessibility	.084	.093	.021
	Constant	1.306		.000

N=521; B: Unstandardized coefficient, β s: Standardized coefficient, Sig. Significance

To formulate the multiple linear regression equation, the unstandardized B coefficient values are used. Therefore, the equation has the form:

Overall patient satisfaction= B0 + B1 (technical quality of care) + B2 (patient-provider communication) + B3 (perceived waiting time) + B4 (perceived cost) + B5 (accessibility) + B6 (physical characteristics)

Therefore, the multiple regression equation of this study is:

Patient Satisfaction=1.306 + 0.247 (technical quality of care) + 0.178 (perceived waiting time) + 0.154 (perceived cost) - 0.136 patient-provider communication + 0.084 (accessibility) + 0.029 (physical characteristics)

When the technical quality of care increases by 1, patient satisfaction increases by 0.247, given that other variables remain constant i.e., patients who are satisfied with the technical quality of care have a high level of satisfaction. When the perceived waiting time increased by 1, patient satisfaction increased by 0.178, given that other variables remain constant, i.e.,

Patients who perceived waiting time as satisfactory, have a high level of satisfaction. when perceived cost increases by 1, patient satisfaction increases by 0.154, given that other variables remain constant; i.e., patients who perceive medical costs as satisfactory, have a high level of satisfaction. When accessibility increases by 1, patient satisfaction increases by 0.084, given that all variables remain constant; i.e., patients who have accessibility to the outpatient department, have a high level of satisfaction. When physical characteristics increase by 1, patient satisfaction increases by 0.029, given that other variables remain constant; i.e., patients who are satisfied with the physical characteristics of the outpatient department, have a high level of satisfaction.

A stepwise regression analysis was performed to find the best regression model that fits the dependent variable. The results of the stepwise regression analysis in Table 4.24 confirm that the service quality dimensions that influence overall satisfaction are perceived cost, perceived waiting time, technical quality of care, physical characteristics, and accessibility, in that order of importance. The patient-provider communication was excluded, as it did not have a significant effect on overall patient satisfaction. The model has an adjusted R-square equal to 35.1%, which means that the service quality dimensions, except patient-provider communication, explain 35.1% of the variation in the dependent variable (overall satisfaction).

Table 4.24: Stepwise Regression Model for Service Quality dimensions with Overall Satisfaction								
Model		B	β_s	Sig.	R-square	Adj-R square	R-Square Change	Sig. F Change
1	Constant	2.552		.000				
	Perceived Waiting Time	.399	.481	.000	.231	.230	.231	.000
2	Constant	2.515		.000				
	Perceived Waiting Time	.273	.329	.000				
	Perceived Cost	.145	.280	.000	.287	.284	.055	.000
3	Constant	1.898		.000				
	Perceived Waiting Time	.208	.251	.000				
	Perceived Cost	.156	.301	.000	.327	.323	.040	.000
	Physical Characteristics	.192	.212	.000				
4	Constant	1.327		.000				
	Perceived Waiting Time	.173	.209	.000				
	Perceived Cost	.156	.300	.000				
	Physical Characteristics	.151	.166	.000	.345	.340	.018	.000
	Technical Quality of Care	.187	.154	.000				
5	Constant	1.210		.000				
	Perceived Cost	.156	.301	.000				
	Perceived Waiting Time	.172	.207	.000				
	Technical Quality of Care	.139	.154	.000	.351	.345	.060	.029
	Physical Characteristics	.144	.119	.006				
	Accessibility	.080	.088	.029				

Note: N=521 B Standardized coefficient, β_s standardized coefficients, Adj-R square Adjusted-R square

As a result, when addressing research objective 1, “To identify and examine the service quality dimensions that influence hospital outpatient satisfaction”, the researcher found that the following service quality dimensions influence outpatient satisfaction; perceived cost, perceived waiting time, technical quality of care, physical characteristics, and accessibility.

After presenting the findings of Hypothesis 1, the result’s discussion follows.

4.4.1.1 Discussion of the Main Findings-Perceived Service Quality

In this section, the researcher revisits the perceived service quality dimensions identified in the literature and identifies their relative strength in influencing patient satisfaction. This section focuses on Objective 1 (RO1) to identify and examine the service quality dimensions that influence hospital outpatient satisfaction.

In testing hypothesis 1, the results of the multiple linear regression showed that the value of R^2 is 0.355. According to Cohen’s recommendation, R^2 values greater than 0.25 have relatively good predictive power. Therefore, the proposed model has a relatively good predictive power. In addition, the variance in overall satisfaction, which is explained by the dimensions of perceived quality of service, indicates that the questionnaire is sufficiently valid to record the patient's perception of outpatient services (Danielsen *et al.*, 2010). Thus, the hypothetical model used to explain the relationship between perceived service quality and patient satisfaction was effective.

This study examined the impact of perceived service quality dimensions (technical quality of care, patient-provider communication, perceived cost, perceived waiting time, accessibility, and physical characteristics) on patient satisfaction. The R^2 value is 0.355, which means that the model explains 35.5% of the variance. This suggests that other important dimensions influence patient satisfaction in addition to the factors used in this study.

The present study showed that the perceived cost dimension had the greatest contribution to patient satisfaction as illustrated by the standardized beta coefficients $\beta_s = 0.296$ at the level of 0.01. This is in line with previous studies, that cited health service costs as one of the most important predictors of patient satisfaction (Duggirala *et al.*, 2008; Ali *et al.*, 2015; Pouragha and Zarei, 2016; Lee *et al.*, 2018; Salehi *et al.*, 2018; Umoke *et al.*, 2020). In Tehran, a study by Arab *et al.* (2012) demonstrated

that costs are an important and determining factor for patient satisfaction. More specifically, the reasonableness of service costs has been reported to be the second determinant of patient satisfaction in South Korea (Jung *et al.*, 2009). It has been suggested that patients will be satisfied if they perceive the costs as reasonable versus the services in exchange (Pouragha and Zarei, 2016). Moreover, a study by Geberu *et al.* (2019) showed that patients who are satisfied with the costs of services were 2.46 times more satisfied than those who were dissatisfied with the costs of services. The results validate the findings of the present study.

Perceived waiting time was the second determinant of patient satisfaction in this study, as illustrated by the standardized beta coefficients $\beta_s = 0.215$ at the level of 0.01, which is consistent with previous research. Waiting time was found to be significantly related to patient satisfaction in both Egypt and Saudi Arabia (Gadallah *et al.*, 2003; Mohamed *et al.*, 2015). Similarly, Hemadeh *et al.* (2019) showed that waiting times are a strong predictor of patient satisfaction with primary healthcare facilities in Lebanon. Findings from a study in outpatient clinics in Canada indicate the lowest positive perception of patients regarding perceiving timely services (Roberge *et al.*, 2013). According to Choi *et al.* (2005), professional, timely, and well-deserved services are what patients expect from hospitals. Thus, hospitals must implement quality improvement measures by establishing an optimized appointment system, so that waiting times in clinics are reduced to the lowest possible level (Zarei, 2015).

Technical quality of care was the third important dimension for patient satisfaction in this study, as illustrated by the standardized beta coefficients $\beta_s = 0.203$ at the level of 0.01. This finding highlights the impact that healthcare professionals, and especially doctors, have on the quality assessment by patients, and this is a notification from patients to doctors. Patients look for healthcare professionals who show interest in patient's problems and willingness to try to solve them and who understand the specific needs of each patient (Goula *et al.*, 2021). This is confirmed by the study by Aoun *et al.* (2019), who revealed that Lebanese people seeking care prefer medical expertise and place it at the top of the list of physician's competencies. Similarly, greater satisfaction was attributed to the competence and technical skills of the healthcare provider in Saudi Arabia (Mohamed *et al.*, 2015). A study conducted among outpatients in Norway showed that physician consultation and information had a strong influence on service quality and outpatient satisfaction (Iversen *et al.*, 2012). It was also found in a systematic review by Säilä *et al.* (2008) that physician's consultation and examination

were the most important factors influencing outpatient service quality and satisfaction which was also confirmed by other previous studies in France (Gasquet *et al.*, 2004) and the UK (Grogan *et al.*, 2000).

The quality of the physical environment also influenced patient satisfaction. This actively demonstrates that the hospital environment and its facilities can influence a patient's sense of feeling satisfied or dissatisfied. A clean, comfortable, and home-like physical environment makes the patient feel more satisfied and helps patients to better deal with their anxieties (Goula *et al.*, 2021). This result confirms what several authors have said about the cleanliness and the convenience of the clinic as being an important factor influencing patient satisfaction (Jung *et al.*, 2009; Grogan *et al.*, 2000; Carlucci *et al.*, 2013; Wibowo *et al.*, 2020). Unlike studies in inpatient departments, where the impact of the physical environment on patient satisfaction is relatively low (Kim *et al.*, 2008; Choi *et al.*, 2005); for the outpatients, however, the physical environment is the most tangible aspect of care and its impact is significant. A study by Haj-Ali *et al.* (2014) in Lebanon, demonstrated that patient satisfaction is driven by the tangibility factor, which is expected and valid since patients usually link their assessment of the hospital with their satisfaction with visible and tangible physical characteristics. According to Karassavidou *et al.* (2009), the tangible factor is the easiest service quality dimension for patients to evaluate since they do not have the knowledge to question the doctor's decision about their health problems. In this study, as in most studies, the physical environment dimension was found to be less important in assessing the health service's quality (Kalaja *et al.*, 2016).

The accessibility dimension also influenced patient satisfaction. This result confirms what several authors have said about accessibility as an important factor influencing patient satisfaction (Chalise *et al.*, 2018; Ganasegeran *et al.*, 2015; Pakurár *et al.*, 2019; Pouragha and Zarei, 2016; Ware *et al.*, 1983).

In contrast to the findings in the literature, the results did not show any significant associations between patient-provider communication and patient satisfaction. These results are consistent with the study by Hussain *et al.* (2019), who showed that doctor-patient communication in Pakistan did not have a significant impact on patient satisfaction in Pakistan. This finding also confirms the results of the study by Wibowo *et al.* (2020), who demonstrated that the quality of interaction had no impact on patient satisfaction. While previous literature has reported physician-patient relationship as the most important factor in patient satisfaction (Shirley and Sanders, 2013); i.e., UK (Grogan *et al.*

2000), Norway (Danielsen *et al.*, 2010), Italy (Carlucci *et al.*, 2013), South Korea (Jung *et al.*, 2009) and Uganda (Nabbuye-Sekandi *et al.*, 2011); this study's result could not demonstrate a significant relationship between patient-provider communication and patient satisfaction. The insignificant impact of patient-provider communication on patient satisfaction does not imply that this factor is not important and should be ignored to improve the service quality in the hospital. This suggests that greater gains in patient satisfaction can be achieved through attending to perceived waiting time, perceived cost, technical quality of care, physical characteristics, and accessibility factors in the private hospital's environment.

The results of multiple linear regression confirmed that perceived service quality influences patient satisfaction and, therefore, confirms hypothesis H1 "perceived service quality has a significant positive impact on patient satisfaction". In addition, the results of stepwise regression analysis (Table 4.24) confirm that the service quality dimensions that influence overall satisfaction are perceived cost, perceived waiting time, technical quality of care, physical characteristics, and accessibility, in that order of importance. The results also suggest that perceived waiting time, perceived cost, and technical quality of care have the greatest influence on the overall satisfaction of patients in private hospitals in North Lebanon.

By understanding that the essence of the main dimensions of patient satisfaction is the importance of communication with patients, providers become able to identify the ways to improve their interactions with the patients (Abidova *et al.*, 2020).

4.4.1.2 Critical Reflection of Service Quality dimensions

The most influential dimension on patient satisfaction is the perceived cost, followed by perceived waiting time and technical quality of care. Therefore, to run satisfactory outpatient departments, it is important not only to provide reasonable valuable services and shorten waiting times but also to ensure a competent and expert doctor. The other important dimensions were physical characteristics and accessibility. This may reflect the notion that patients included in their assessment of the quality of the hospital tangible and visible aspects such as physical characteristics and accessibility

- ***Perceived Cost***

The perceived cost in this study includes aspects of the affordability of medical services and the medical costs compared to the services provided. The results of the regression analysis showed that

this dimension most contributed to overall patient satisfaction. This dimension impacts 0.296 standard deviations change in overall satisfaction as illustrated by the standardized beta coefficients ($\beta_s=0.296$; Sig. <0.01 ; Table 4.23). These results were expected and valid since it was reported that the prohibitive service costs and the lack of universal health coverage are two economic barriers that prevent Lebanese patients from receiving the necessary care (Noubani *et al.*, 2020; Helou *et al.*, 2020). Likewise, the affordability of medical services has long been an issue for most patients and their families (Shen *et al.*, 2021).

In this study, the majority of respondents have a below-average monthly income reported at \$1520 in Lebanon (SalaryExplorer, 2021). More than half of the respondents (54.3 %) have a monthly income of less than \$700 and 31.5% between \$700-1300. Currently in Lebanon, just under half of the population have some kind of health insurance, generally through the formal sector and public sector employment, many are underinsured and/or do not enjoy de facto access to public institutions (Ammar, 2003; Chen and Cammett, 2012). They prefer private healthcare.

It was found that making individual healthcare costs more affordable can increase the satisfaction level with hospital care by up to 5.7 times. The majority of patients who reported dissatisfaction with hospital care attributed it to high medical costs. Another opinion piece published in The Lancet argued that patient dissatisfaction is mainly due to increased out-of-pocket healthcare costs (Huang and Ding, 2011; Xu *et al.*, 2014) which is the case of healthcare in Lebanon. Similarly, a study by Xesfingi and Vozikis (2016) found that private health spending was negatively correlated with patient satisfaction, and an increase in this spending was responsible for a 98.7% decrease in patient satisfaction. Additionally, out-of-pocket payment is reported to be one of the biggest concerns for patients in China (Miao *et al.*, 2020). This result implies that policymakers in Lebanon should set priorities on maintaining a certain level of patient satisfaction from registration to treatment to make patients feel that total medical cost was worthwhile to improve the quality of hospital performance and in turn get a higher level of patient satisfaction. Therefore, primary health care, rational prices, and hospital management must be the pillars of healthcare reform. In addition, health policymakers should reconsider and encourage public dialogue on the health budget, which can be seen as a developmental tool rather than a financial burden, to ensure economic development and guarantee the wellbeing of people (Goula *et al.*, 2021).

- ***Perceived waiting Time***

In this study, the perceived waiting time receives a significant coefficient in the regression model of general satisfaction against the six service quality dimensions; its impact ranks second after perceived cost. This dimension includes aspects related to the amount of time spent in the waiting room before consultation, the amount of time given by staff to listen and to answer their questions, and the consultation duration. This dimension impacts 0.215 standard deviations change in overall satisfaction as illustrated by the standardized beta coefficients ($\beta_s=0.215$; Sig. <0.01 ; Table 4.23). Although the mean value for consultation duration was 4.59, and staff responsiveness was 4.50 (see Table 4.14), which means that patients are satisfied with the consultation duration and staff responsiveness, this dimension impacts patient satisfaction. This actively demonstrates that the amount of time spent before the consultation has an impact on overall satisfaction. Therefore, policymakers must prioritize the management of waiting times and the improvement of appointment systems to improve the quality of the hospital as a part of the management policy.

Outpatients' clinics are well suited to studying the wait time, as long waiting times do not result in adverse outcomes. While many studies reported that the value of seeing a provider outweighed the value of waiting (Rizzio, 2013; Chu *et al.*, 2020), this was not the case in the current study. Even though the consultation duration influenced the rate of waiting time, it still showed impacts on overall patient satisfaction. In the context of Lebanon, where waiting times are often inevitable, hospitals should consider the factors that they have control over and can improve the waiting experience.

There is consensus in the international literature that waiting times should be shortened to improve health (Ward *et al.*, 2017; Johar *et al.*, 2013; Viberg *et al.*, 2013; Gruber *et al.*, 2018; Toga-Sato *et al.*, 2021). If not more important than efforts to reduce the actual wait times, efforts are to change the perception of those wait times. Waiting time experience management is an actionable target that is an achievable and feasible focus for practice management and process improvement (Chu *et al.*, 2020; Asamrew *et al.*, 2020).

Similarly, it has been observed that on numerous occasions, patients spend considerable time waiting for an appointment in waiting rooms. Even when their care may be of high quality, it is the long waits that patients remember (Boissy, 2020). Therefore, it has been proposed to design a predictive model of waiting times to be communicated and updated with patients (Boissy, 2020). This is consistent with research, which emphasizes that the patient experience can be improved by simply informing

the patient about how much waiting time they can expect, leading to a reduction in anxiety and confusion and, therefore improving their perceptions of healthcare services (Abass *et al.*, 2021).

In many service settings, many applications have been implemented to reduce the uncertainty of wait time, which has shown that stress has been reduced. These platforms included an update on the patients' wait time, letting them readjust their wait, and engage in productive activities (they can leave and come back). Similar tools appeared to have outstanding potential in the healthcare sector, although they are not yet widely used (Rizzio, 2013; MobiHealthNews, 2019; Chu *et al.*, 2020).

- ***Technical Quality of Care***

The technical quality of care includes aspects related to the professionalism and expertise of the medical professionals to provide complete medical care and sufficient clinical information related to the patient's condition. These aspects give patients the assurance that they will be examined, diagnosed, and treated by the expert and professional doctors; be cared for by good nurses; their confidentiality is respected. The term 'technical quality of care' in Lebanese culture makes the patient feel confident while being treated at the hospital. This cannot only be achieved through the expertise of doctors, but also through the good explanation of the doctor and the nursing staff on the process of care.

The regression analysis results showed that this dimension ranks third after the perceived waiting time. The value of the standardized beta coefficient of the technical quality of care indicates that this factor impacts 0.203 standard deviation changes in overall satisfaction at the level of 0.01 (Table 4.23). As a result, hospitals must always work to improve the quality of care and thereby increase patient satisfaction, enhance the professional knowledge and expertise of doctors and nurses, and practice patient-doctor interaction.

- ***Patient-Provider Communication***

Patient-provider communication is the only dimension that shows an insignificant beta coefficient in the regression model (Sig. =0.113, Table 4.23). Furthermore, although it is significantly positively correlated with overall patient satisfaction (Table 4.20); its contribution to the model is negative (β s = -0.108). The result indicates that for Lebanese patients, perceived cost, perceived waiting time, and technical quality of care dominate the patient-provider communication.

Patient-provider communication is expected and valid, not to be a predictor of patient satisfaction, as Lebanese patients have direct contact with their healthcare providers and generally choose their healthcare providers depending on their connection, which is easily accessible and does not contribute to their satisfaction. This is common in Lebanon, where patients have their doctor's personal contact information (Helou *et al.*, 2020) and use WhatsApp Messenger as a medicine tool to contact their doctors for interprofessional consultation (Shaarani *et al.*, 2020; Shaarani *et al.*, 2021).

- ***Physical Characteristics***

This dimension has different typologies across studies such as Facility (Andaleeb, 1998; Hall and Dornan, 1990; Lee *et al.*, 2006; Rahmqvist and Bara, 2010; Ammo *et al.*, 2014); Environment (Ware *et al.*, 1983; Bodur *et al.*, 2002; Atinga *et al.*, 2011; Amole *et al.*, 2016; Pouragha and Zarei, 2016; Mihailovic *et al.*, 2017; Batbaatar *et al.*, 2017; Trivedi and Jagani, 2018; Wibowo *et al.*, 2020); Structure Characteristics (Raftopoulos, 2010); Setting's appearance (Elleuch, 2008); Healthscape (Pai and Chary, 2016); Tangibles (Taner and Antony, 2006; Ramsaran-Fowdar, 2008; Naidu, 2009; Zaim *et al.*, 2010; Yousapronpaiboon and Johnson, 2013; Al Fraihi and Latif, 2016; Baidoo *et al.*, 2016) and so on. The physical characteristics of this study are related to hygiene, noise, and comfort. It contains two items on cleanness, one item on toilets hygiene, one item on comfort, and one item on the pleasing environment. Cleanness has been reported in many studies (Ware *et al.*, 1983; Atinga *et al.*, 2011). Almost 40% of the patients rated the cleanliness of the toilets as poor (Table 4.15). This is consistent with Sharma *et al.* (2014) who found that 68% rated the toilet facilities as unsatisfactory. A similar finding in Bangladesh also reported that the cleanliness of the toilet is a common complaint from patients (Asamrew *et al.*, 2020). The cleanliness of toilets has so far contributed to the fact that "the unsatisfactory condition of toilets was a hallmark of government hospitals" and this is a good reason for patients not to go to public hospitals and prefer private hospitals (Saini *et al.*, 2013). Toilet's hygiene can be typical of Lebanon at OPD, as several specialized clinics and patients share the same toilet. This was addressed in the focus group discussion. Furthermore, dissatisfaction in the Lebanese healthcare system is related to peripheral elements, including cleanliness and the hospital atmosphere (Baalbaki *et al.*, 2008).

The regression model showed that the physical characteristics dimension receives a significant coefficient at the level of 0.01 and contributes to 0.159 standard deviation changes in overall satisfaction (Table 4.23). Its impact on overall satisfaction ranks fourth, after the technical quality of

care. As a result, in terms of improving the quality of care, an improvement in the hygienic conditions of the facility would increase patient satisfaction.

- **Accessibility**

This dimension includes aspects related to the ease of appointment, as well as the assistance and professionalism of the staff in providing sufficient information for the appointment. The regression model showed that the accessibility dimension receives a significant coefficient at the level of 0.05 and contributes to 0.093 standard deviation changes in overall satisfaction (Table 4.23). Its impact ranks fifth after physical characteristics. This is consistent with the study by (Shen *et al.*, 2021) that accessibility to medical services has long been a problem for patients and their families and influences their satisfaction. This finding confirmed that patients are looking for an easy way to obtain the services offered when they want it and in a preferred way.

4.4.2 Service Quality Factors Influencing Hospital Patient Emotions and Patient Trust

This section consists of two parts; the first section examines the influence of the service quality dimensions on patient emotions; the second section examines the influence of the service quality dimensions on patient trust. This is to address Research objective two (RO2); to determine their relative impact and influence on patient emotions and patient trust.

4.4.2.1 Hypothesis 2: The Impact of Perceived Quality dimensions on Patient Emotions

In this section, the researcher tests the impact of the perceived quality dimensions on patient emotions (H2). This is to address Research objective two (RO2); to determine their relative impact and influence on patient emotions and patient trust.

As already mentioned, Hypothesis 2 postulates that “perceived service quality has a significant positive impact on patient emotions”. To test hypothesis (H2), a multiple regression analysis was conducted using patient emotions as the dependent variable, and the perceived service quality dimensions (Physical characteristics, patient-provider communication, technical quality of care, perceived cost, perceived waiting time, and accessibility) as the predictor variables. In this way, the researcher can identify the relative importance of the perceived service quality dimensions in explaining the variation in the emotions level.

Before multiple linear regression, the associations between the independent variables and between the dependent variables were verified by correlation analysis. These steps are necessary to check for multicollinearity problems and test the relationship between the dependent and the independent variables

Table 4.19 first showed the correlation analysis between the independent variables, the service quality dimensions, and the results showed that there are no multicollinearity problems in the proposed model. Second, the correlation between the variable patient emotions and each of the service quality dimensions is examined by Spearman correlation to assess the relationship between them (see Table 4.25). Then, the correlation between overall perceived service quality and patient emotions is examined.

- ***Correlation analysis between Patient Emotions and each Service Quality Dimensions***

Table 4.25 describes the correlation between the perceived service quality dimensions and patient emotions. To analyze the results, if the level of significance (*Sig.*) is less than 0.05, this means that there is a significant relationship between perceived service quality dimensions and patient emotions. Based on the results, the significance is 0.000, which confirms that there is a significant relationship between patient emotions and the perceived service quality dimensions. To understand the strength of the relationship, the correlation is analyzed. The correlation analysis of the variable patient emotions with the six-service quality dimensions scale shows a significant positive correlation between patient emotions and the six dimensions with the highest correlations with the technical quality of care (0.362) and patient-provider communication (0.391).

Spearman's correlation showed a weak positive correlation for the physical characteristics factor ($r = 0.247$) and perceived cost ($r = 0.239$), and a moderate positive relationship for accessibility ($r = 0.306$), patient-provider communication ($r = 0.391$) and technical quality of care ($r = 0.362$). Therefore, all the service quality dimensions were included in the regression analysis.

Table 4.25: Correlation between Perceived Service Quality Dimensions and Patient Emotions

		Physical Characteristics	Technical Quality of Care	Patient-Provider Communication	Accessibility	Perceived Cost	Perceived Waiting Time	Perceived service Quality
Patient Emotions	Spearman Correlation	.247**	.362**	.391**	.306**	.239**	.301**	.459**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N (521)							
	Strength	Weak	Moderate	Moderate	Moderate	Weak	Moderate	Moderate

**Correlation is significant at the 0.01 level (2-tailed); N=521

- ***Multiple Linear Regression predicting Patient Emotions from Perceived Service Quality Dimensions***

In this section, the MLR is used to measure the strength of the linear relationship between patient emotions and service quality dimensions such as technical quality of care, patient-provider communication, perceived cost, perceived waiting time, accessibility, and physical characteristics. The correlation analysis of patient emotions and the six dimensions of perceived service quality showed a significant positive correlation at the significance level of 0.01. Further regression analysis of patient emotions against the six perceived service quality dimensions is then supported to explore the possible significant contributions of the related perceived service quality dimensions to patient emotions.

According to the multiple regression summary in Table 4.26, the multiple correlation coefficient R has a value of 0.487 and positive, which means that there is a positive linear relationship between perceived service quality dimensions and patient emotions.

The R-square value (coefficient of determination) $R^2 = 0.238$, which means that approximately 23.8% of the variance can significantly explain patient emotions. This finding suggests that, in addition to the service quality dimensions, many other dimensions are likely to influence patient emotions with medical services.

Table 4.26: Model Summary

Model	R	R^2	Adjusted R^2	Std. error of the Estimate
1	.487	.238	.229	.366

R² R-Square; Adjusted R² Adjusted R square

Analysis of Variance (ANOVA) was used to test whether there was a significant linear relationship between service quality dimensions and patient emotions. Table 4.27 shows that the Sig. value is .000, which means that the service quality dimensions overall have a significant influence on patient emotions.

Table 4.27: ANOVA Results

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	21.482	6	3.580	26.705	.000
Residuals	68.912	514	.134	-	-
Total	90.394	520	-	-	-

To explain the relationship between patient emotions and the six perceived service quality dimensions, a Table of coefficients is further examined. Based on the column of significance in Table 4.28, only four of six dimensions (technical quality of care, perceived waiting time, perceived cost, and accessibility) showed a positive and significant relationship with patient emotions and added statistically significantly to the prediction, $\text{Sig} < 0.05$.

The results also showed that the dimension technical quality of care is the most dominant factor in determining the variation in patient emotions, as illustrated by the standardized beta coefficients of 0.293. Thus, the hypothesis (SH2-1), “the technical quality of care dimension has a significant positive impact on patient emotions”, is accepted. Perceived waiting time receives the next contribution on patient emotions, as illustrated by beta coefficients of 0.131. Thus, the hypothesis (SH2-4), “the perceived waiting time dimension has a significant positive impact on patient emotions”, is accepted. The accessibility dimension received the third contribution with coefficients of 0.125; Thus, the hypothesis (SH2-6), “the accessibility dimension has a significant positive impact on patient emotions”, is accepted. The perceived cost dimension received the lowest contribution with a coefficient of 0.121; Thus, the hypothesis (SH2-5), “the perceived cost dimension has a significant positive impact on patient emotions”, is accepted.

The Patient-provider communication and physical characteristics dimensions did not show a significant positive impact on patient emotions. Thus, the hypothesis (SH2-2); “the patient-provider communication has a significant positive impact on patient emotions”, and the hypothesis (SH2-3), “the physical characteristics dimension has a significant positive impact on patient emotions”, are rejected.

As a result, hypothesis (H2) “perceived service quality has a positive impact on patient emotions”, was accepted. In particular, the four dimensions of perceived service quality: technical quality of care

(SH2-1), accessibility (SH2-6) and perceived waiting time (SH2-4), and perceived cost (SH2-5) will be strong predictors of patient emotions.

Table 4.28: Regression Model of Perceived Service Quality on Patient Emotions

	Model	B	β	Sig.	F test, Sig.
SH2-1	F1-Technical Quality of Care	.272	.293	.000	F=26.705 P=000
SH2-2	F2-Patient-provider Communication	-.005	-.005	.942	
SH2-3	F3-Physical Characteristics	.026	.038	.387	
SH2-4	F4-Perceived Waiting Time	.074	.131	.003	
SH2-5	F5-Perceived Cost	.048	.121	.003	
SH2-6	F6-Accessibility	.087	.125	.004	
	Constant	2.507		.000	

To formulate the multiple linear regression equation, the values of the unstandardized B coefficient are used. The equation takes the following form:

$$\text{Patient Emotions} = B_0 + B_1 (\text{technical quality of care}) + B_2 (\text{patient-provider communication}) + B_3 (\text{perceived waiting time}) + B_4 (\text{perceived cost}) + B_5 (\text{accessibility}) + B_6 (\text{physical characteristics})$$

Therefore, the multiple regression equation of this study is:

$$\text{Patient Emotions} = 2.507 + 0.272 (\text{technical quality of care}) + 0.074 (\text{perceived waiting time}) + 0.087 (\text{accessibility}) + 0.048 (\text{perceived cost}) + 0.026 (\text{physical characteristics}) - 0.005 (\text{patient-provider communication})$$

When the technical quality of care increases by 1, patient emotions increase by 0.272, given that other variables remain constant i.e., patients who are satisfied with the technical quality of care can evoke better emotions. When perceived waiting time increased by 1, patient emotions increased by 0.074, given that other variables remain constant, i.e., Patients who perceived waiting time as satisfactory are better feeling. When perceived cost increases by 1, patient emotions increase by 0.048, given that other variables remain constant; i.e., patients who perceive medical costs as satisfactory are better feeling. When accessibility increases by 1, patient emotions increase by 0.087, given that all variables remain constant; i.e., patients who have accessibility to the outpatient department, are emotionally better. When physical characteristics increase by 1, patient satisfaction increases by 0.026, given that other variables remain constant; i.e., patients who are satisfied with the physical characteristics of the outpatient department, evoke better emotions.

After presenting the findings of Hypothesis 2, the result's discussion follows.

4.4.2.1.1 Discussion of the Main Finding-Patient Emotions

The results show that the Spearman correlation between perceived service quality and patient emotions is 0.459 and positive (Table 4.25), which means that perceived service quality has a moderate positive correlation with patient emotions. In addition, the significance is .000, which confirms that there is a significant relationship between perceived service quality and patient emotions. These findings also support previous studies that confirm the significant impact of perceived service quality on customer emotions (Burns and Niesner, 2006; Kim *et al.*, 2009; Lin and Liang, 2011; Ladhari, 2009; Pareigis *et al.*, 2011; McColl-Kennedy *et al.*, 2017).

Perceived service quality is represented by six dimensions related to; tangibles attributes, interpersonal relationship, professionalism and courtesy, competence, knowledge and expertise, perceived waiting time, the cost of treatment versus the service, and the accessibility to the healthcare department. Therefore, to analyze the impact of perceived service quality dimensions on patient emotions, a multiple linear regression analysis was conducted. When testing hypothesis (H2), the results of multiple linear regression showed that the value of R^2 is 0.238, which means that approximately 23.8% of the variance can significantly explain patient emotions. This result suggests that, in addition to the service quality dimensions, many other dimensions are likely to influence patient emotions with medical services.

The present study showed that only four of the six dimensions (technical quality of care, perceived waiting time, perceived cost, and Accessibility) showed a positive and significant association with patient emotions and added statistically significantly to the prediction, $\text{Sig} < 0.05$. Technical quality of care proves to be the most dominant dimension in determining the variation in patient emotions as illustrated by the standardized beta coefficients of 0.293 at the level of 0.01.

The technical quality of care dimension is the most significant predictor of patient emotions. The regression model showed that the technical quality of care dimension receives a significant coefficient at the level of 0.01 and accounts for 0.293 standard deviation changes in overall satisfaction (Table 4.28). This dimension includes aspects related to the professionalism and expertise of medical professionals in providing complete medical care, and sufficient clinical information related to patients' conditions. These aspects give patients the assurance that they will be examined and treated

by the expert and professional doctors; be cared for by good nurses; their confidentiality is respected. This dimension shares similar items with the Assurance dimension of the SERVQUAL model. Although the literature on the influence of the assurance dimension on patients' emotions is not well developed, only a few studies have validated this relationship (Hou *et al.*, 2013; Gracia *et al.*, 2011; Tai *et al.*, 2019). This is a supported contribution to Literature.

Perceived waiting time was the second dominant dimension to determine the variation in patient emotions. The regression results showed that the perceived waiting time dimension receives a significant contribution at the level of 0.05 and accounts for 0.131 standard deviation changes in patient emotions (see Table 4.28). This dimension includes aspects related to the wait time, the staff's prompt reply to patients' requests, and the consultation duration. This dimension shares common items with the dimension Responsiveness of SERVQUAL, which are the long wait time and the staff prompt reply to patient requests. Few studies have demonstrated the effect of responsiveness on patient emotions (Hou *et al.*, 2013; Gracia *et al.*, 2011), which confirms the results of the current study. A study by Chu *et al.* (2020) showed that long waiting times drive patient emotions and, more specifically negative emotions. Similarly, long waiting times have been reported to let patients feel like doing much of anything. A feeling of anger arises toward the medical system that makes patients wait (Gagliardi *et al.*, 2021). This implies that managing wait time is essential to evoke positive emotions.

The regression analysis results showed that the accessibility dimension accounts for 0.125 standard deviation changes of patient emotions at the level of 0.05 (Table 4.28). This dimension includes aspects related to the ease to take an appointment, the kindness in the interaction process, and the kindness in assistance. This dimension shares common aspects with the dimension Reliability of SERVQUAL, which has emerged as an antecedent of different types of consumer emotions (Taylor, 2000; Gracia *et al.*, 2011; Kim *et al.*, 2016).

It was found that the perceived cost is the fourth dimension that determines the variation in patient emotions. The coefficient for perceived cost is statistically significant at the level of 0.05 and contributes to 0.121 standard deviation changes in patient emotions (Table 4.28). This dimension includes aspects related to the affordability of medical services, the reasonableness of medical costs, and the medical costs versus the services provided. This is demonstrated by the study by McColl-Kennedy *et al.* (2017) that financial status can heighten patient emotions.

The patient-provider communication and physical characteristics dimensions did not show significant associations with patient emotions. This result contradicts the few studies that have been reported on the impact of physical characteristics (Bitner, 1992; Ladhari, 2009; Pareigis *et al.*, 2011; Gracia *et al.*, 2011; Kim *et al.*, 2009; Dasu and Chase, 2013; McColl-Kennedy *et al.*, 2017b) and patient-provider communication (Taylor, 2000; Gracia *et al.*, 2011; Hou *et al.*, 2013) on patient emotions. This suggests that by looking at the technical quality of care, perceived waiting time, perceived cost, and accessibility factors, better emotions can be evoked.

The results of the multiple linear regression confirmed that perceived service quality influences patient emotions and, thus hypothesis H2 “perceived service quality have a significant positive impact on patient emotions” was verified. In addition, the four dimensions (technical quality of care, perceived waiting time, perceived cost, and accessibility) will be stronger predictors of patient emotions.

In summary, acknowledging that patient satisfaction in health care depends on both cognitive determinants and affective influences; and, that the number and the nature of cognitive determinants vary across the cultural group as well as their relationship with emotions and satisfaction. This highlighted the need to shed light on the service quality dimensions and the impact of these dimensions on emotions in different cultural settings. The result of the current study highlights the importance of technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions of service quality in the context of the healthcare setting in Lebanon to create a high level of perceptions on the quality of care to provoke patient’s emotions, which reflect the cultural context of the Lebanese patients. As a result, hospital management can focus on refining the dimensions of the technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions to heighten desired feelings, which in its turn impact patient satisfaction.

4.4.2.2 Hypothesis 3: The Impact of Perceived Service Quality on Patient Trust

To test hypothesis (H3), a multiple linear regression was conducted, using patient trust as the dependent variable, and the perceived service quality dimensions (Physical characteristics, patient-provider communication, technical quality of care, perceived cost, perceived waiting time, and

accessibility) as the predictor variables. In this way, the researcher can identify the relative importance of the perceived service quality dimensions to explain the variation in the trust level.

The analysis was performed in two steps; first, a correlation analysis between patient trust and each perceived service quality dimension; and second, a multiple linear regression analysis was performed to test the influence of each service quality dimension on overall patient trust.

- ***Correlation Analysis between Patient Trust and each Service Quality Dimensions***

First, the Spearman correlation test was employed to assess the correlation between the patient trust variable and each of the perceived service quality dimensions, and overall perceived service quality (Table 4.29). The correlation analysis of the patient trust variable with the six service quality dimensions shows a significant correlation between the patient trust variable and the six dimensions with the highest correlations with the technical quality of care (0.456) and patient-provider communication (0.536). Therefore, they are all included in the regression.

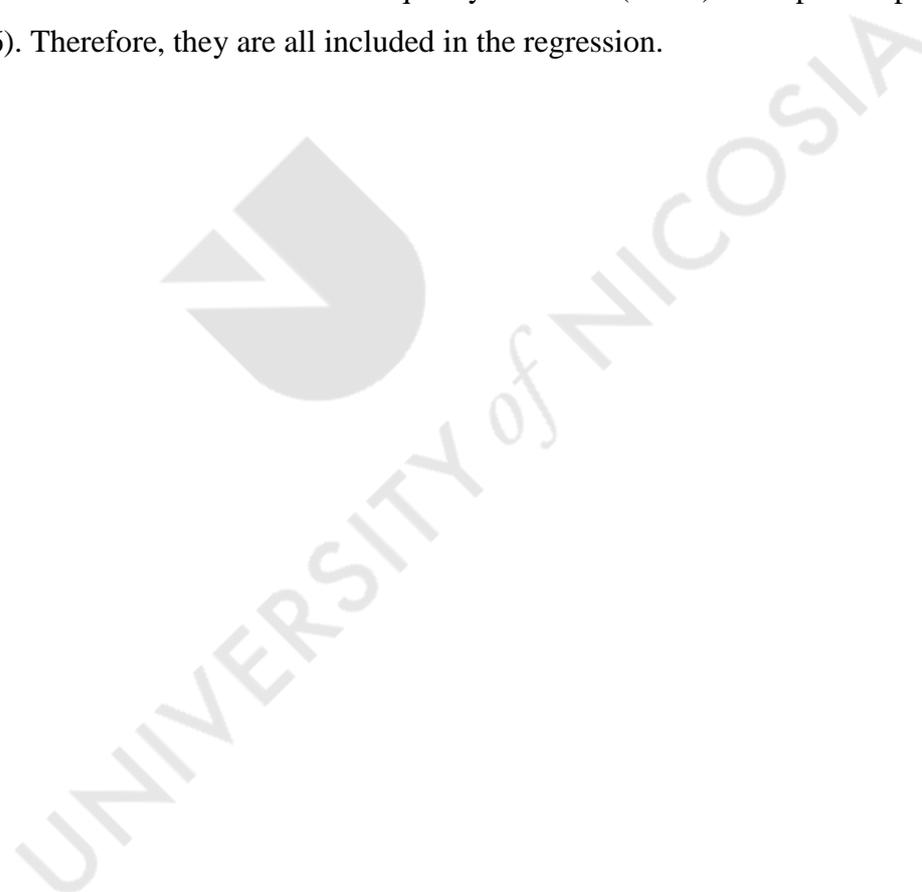


Table 4.29: Correlation between Perceived Service Quality Factors and Patient Trust

		Physical Characteristics	Technical Quality of Care	Patient-Provider Communication	Accessibility	Perceived Cost	Perceived Waiting Time	Perceived service Quality
Patient Trust	Spearman Correlation	.315**	.456**	.536**	.274**	.270**	.341**	.445**
	Sig. (2-tailed) N (521)	.000	.000	.000	.000	.000	.000	.000
	Strength	Moderate	Moderate	Moderate	Moderate	Weak	Moderate	Moderate

** Significant at 0.01 level

- **Multiple Regression Predicting Patient Trust from Perceived Service Quality Dimensions**

In this section, the MLR is used to measure the strength of the linear relationship between patient trust and the service quality dimensions such as technical quality of care, patient-provider communication, perceived cost, perceived waiting time, accessibility, and physical characteristics.

The correlation analysis of patient trust and the six perceived service quality dimensions showed a significant positive correlation at the significant level of 0.01. Further regression analysis of patient trust against the six perceived service quality dimensions is then supported, to explore the possible significant contributions of the associated perceived service quality dimensions to patient trust.

According to the multiple regression summary in Table 4.30, the multiple correlation coefficient R has a value of 0.621 and positive, which means that there is a positive linear relationship between perceived service quality dimensions and patient trust. The R-square value (coefficient of determination). $R^2 = 0.417$, which means that approximately 41.7% of the variance can significantly explain patient trust. This finding suggests that in addition to the service quality dimensions, many other dimensions are likely to influence patient trust in medical services.

Table 4.30: Model Summary

Model	R	R^2	Adjusted R^2	Std. error of the Estimate
1	.621	.417	.410	0.427

R² R-Square; Adjusted R² Adjusted R square

Analysis of Variance (ANOVA) was used to check for a significant linear relationship between the service quality dimensions and patient emotions. Table 4.31 shows that the Sig. value is .000, which means there is a significant relationship between the service quality dimensions and patient trust.

Table 4.31: ANOVA Results

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	67.257	6	11.209	61.299	.000
Residuals	93.993	514	.183	-	-
Total	161.250	520	-	-	-

To explain the relationship between patient trust and the six perceived service quality dimensions, a Table of coefficients is further examined. Based on the column of significance in Table 4.32, five of the six dimensions (technical quality of care, physical characteristics, perceived cost, perceived waiting time, and accessibility) showed a positive and significant association with patient trust and added statistically significantly to the prediction, Sig <0.05.

Technical quality of care is the most dominant dimension in determining variation in patient trust, as illustrated by the standardized beta coefficients of 0.472 at the level of 0.01 (Refer to Table 4.32). Thus, the hypothesis (SH3-1), “the technical quality of care dimension has a significant positive impact on patient trust”, is accepted. The perceived waiting time receives the next contribution on patient trust, as illustrated by beta coefficients of 0.160 at the level of 0.01. Thus, the hypothesis (SH3-4), “the perceived waiting time factor has a significant positive impact on patient trust”, is accepted. The physical characteristics dimension received the third contribution with the coefficients of 0.093 at the level of 0.05; Thus, the hypothesis (SH3-3), “the physical characteristics dimension has a significant positive impact on patient trust”, is accepted. The perceived cost dimension received the fourth contribution with a coefficient of 0.083 at the level of 0.05; Thus, the hypothesis (SH3-5), “the perceived cost dimension has a significant positive impact on patient trust”, is accepted. The accessibility factor receives the lowest contribution as illustrated by beta coefficients of 0.030 at the level of 0.05; Thus, the hypothesis (SH3-6), “the accessibility dimension has a significant positive impact on patient trust”, is accepted. In consequence, to strengthen patient trust, it is of fundamental importance that private hospitals focus on the dimension technical quality of care of 7 items, physical characteristic dimension of 5 items, perceived cost of 3 items, perceived waiting time of 5 items, and the accessibility dimension of 3 items as showed in Table 4.14.

The patient-provider communication dimension did not show a significant positive relationship with patient trust. Therefore, the hypothesis (SH3-2), “the patient-provider communication dimension has a significant positive impact on patient trust”, is rejected.

Therefore, based on the analysis made, it can be affirmed that there was a statistically significant relationship between the service quality dimensions and patient trust and that perceived service quality can improve patient trust. Consequently, the third hypothesis (H3), “perceived service quality has a significant positive impact on patient trust”, was accepted. In particular, the five perceived service quality dimensions: technical quality of care (SH3-1), physical characteristics (SH3-3), perceived waiting time (SH3-4), perceived cost (SH3-5), and accessibility (SH3-6) will be strong predictors of patient trust. In specific, the technical quality of care and perceived waiting time dimensions, make an important contribution to the patient trust, as illustrated by their beta coefficients at the level of significance of 0.01.

Table 4.32: Regression Model of Perceived Service Quality on Patient Trust

	Model	B	Bs	Sig.
SH3-1	F1-Technical Quality of Care	.586	.472	.000
SH3-2	F2-Patient-provider Communication	.019	.014	.826
SH3-3	F3-Physical Characteristics	.086	.093	.015
SH3-4	F4-Perceived Waiting Time	.121	.160	.000
SH3-5	F5-Perceived Cost	.044	.083	.018
SH3-6	F6-Accessibility	.028	.030	.0431
	Constant	.521		.024

Note: N=521; B: regression coefficient, β s: standardized coefficient

After presenting the findings of Hypothesis 3, the result’s discussion follows.

4.4.2.2.1 Discussion of the Main Finding-Patient Trust

In this section, the researcher revisits the service quality dimensions and identifies their relative strength in influencing patient trust. This section focuses on RO2) to determine their relative impact and influence on patient emotions and patient trust.

The correlation analysis between the service quality dimensions and patient trust showed that the technical quality of care dimension ($r=0.469$; Sig. ≤ 0.01) had the highest correlations with patient trust, followed by the patient-provider communication dimension ($r=0.455$, Sig. ≤ 0.01). Accordingly, the other dimensions perceived waiting time, physical

characteristics, accessibility, and perceived cost had the next highest correlations with patient trust. They were all included in the multiple linear regression to predict patient trust.

In testing hypothesis 3, the results of the multiple linear regression showed that the value of R^2 is 0.417, which means that approximately 41.7% of the variance can significantly explain patient trust. This finding suggests that besides the service quality dimensions, many other dimensions are likely to influence patient trust with medical services. The present study showed that five out of six dimensions (technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility) had a positive and significant association with patient trust and added statistically significantly to the prediction, $\text{Sig} < 0.05$.

Technical quality of care is the dominant dimension that determines variation in patient trust, as illustrated by the standardized beta coefficients of 0.472 at the level of 0.01. This is consistent with previous studies in which the providers' technical competence is the most important technical dimension that shapes patient trust. More specifically, a provider's technical competence refers to knowledge, expertise, thoroughness, ability to diagnose and treat, understanding of patient's problems, and willingness to share correct and treatment success (Meyer and Ward, 2013; Meyer and Ward, 2008; Goold and Klipp, 2002; Thom and Phys, 2001; Doescher *et al.*, 2000; Boysena *et al.*, 2017; Dawson-Rose *et al.*, 2016; Dang *et al.*, 2017; Detz *et al.*, 2013; Riva *et al.*, 2014; McLaughlin *et al.*, 2015), which validate the technical quality of care items for this study. Previous studies by Trachtenberg *et al.* (2005) and Thom *et al.* (2004) showed that patients build trust in their physicians based on their behavior in the most common domains of technical competence (e.g., thoroughness in the evaluation and providing appropriate and effective treatment). Furthermore, Shaya *et al.* (2019) showed that five themes influenced Lebanese patients' trust, of which is the physician's clinical skills (e.g., educating patients, not making mistakes, being competent). These findings confirm the result of the current study.

Perceived waiting time was the second dominant dimension in determining variation in patient trust. Its standardized beta coefficient is 0.160 at the level of 0.01. Patients in private hospitals have come to expect reduced waiting time and more time spent with a healthcare provider, and use these trust norms to judge their trust in private hospitals (Ward *et al.*, 2017). Similarly, studies have shown that longer waiting time results in questioning trust in the system (Carr *et al.*, 2017; Johnson *et al.*, 2014). Some authors suggest, "Trust comes on foot and goes away on horseback" (Kampen *et al.*, 2006; P. 387). According to Ravi *et al.*

(2014), Time is a fundamental variable to enrich the trust between patient and doctor, and the lack of time spent with the patient during medical encounters is often cited as a barrier to effective healthcare. Shaya *et al.* (2019) supported these results, who showed that rapport and encounter time affect patients' trust in the physician. In addition, Chandra *et al.* (2020) showed that patients given enough time during their consultation had a higher level of trust. These studies confirm the results of the current study.

The quality of the physical environment also influenced patient trust. It was the third dominant dimension in determining the variation in patient trust as illustrated by the standardized beta coefficients of 0.093 at the level of 0.01. This actively demonstrates that the hospital environment and its facilities can influence patient trust. These findings are consistent with the research study, which has identified infrastructure as a factor shaping trust (Riva *et al.*, 2014). While there is little evidence in the literature on the influence of physical characteristics on patient trust, this is a new contribution.

The results show a significant positive relationship between the perceived cost dimension and patient trust. These findings confirm what other studies have revealed. Shaya *et al.* (2019) showed that finances (e.g., consultation fees) influenced Lebanese patient trust. Some other studies have also shown that some factors related to the health system shape trust, including the cost of care (Cunningham, 2009; Mascarenhas *et al.*, 2006). Similarly, Shan *et al.* (2016) suggest that affordability also influences patient trust. Arawi (2010, p.26) has shown in his research study on Lebanese physicians that the public prefers their physicians to be not “materialistic: The physician is concerned about making money not about curing her patients”.

The accessibility dimension also influenced patient trust. This actively demonstrates that easy access to care can influence patient trust. This finding validates what other studies have revealed. Shan *et al.* (2016) point out that accessibility of care is also a factor shaping trust. Similarly, Boissy (2020) has shown that easy access to care should be an area of focus to re-establish patient trust in healthcare. These studies validate the result of the current study.

In contrast to the literature, the patient-provider communication dimension did not show a significant impact on patient satisfaction. This result contradicts previous studies, in which there is strong evidence that various aspects of providers' communication can influence

patient trust. These skills include listening and clarity (Meyer and Ward, 2013; Tarrant *et al.*, 2003; Boysena *et al.*, 2017; Fiscella *et al.*, 2004; Dang *et al.*, 2017; Bambino, 2006; Detz *et al.*, 2013; Rothstein, 1996; Meyer and Ward, 2009; Hamelin *et al.*, 2012; McLaughlin *et al.*, 2015); Demeanor, such as “caring, sincerity, compassion, benevolence, respect, honesty, kindness, empathy, understanding and (positive) attitude towards patients” (Meyer and Ward, 2013; Russell, 2005; Krot and Sousa, 2017; Fiscella *et al.*, 2004; Mascarenhas *et al.*, 2006; Dang *et al.*, 2017; Rădoi and Lupu, 2017; Rothstein, 1996; Meyer and Ward, 2009; Riva *et al.*, 2014; McLaughlin *et al.*, 2015; Chandra *et al.*, 2020). The insignificant impact of patient-provider communication on patient trust does not mean that this dimension is not important and should be ignored to improve the patient trust in the hospital. This finding suggests that greater trust can be built by attending to the technical quality of care, perceived waiting time, perceived cost, and physical characteristics dimensions.

The results of the multiple linear regression confirmed that perceived service quality influences patient trust, and thus hypothesis H3 “perceived service quality has a significant positive impact on patient trust” was verified. In addition, the five dimensions (technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility) will be stronger predictors of patient trust.

4.4.2.2 Critical Reflection of Service Quality Dimensions Influencing Patient Trust

The technical quality of care dimension is the most influential dimension on patient trust, followed by the perceived waiting time dimension. Therefore, to increase patient trust, it is important to ensure a competent healthcare provider and timely services. The other important dimensions were perceived cost, physical characteristics, and accessibility in that order of importance. This may reflect the idea that patients also include tangible and visible aspects in their assessment, including physical characteristics, accessibility, and perceived cost.

- ***Technical Quality of Care***

As mentioned in the previous section, the technical quality of care dimension includes aspects related to professionalism and expertise of medical professionals in providing complete medical care and sufficient clinical information related to patients' conditions. These aspects give patients the assurance that they are being examined and treated by the expert and professional doctors; be cared for by good nurses, and their confidentiality is respected.

The technical quality of care was the most dominant dimension to determine the variation in patient trust. The regression results showed that the technical quality of care dimension receives a significant contribution at the level of 0.01 and accounts for 0.472 standard deviation changes in patient trust (see Table 4.32). This is a great significant effect compared with the other dimensions. As a result, to reinforce patient trust, hospitals managers should always work to improve the professional knowledge and expertise of doctors, and to practice interaction between patients and doctors.

- ***Perceived Waiting Time***

This dimension includes aspects related to the amount of time spent in the waiting room before consultation, the amount of time given by staff to listen and answer their questions, and the length of the consultation. Therefore, this dimension includes the staff responsiveness, the waiting time for appointments, and the provider's consultation duration. The perceived waiting time dimension accounts for 0.160 standard deviation change of patient trust at the level of 0.01 (Table 4.32). Its impact ranks second after the technical quality of care dimension. This implies that policymakers should prioritize managing waiting time and improve the appointment systems to strengthen the level of trust.

- ***Physical Characteristics***

Physical characteristics in this study are related to hygiene, noise, and comfort. It contains two items on cleanness, one item on toilet hygiene, one item on comfort, and one item on the pleasing environment. Cleanness has been reported in many studies (Ware *et al.*, 1983; Atinga *et al.*, 2011). Toilet's hygiene can be typical of Lebanon at OPD, as multi-specialty clinics and patients share the same toilet. The physical characteristics dimension receives a significant coefficient in the regression model. Its impact on patient trust ranks third. The physical characteristics dimension receives a significant coefficient at the level of 0.05 and accounts for 0.093 standard deviation changes in patient trust (Table 4.32). Therefore, to improve patient trust, private hospitals must consider the hygienic conditions of the facility.

- ***Perceived Cost***

The perceived cost dimension is the fourth dimension determining the variation in patient trust. The perceived cost dimension receives a significant coefficient at the level of 0.05 and accounts for 0.083 standard deviation changes in patient trust (Table 4.32). Although a small contribution, its impact on patient trust is greater than the dimension accessibility, which takes a standardized beta coefficient of 0.030. This dimension includes aspects related to the

affordability of medical services, the reasonableness of medical costs, and the medical costs versus the services provided. Studies revealed that Lebanese physicians perceived as profit-driven were likely to lose patient trust (Shaya *et al.*, 2019; Arawi, 2010). Similarly, another study showed that patients became concerned when they did not know whether physicians gave them a prescription for their benefits or the physician's financial gain (Csc, 2018). Therefore, policymakers in Lebanon should set priorities on maintaining a level of trust from consultation to treatment to make patients feel that total medical cost was worthwhile.

- ***Accessibility***

This dimension includes aspects related to the ease of appointment, as well as the staff assistance, and professionalism in providing sufficient information on the appointment. The accessibility dimension receives a significant coefficient in the regression model of overall satisfaction. Its impact ranked fifth after physical characteristics. The accessibility dimension receives a significant coefficient at the level of 0.05 and accounts for 0.030 standard deviation changes in patient trust (Table 4.23). This finding confirmed that easy access to care and a feeling of support improve patient trust.

To sum up, the exact purpose of this section was to identify the service quality dimensions that influence patient trust. This study showed that the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions influence patient trust in that order of importance; in particular, the technical quality of care was a strong predictor of patient trust. This is an important step in understanding the unique dimensions of patient trust in Lebanon, as the healthcare system in Lebanon continues to develop. Patient trust in their provider is an essential foundation for fostering patient satisfaction. Thus, establishing, and fortifying patient-physician trust is vital for healthcare experts. This study found that reinforcing this relationship depends on the ability of the healthcare system to promote all positive dimensions (technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility). More specifically, hospitals should always work to improve the professional knowledge and expertise of doctors as the technical quality of care has the greatest influence on patient trust.

4.4.3 The Influence of Patient Emotions and Patient Trust on Patient Satisfaction

This section consists of two parts. The first section examines the influence of patient emotions on patient satisfaction, and the second section examines the influence of patient trust on patient satisfaction. This is to address Research objective three (RO3); to examine the influence of patient trust and patient emotions on outpatient satisfaction.

4.4.3.1 Hypothesis 4: Patients' Emotions have a Significant Impact on Patient Satisfaction

Using the data collected from the structured questionnaire, the researcher tested the patient emotions average with the dependent variable (overall patient satisfaction). The H0 means that patient emotions have no significant positive impact on patient satisfaction. H1 means that patient emotions have a significant positive impact on patient satisfaction. According to Spearman's correlation test, the researcher found that *Sig.* is less than .05, which means that H0 is rejected, and H1 is accepted.

Table 4.33 describes the correlation between patient emotions and patient satisfaction. To analyze the results, if the level of significance (*Sig.*) is less than 0.05, means that there is a significant relationship between patient emotions and patient satisfaction. Based on the results, the significance is .000, which confirms that there is a relationship between patient emotions and patient satisfaction. To understand the strength of the relationship, the correlation is analyzed. The Spearman correlation is 0.396 and positive; this means that the relationship is positive and moderate in strength.

Table 4.33: Correlation between Patient Emotions and Patient Satisfaction

	Patient Emotions
Spearman Correlation	.396**
Overall Satisfaction Sig. (2-tailed)	.000
N	521

**Significant at the 0.01 level (2-tailed)

After presenting the findings of Hypothesis 4, the result's discussion follows.

4.4.3.1.1 Discussion

In the healthcare sector, only a few studies have examined the influence of emotions on satisfaction so far. Affect or emotion has risen as an important aspect in the field of

satisfaction, but its importance in service quality models or empirical research on the relationship between service quality and customer satisfaction has not been completely covered (Grönroos, 2001). While the exact nature of the relationship between patient emotion and patient satisfaction continues to be debated, it is currently broadly acknowledged that emotions may be one of the main determinants of the consumer satisfaction construct (Oliver and Westbrook, 1993; Stauss and Neuhaus, 1997; Barsky and Nash, 2002). The present study shows that the Spearman correlation is 0.396 and positive, which means that patient emotions have a moderate positive correlation with patient satisfaction. Moreover, the significance is .000, which confirms that there is a significant relationship between patient emotions and patient satisfaction. The findings of this study support Hypothesis 4 (H4) “patient emotions have a significant positive impact on patient satisfaction”, similar to the findings from previous studies (Han and Ryu, 2009; Jang and Namkung, 2009; Wong *et al.*, 2013; Vinagre and Neves, 2008; Lin and Liang, 2011; McColl-Kennedy *et al.*, 2017, Ladhari *et al.*, 2017, Reinares-Lara *et al.*, 2019; Greco and Bere, 2020). According to the results of hypothesis (H2), the finding of the current study highlights the importance of the technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions of service quality in the context of the healthcare setting in Lebanon to create great perceptions on the quality of care to elicit patient’s emotions, which reflect the cultural context of the Lebanese patients. Therefore, hospital management can focus on refining the items of the technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions to heighten desired feelings, which in its turn impact patient satisfaction.

4.4.3.2 Hypothesis 5: The Positive Impact of Patient Trust on Patient Satisfaction

For hypothesis 5, the patient trust scale was tested against the dependent variable (overall patient satisfaction). For this hypothesis, the H0 means patient trust has no significant positive impact on satisfaction; H1 means patient trust has a significant positive impact on patient satisfaction. According to Spearman’s correlation test, there was a significant moderate positive correlation between patient trust and patient satisfaction $r_s=0.452$, Sig. < 0.05. There was a statistically significant relationship between patient trust and patient satisfaction. Therefore, the researcher can reject the null hypothesis and accept the alternative hypothesis (Laerd statistics, 2018).

Table 4.34 describes the correlation between patient trust and patient satisfaction. To analyze the results, if the level of significance (Sig.) is less than 0.05, this means that there is a

significant relationship between patient trust and patient satisfaction. Based on the results, the significance is .000, which confirms that there is a significant relationship between patient satisfaction and patient trust. To understand the strength of the relationship, the correlation is analyzed. The Spearman correlation is 0.452 and positive; this means that the relationship is positive and moderate in strength.

Table 4.34: Correlation between Patient Trust and Patient Satisfaction

	Patient Trust
Spearman Correlation	.452**
Overall Satisfaction Sig. (2-tailed)	.000
N	521

**Significant at the 0.01 level (2-tailed)

After presenting the findings of Hypothesis 5, the result's discussion follows.

4.4.3.2.1 Discussion

Patient trust, identified in the literature, correlates very well with patient satisfaction (Anderson and Dedrick, 1990; Thom and Campbell, 1997; Thom *et al.*, 1999; Hall *et al.*, 2006; Balkrishnan *et al.*, 2003; Chang *et al.*, 2013; Aman and Abbas, 2016; Ramli, 2019). The results of the current study show that the Spearman correlation is 0.452 and positive, which means that patient trust has a moderate positive correlation with patient satisfaction. Moreover, the significance is .000, which confirms that there is a significant relationship between patient trust and patient satisfaction. These results confirm what several authors (Chang *et al.*, 2013; Aman and Abbas, 2016; Ramli, 2019; Liu *et al.*, 2021; Chandra *et al.*, 2020) have said about patient's trust being an influence over patient satisfaction. In addition, this research can validate that hypothesis five (H5) "patient trust has a significant positive impact on patient satisfaction" was confirmed. This implies that if patients trust the medical institution and more specifically healthcare providers, patient satisfaction would also increase significantly. The results provide empirical evidence that trust is vital for the patient-physician relationship. Thus, the researcher recommends that healthcare providers invest the time and effort in building trust to influence patient satisfaction (Platonova *et al.*, 2008). According to the results of hypothesis (H3), establishing and fortifying patient trust is dependent on the ability of the healthcare system to promote all positive determinants (technical quality of care, perceived waiting time, perceived cost, physical characteristics,

and accessibility) which showed to influence patient trust and more specifically patient satisfaction. As a result, hospital managers must continuously promote these dimensions to develop patient trust that impacts patient satisfaction positively.

4.4.4 Patients' Demographics and their Relation with Overall Satisfaction

In this section, the researcher tests the impact of patient demographics on patient satisfaction. This addresses the research objective (RO4) 'To determine the impact of patient demographics on patient satisfaction and on particular service quality dimensions. This section tests the importance of patient demographics in determining patient satisfaction through the Chi-Square test.

4.4.4.1 Hypothesis 6: There is Significant Positive Relationship between Patients' Demographics (age, gender, educational level, marital status, income) and Patient Satisfaction

To test this hypothesis, the researcher employs the Chi-Square analysis.

4.4.4.1.1 There is Significant Positive Relationship between Patients' Age and Patient Satisfaction (SH6-1)

For Secondary Hypothesis SH6-1: There is a significant positive relationship between patients' age and patient satisfaction. H0 means there is no significant positive relationship between patient's age and patient satisfaction. H1 means there is a significant relationship between patient's age and patient satisfaction. According to the Pearson Chi-Square correlation test (Table 4.35), the researcher discovered that the significance *Sig.* is higher than 0.05, which means that the H1 is rejected and therefore H0 is accepted.

Table 4.35 describes the relationship between age and patient satisfaction. To analyze the results, if the level of significance is less than 0.05, then this means there is a significant relationship between age and patient satisfaction. Based on the results, the significance is 0.427, which means that there is no statistically significant relationship between age and patient satisfaction.

Table 4.35: Chi-Square Results

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.232 ^a	12	.427
Likelihood Ratio	14.264	12	.284
Linear-by-Linear Association	.174	1	.677
N of Valid Cases	521		

4.4.4.1.2 There is Significant Positive Relationship between Patients' Gender and Patient Satisfaction (SH6-2)

For secondary hypothesis SH6-2: There is a significant positive relationship between patients' gender and patient satisfaction. H0 means there is no significant relationship between patients' gender and patient satisfaction. H1 means there is a significant relationship between patients' gender and patient satisfaction. According to the Pearson Chi-Square correlation test, the researcher discovered that the significance Sig. is higher than 0.05, which means H0 is accepted, and H1 is rejected.

Table 4.36 describes the relationship between gender and patient satisfaction. To analyze the results, if the level of significance is less than 0.05, this means there is a significant relationship between gender and patient satisfaction. Based on the results, the significance is 0.485, which confirms that there is no statistically significant relationship between gender and patient satisfaction.

Table 4.36: Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.452 ^a	4	.485
Likelihood Ratio	3.891	4	.421
Linear-by-Linear Association	.336	1	.562
N of Valid Cases	521		

4.4.4.1.3 There is Significant Positive Relationship between Patients' Educational Level and Patient Satisfaction (SH6-3)

For Secondary Hypothesis SH6-3: There is a significant positive relationship between patients' educational level and patient satisfaction. H0 means there is no significant relationship between patients' educational level and patient satisfaction. H1 means there is a significant relationship between patients' educational level and patient satisfaction. According to the Pearson Chi-Square correlation test, the researcher discovered the significance *Sig.* is greater than 0.05 which means that H0 is accepted and therefore H1 is rejected.

Table 4.37 describes the relationship between educational level and patient satisfaction. To analyze the results, if the level of significance is less than 0.05, this means there is a significant relationship between educational level and patient satisfaction. Based on the results, the significance is 0.090, which confirms that there is no statistically significant relationship between educational level and patient satisfaction.

Table 4.37: Chi-Square Results

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.946 ^a	12	.090
Likelihood Ratio	18.242	12	.109
Linear-by-Linear Association	.178	1	.673
N of Valid Cases	521		

4.4.4.1.4 There is Significant Positive Relationship between Patients' Marital Status and Patient Satisfaction (SH6-4)

For secondary hypothesis (SH6-4): The H0 means there is no significant relationship between patients' marital status and patient satisfaction. H1 means there is a significant relationship between patients' marital status and patient satisfaction. According to the Pearson Chi-Square correlation test, the researcher discovered the significance Sig. is more than 0.05 which means H0 is accepted and H1 is rejected.

Table 4.38 describes the correlation between marital status and patient satisfaction. To analyze the results, if the level of significance is less than 0.05, this means there is a significant relationship between gender and patient satisfaction. Based on the results, the significance is 0.998, which confirms that there is no statistically significant relationship between marital status and patient satisfaction.

Table 4.38: Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.501 ^a	16	.998
Likelihood Ratio	6.263	16	.985
Linear-by-Linear Association	.249	1	.617
N of Valid Cases	521		

4.4.4.1.5 There is a significant positive relationship between patients' income and patient satisfaction (SH6-5)

For Secondary Hypothesis SH6-5: H0 means there is no significant relationship between patients' income and patient satisfaction. H1 means there is a significant relationship between patients' income and patient satisfaction. According to the Pearson Chi-Square correlation test, the researcher discovered the significance Sig. is less than 0.05, which means that H1 is accepted and thus H0 is rejected.

Table 4.39 describes the correlation between income and patient satisfaction. To analyze the results, if the level of significance is less than 0.05, means there is a significant relationship between income and patient satisfaction. Based on the results, the significance is .000, which confirms the significant relationship between income and patient satisfaction.

Table 4.39: Chi-Square results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	80.920 ^a	16	.000
Likelihood Ratio	33.959	16	.006
Linear-by-Linear Association	.044	1	.834
N of Valid Cases	521		

a. 14 cells (56.0%) have an expected count of less than 5. The minimum expected count is .02.

To understand the strength of the relationship, the researcher analyses the Cramer's V coefficient (see Table 4.40). The Cramer's V coefficient is 0.197 and positive; this means that this relationship is positive and weak in strength.

Table 4.40: Symmetric Measures

	Value	Approx. Sig.
Nominal by Nominal Phi	.394	.000
Cramer's V	.197	.000
N of Valid Cases	521	

a. Not assuming the null hypothesis.

To further analyze the relationship between each income category and patient satisfaction, the researcher analyses the crosstabulation results.

Table 4.41 shows the observed frequencies. For the income category (Less than \$700), the observed frequency is slightly higher than expected for satisfied people and lower than expected for the strongly satisfied. This could lead to the assumption that there is a relationship between patients' income and patient satisfaction, and that patients whose income is less than \$700 are more likely to be satisfied.

For the income category (between \$700-1300), the observed frequency is slightly lower than expected for satisfied, higher than expected for the strongly satisfied, which means that patients whose income is between \$700-1300 are more related to be strongly satisfied.

For the other income categories, there is no difference between the observed frequency and the expected frequency, this means that there is no relationship between patients' income within this category and patient satisfaction.

Table 4.41: Income * Overall Satisfaction Crosstabulation

		In general, I am overall satisfied with outpatients' services					Total
		Strongly dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Strongly Satisfied	
less than 700	Count	0	0	8	210	65	283
	Expected Count	.5	1.1	10.3	192.8	78.2	283.0
Between 701-1300	Count	0	0	8	97	59	164
	Expected Count	.3	.6	6.0	111.7	45.3	164.0
Income Between 1301-2000	Count	0	2	3	28	9	42
	Expected Count	.1	.2	1.5	28.6	11.6	42.0
between 2001-3000	Count	1	0	0	6	5	12
	Expected Count	.0	.0	.4	8.2	3.3	12.0
3001 and above	Count	0	0	0	14	6	20
	Expected Count	.0	.1	.7	13.6	5.5	20.0
Total	Count	1	2	19	355	144	521
	Expected Count	1.0	2.0	19.0	355.0	144.0	521.0

4.4.4.2 Service Quality Dimensions in Relation to Socio-Demographic Characteristics

The section will provide more information on the service quality dimensions in relation to the socio-demographic characteristics. The purpose of this analysis is to find differences in satisfaction ratings based on demographic characteristics such as gender, age, marital status, educational level, and income. In this section, ANOVA and t-test are used to find differences in patient characteristics compared to the satisfaction with the quality of services. At first, the assumption of equal variance of the means of scale score and individual factor score is confirmed through Levene's tests for equality of variance. Therefore, the comparison between factor scores and scale scores was based on this assumption.

- ***Patient's Gender***

To identify possible differences in the mean of factor scores by gender, the T-test approach is used. The analysis results are illustrated in Table 4.42. The results show that there is no significant difference in the mean score of the service quality dimensions between gender, except for the perceived cost dimension (Sig. =0.040). The findings suggest that males are more likely to be satisfied with the perceived cost dimension.

Table 4.42: T-test Results of Perceived Service Quality Scale by Gender

	Male (214)	Female (307)	t test, Sig.
Physical Characteristics	4.41	4.41	t=.088, Sig.=.930
Patient-provider communication	4.84	4.83	t=-.155, Sig.=.877
Technical Quality of care	4.85	4.83	t=-.384, Sig.=.701
Perceived waiting time	4.19	4.19	t=-.032, Sig.=.975
Perceived cost	3.99	3.80	t=-2.061, Sig.=.040 *
Accessibility	4.70	4.75	t=.915, Sig.=.361
Scale Score	4.47	4.75	t=-.725, Sig.=.469

* Significant at the 0.05 level

- ***Patients' Age***

To identify possible differences in the mean of factor scores by age, the ANOVA approach is used. The analysis results are illustrated in Table 4.43. The results show that there is no significant difference in the mean score of the service quality dimensions between age groups, except for the patient-provider dimension (Sig. =0.029). For further analysis, Post hoc analysis using the Bonferroni approach was examined. The patient-provider communication dimension shows a significant difference at the level of 0.05 of the mean score between the group of more than 60 and 18-30. This means that older patients are more likely to be dissatisfied with the patient-provider communication dimension.

Table 4.43: ANOVA Results of Perceived Service Quality Scale by Age Group

	18-30 (76)	31-45 (140)	46-60 (160)	Above 60 (145)	F test, Sig.
Physical Characteristics	4.42	4.41	4.39	4.42	F=.092, Sig.=.965
Patient-provider communication	4.92	4.87	4.84	4.76	F=3.021, Sig.=.029 *
Technical Quality of care	4.91	4.82	4.85	4.80	F=1.152, Sig.=.328
Perceived waiting time	4.22	4.20	4.11	4.26	F=1.444, Sig.=.229
Perceived cost	3.91	3.87	3.76	4.03	F=1.843, Sig.=.138
Accessibility	4.77	4.74	4.79	4.64	F=1.780, Sig.=.150
Scale Score	4.53	4.48	4.45	4.48	F=.515, Sig.=.672

* Significant at the 0.05 level

- ***Patients' Marital Status***

To identify possible differences in the mean of factor scores by marital status, the T-test approach is used. The analysis results are illustrated in Table 4.44. Only single and married patients were included in the analysis because the proportion of the other groups is relatively low. The results show that there is no significant difference in the mean score of the service quality dimensions between single and married. This means that the level of satisfaction with hospital services does not differ between single and married patients.

Table 4.44: T-test Results of the Perceived Service Quality Scale by Marital Status

	Single (86)	Married (368)	t test, Sig.
Physical Characteristics	4.41	4.41	t=.100, Sig.=.920
Patient-provider communication	4.87	4.84	t=.593, Sig.=.553
Technical Quality of care	4.85	4.83	t=.278, Sig.=.781
Perceived waiting time	4.14	4.17	t=-.364, Sig.=.716
Perceived cost	3.96	3.79	t=1.333, Sig.=.183
Accessibility	4.82	4.71	t=1.452, Sig.=.147
Scale Score	4.51	4.46	t=.996, Sig.=.320

- ***Patients' Educational Level***

To identify possible differences in the mean of factor scores by educational level, the ANOVA approach is used. The analysis results are illustrated in Table 4.45. The results show that there is no significant difference in the mean score of the service quality dimensions between educational level groups, except for the physical characteristics dimension (Sig. =0.010). For further analysis, Post hoc analysis using the Bonferroni approach was examined. The results show that mean scores of physical characteristics do not show any specific difference between educational level groups.

Table 4.45: ANOVA Results of the Perceived Service Quality Scale by Educational Level

N=521	Elementary/Primary (249)	Secondary/High school (109)	College/University (115)	Post- Graduate (48)	F test, Sig.
Physical Characteristics	4.50	4.35	4.33	4.27	F=3.852, Sig.=.010**
Patient- provider communication	4.88	4.81	4.80	4.77	F=1.789, Sig.=.148
Technical Quality of care	4.89	4.79	4.80	4.75	F=2.620, Sig.=.052
Perceived waiting time	4.23	4.10	4.20	4.16	F=.985, Sig.=.400
Perceived cost	3.90	3.69	4.00	3.89	F=1.796, Sig.=.147
Accessibility	4.77	4.72	4.66	4.70	F=.905, Sig.=.438
Scale Score	4.53	4.41	4.46	4.42	F=2.586, Sig.=.052

** Significant at the 0.01 level

- **Patients' Income**

To identify possible differences in the mean of factor scores by income groups, the ANOVA approach is used. The analysis results are illustrated in Table 4.46. The results show that there is a significant difference in the mean score of scale and its constituent service quality dimensions between income groups at the level of 0.05 (Sig. =0.026). The physical characteristics and perceived cost dimensions show significant mean differences across income groups. For further analysis, Post hoc analysis using the Bonferroni approach was examined. The results show that the mean scores of physical characteristics do not show any specific difference between income groups. However, the perceived cost dimension showed a significant difference between the group of 700-1300 and 1300-2000. In short, there is evidence that patients whose income is almost low, are likely more satisfied with hospital services.

Table 4.46: ANOVA Results of the Perceived Service Quality Scale by Income

N=521	Less than 700 (283)	Between 700-1300 (164)	Between 1300-2000 (42)	Between 2000-3000 (12)	Above 3000(20)	F test, Sig.
Physical Characteristics	4.42	4.47	4.30	4.00	4.19	F=2.946, Sig.=.020*
Patient-provider communication	4.84	4.87	4.71	4.91	4.73	F=1.639, Sig.=.163
Technical Quality of care	4.85	4.85	4.72	4.83	4.72	F=1.215, Sig.=.303
Perceived waiting time	4.18	4.27	3.95	4.16	4.22	F=2.058, Sig.=.085
Perceived cost	3.78	4.06	3.61	4.19	4.25	F=3.535, Sig.=.007*
Accessibility	4.72	4.77	4.66	4.83	4.73	F=1.119, Sig.=.347
Scale Score	4.47	4.55	4.32	4.42	4.49	F=2.777, Sig.=.026*

* Significant at the 0.05 level

4.4.4.2.1 Discussion of the Main Findings- Patients' Demographics

In this section, the researcher revisits patients' demographics and identifies their relative strength in influencing patient satisfaction. This addresses the research objective (RO4) 'To determine the impact of patient demographics on patient satisfaction and on particular service quality dimensions.

Investigating the relationship between patient demographic characteristics and patient satisfaction is required to find out any significant relationship between them. This will help develop appropriate strategies to improve the quality of healthcare in hospitals. The literature showed many demographic characteristics closely related to patient satisfaction (Levinton *et al.*, 2011; Quintana *et al.*, 2006; Sitzia and Wood, 1997; Yan *et al.*, 2011; Hawrysz *et al.* 2021; Miao *et al.*, 2020; Shen *et al.*, 2021; Adhikari *et al.*, 2021).

- ***Patients' Age and Patient Satisfaction***

According to the Pearson Chi-Square correlation test, the researcher found that the significance *Sig.* is greater than 0.05, which means that there is no significant relationship between patient's age and patient satisfaction. These results confirm what several authors (Hall and Dornan, 1988; Jaipaul and Rosenthal, 2003; Ziaei *et al.* 2011; Choi *et al.*, 2005; Tucker and Adams, 2001; Yardan *et al.*, 2012) have said about patient's age having no influence on patient satisfaction. This finding is consistent for all the service quality dimensions except the patient-provider communication dimension.

Although the patient's age did not show a statistically significant relationship with overall patient satisfaction in the present study, its prevalence in other work was noteworthy. Some researchers showed the older the patients were, the more satisfied they were (Naseer *et al.*, 2012; Afzal *et al.*, 2014; Ammo *et al.*, 2014; Ali *et al.*, 2015; Kalaja *et al.*, 2016; Kimani *et al.*, 2016; Abasiubong *et al.*, 2018; He *et al.*, 2018), and some other studies showed that younger patients were more satisfied (Footman *et al.*, 2013; Mihailovic *et al.*, 2017). A review of surveys from 1989-2003, to evaluate trends in patient satisfaction by socio-demographics over a five-year period agreed that older patients were more satisfied than younger patients were (Cho and Kim, 2007).

Regarding the service quality dimensions, there was a significant difference in the patient-provider communication dimension. The difference in patient-provider communication arose from the group of more than 60 and 18-30. The findings in this research confirmed that younger patients are more likely to be satisfied with the personal interaction with providers.

- ***Patients' Gender and Patient Satisfaction***

The effects of gender were inconsistent in all studies (Xiong *et al.*, 2018). In some studies, women were more satisfied with their health services than men do (Bikker and Thompson,

2006; Alshammari, 2014). In some others, men tend to report greater satisfaction than women (Al-Eisa *et al.*, 2005; Quintana *et al.*, 2006; Wright *et al.*, 2006; Hekkert *et al.*, 2009; Senarath *et al.*, 2013; Afzal *et al.*, 2014; Kimani *et al.*, 2016). Some others showed no effect (Afzal *et al.*, 2014; Kalaja *et al.*, 2016). However, the univariate analysis in this research did not show significant differences in satisfaction between the two genders (Table 4.42). These results validate what several authors (Afzal *et al.*, 2014; Dulgerler *et al.*, 2012; Kalaja and Myshketa, 2016) reported that gender showed no significant influence on patient satisfaction in their research.

This finding is consistent across all service quality dimensions except perceived cost. The result suggests that males are more likely to be satisfied with the aspect of the cost of the services provided in private hospitals. This comes in accordance with the study by Bhattacharya *et al.* (2018) who revealed that males reported a higher satisfaction level for service quality factor “financial aspect”.

- ***Patients’ Educational Level and Patient Satisfaction***

The patient’s educational level did not show a significant relationship with patient satisfaction (Table 4.37). This finding is also consistent with the service quality dimensions of satisfaction except for the physical characteristics dimension (Table 4.45; Sig. =0.10). Others are insignificant.

- ***Patients’ Marital Status and Patient Satisfaction***

There is no significant relationship between marital status and patient satisfaction, as well as related service quality dimensions.

While marital status showed no statistically significant relationship with patient satisfaction in the present study, its prevalence in other work was noteworthy. Some studies have shown that married patients are more satisfied (Baltaci *et al.*, 2013; Afzal *et al.*, 2014; Pandey *et al.*, 2019) but in another study, unmarried or divorced are more satisfied (De Man *et al.*, 2002). Some others show that single respondents reported a lower level of patient satisfaction compared to married patients (Birhanu *et al.*, 2010; Kimani *et al.*, 2016). In contrast, single respondents reported higher patient satisfaction with health care services than married respondents did (Abioye *et al.*, 2010).

- ***Patients' Income and Patient Satisfaction***

Examining the relationship between patients' income and patient satisfaction and its related service quality dimensions showed a significant relationship between them. The significant difference came from the physical characteristics and perceived cost dimensions. The explanation for this result means that low-income patients are more likely to be satisfied than high-income patients are. This finding validates the results of other studies that low-income patients are more satisfied (Hall and Dornan, 1990; Sitzia and Wood, 1997; Worthington 2005; Yan *et al.*, 2011; Naseer *et al.*, 2012; Afzal *et al.*, 2014; Haj-Ali *et al.*, 2014; Kalaja *et al.*, 2016).

In conclusion, the exact purpose of the section is to examine the impact of patient demographics on patient satisfaction. The particular reason for this relationship is that the correlation between demographic factors and patient satisfaction should not be ignored in analyzing patient satisfaction, and understanding differences in satisfaction based on patient personal characteristics is an important direction for studies on patient satisfaction. Previous findings revealed that a patient's income has a positive impact on overall patient satisfaction. Regarding the service quality dimensions, it was found that older patients are more likely to be dissatisfied with the patient-provider communication dimension, and males are more likely to be satisfied with the perceived cost of the services provided at the private hospitals.

4.5 Conceptual Model Fit

In this section, the researcher tests the conceptual model fit. This section tests the framework developed in chapter two, which addresses research objective 5; to test the integrated conceptual framework on outpatients in Lebanese private hospitals. Therefore, multivariate analysis using Ordinary Least Square Regression (OLS) for patient satisfaction as the dependent variable with all independent variables was conducted. For the analysis, the independent variables were added one by one to find out their significant contribution to the model, and finally, come up with the final model that included all the independent variables at the same time.

In the first model (Model 1), the direct impact of perceived service quality on patient satisfaction was examined. In this stage, the perceived service quality dimensions and patient satisfaction were included in the model. Model fitness statistics showed the model was good (Sig. < 0.01; Adjusted R-square=0.320). Therefore, perceived service quality is a significant

predictor of overall patient satisfaction. The second model (Model 2) focused on the impact of perceived service quality and patient emotions. In this stage, perceived service quality and patient emotions were included in the model with patient satisfaction. The import was to examine how much patient emotions added to explaining patient satisfaction. Model fitness statistics showed that the model was also good (Sig. < 0.01; Adjusted R-square=0.341). As a result, perceived service quality and patient trust together significantly predict overall patient satisfaction. The third model (Model 3) included the introduction of patient trust to model 2. In this stage, service quality dimensions, patient trust, and patient emotions with patient satisfaction were included in the model. The import was to examine how much patient trust added to explaining patient satisfaction. Model fitness statistics showed that the model was also good (Sig. < 0.01; Adjusted R-square=0.353). As a result, when taken together, perceived service quality, patient trust, and patient emotions significantly predict overall patient satisfaction. The fourth and final model (4) comprised the introduction of patient demographics. In this stage, perceived service quality, patient trust, patient emotions, and patient demographics were included in the model with patient satisfaction. The import was to investigate how much patient demographics added to explaining patient satisfaction. Since all demographic variables were categorical and needed to be included in the regression, they were broken down into dummy variables to ensure that the different categories were analyzed separately. This was done to avoid missing important information since some of the categories could be statistically significant even if the variable when taken together might not be. The results show that Adjusted R-square= 0.351 and F=18.606 at Sig. < 0.01, which means that perceived service quality, patient trust, patient emotions, and patient demographics together significantly predict overall patient satisfaction. However, the ANOVA results for change in R-square is F=18.606 at Sig.=0.585> 0.005 (Table 4.47), which means that patient demographics do not account for a significant amount of variance above and beyond perceived service quality, patient trust, and patient emotions.

Table 4.47 reports the regression results of all models showing the relationship between the observed variables. In model 1, the results confirm the relationship between perceived service quality and patient satisfaction. The R-square shows that perceived service quality can explain 32% of the changes in overall patient satisfaction. In model 2, patient emotions were added to the estimation to evaluate its contribution to the predictive power of the model. The results show that patient emotions contributed 0.023% to the explanatory power of the model. In model 3, patient trust was added to the estimation to evaluate its contribution to

the predictive power of the model. The results show that patient trust contributed 0.013% to the explanatory power of the model.

In this context, the regression model can be expressed as follows:

Overall patient satisfaction = $\beta_0 + \beta_1$ (perceived service quality) + β_2 (patient emotions) + β_3 (patient trust) + ε

Where β_0 = intercept

β_1 to β_3 = coefficient of slope parameters

ε = Error Term

In model 4, patients' demographics were added to the prediction. Patient gender is categorical and dichotomous; however, the other demographics (age, marital status, educational level, and income) are, however, categorical polytomous. There were transformed into dummy variables; three dummy variables for patient age, three dummy variables for patient's marital status, three dummy variables for patient's educational level, and four dummy variables for patient's income. The inclusion of patient demographics separately did not change significantly the R-Square; they were all included at the same time.

The inclusion of patient demographics (Model 4) shows that Adjusted R-square = 0.351 did not change significantly compared to Model 3 (Adjusted R-square = 0.353). The $F = 18.606$ at $\text{Sig.} < 0.01$, which means that perceived service quality, patient trust, patient emotions, and patient demographics together significantly predict overall patient satisfaction. The ANOVA results for change in R-square is at $\text{Sig.} = 0.585 > 0.005$ (Table 4.47), which means patient demographics do not account for a significant amount of variance above and beyond perceived service quality, patient trust, and patient emotions.

Table 4.47 represents the summary of the model. The results show that the goodness-of-fit measurement $R^2 = 0.351$, which means that 35.1% of the variance of the independent variables can be explained by the dependent variable (overall patient satisfaction). Therefore, this measurement is considered good. Table 4.47 also shows the F value, which represents the overall significance of the regression model. The F Value represents the ratio of the mean regression sum of squares by the mean error sum of squares. The results show the F value decreases from top to bottom because the more independent variables are added, the lower the F values. The reason is that by adding more independent variables, it shares

the dependent variable among them. In our case, the F value starts at 245.730 going down to 18.606 therefore the model is strong.

Table 4.47: OLS Regression Analysis for Patient Satisfaction

Independent Variables	Model (1)		Model (2)		Model (3)		Model (4) Full Model	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
Perceived Service Quality	.751**	.000	.647**	.000	.560**	.000	.556**	.000
Patient Emotions			.221**	.000	.159*	.004	.146**	.001
Patient Trust					.147**	.001	.158*	.004
Demographics Gender Age Dummies Income Dummies Marital Status Dummies Educational Level Dummies							.025 Include Include Include Include	
Constant	.853**	.000	.254*	.002	.261*	.003	.212	.423
Adj.R Square	.320		.341		.353		.351	
F-Statistics	245.730		135.823		95.776		18.606	
Sig. (F-Statistics)	.000		.000		.000		.000	
Sig F changed					.001		0.585	
N. of observations	521		521		521		521	

** Significant at the 0.01 level; * Significant at the 0.05 level

Coef. Unstandardized coefficient

4.6 Chapter Conclusion

This chapter presented the results of the main study. It first presents the demographics of the 521 participants who participated in this research. The validity and reliability of the scales were then presented, followed by a descriptive analysis of the scales and subscales. Subsequently, it presented the findings of the six hypotheses developed in chapter two and expanded the results of hypotheses per sub-hypothesis. Finally, the researcher presented the conceptual model fit. Chapter 5 summarizes the main research findings and presents the final framework for this Thesis.



CHAPTER 5-CONCLUSION



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5.0 Introduction

This chapter presents the results and conclusions to the findings of this research. The first section addresses the hypotheses, discusses the findings, and gives general implications to the findings that arise in chapter four. This chapter also summarizes the research objectives and how these objectives were addressed and answered. This study initially aims “To develop a generic preliminary integrated conceptual framework that integrates perceived service quality, emotions, trust, and outpatient socio-demographic characteristics”, this chapter presents the final version of the framework that has been developed in chapter two based on the analysis of the data collected. The second section discusses the limitations of the research.

5.1 Summary of the Study

This study focuses on the four key constructs of patient satisfaction, including perceived service quality, patient trust, patient emotions, and patient demographics. This research effort will help hospital managers and quality managers better understand patient satisfaction and formulate effective strategies to provide high-quality service for outpatients and maintain business success.

5.1.1 The Summary of the Research’s Content and Process

This study’s main purpose is “to identify and examine the major key constructs affecting outpatients’ satisfaction, including perceived service quality, patient’s emotions, patient trust, and patient demographics to develop and empirically test a model that depicts and estimate the relationships between them toward managerial utilization by Lebanese private hospitals”. The research subject in this study is outpatient satisfaction with the quality of medical services provided by the private hospitals in North Lebanon. The research methodology used to test the theoretical model (discussed in chapter 3) consists of two main stages: the preliminary study and the main study. The preliminary study is conducted through qualitative research methods, including literature reviews of previous studies and theories, and focus group discussions. The main study (using quantitative research method) is conducted through a survey questionnaire to patients who used the services provided at the outpatient departments of the participating private hospitals in North Lebanon, with a sample size of 521. In the analysis stage, the validity and reliability of the scales were assessed through Exploratory Factor Analysis and Cronbach’s alpha coefficient. Finally, the

hypotheses and the theoretical model are tested using SPSS and the results are presented in chapter four.

Most of the published satisfaction questionnaire surveys on Lebanese patients were studies in tertiary care centers, primary healthcare services, or centralized in the capital Beirut and the focus of these studies was inpatients (Baalbaki *et al.*, 2008; Hemadeh *et al.*, 2019; Haj-Ali *et al.*, 2014; Ammo *et al.*, 2014). Compared to the previous literature, in this study, a questionnaire was developed to collect primary data from outpatients in private hospitals in North Lebanon. An Exploratory Factor Analysis (EFA) and multiple linear regression were then performed to describe the satisfaction and associated dimensions, exploring outpatient satisfaction in North Lebanon. It is the first outpatient satisfaction questionnaire based on EFA, and the questionnaire showed good reliability and good validity.

Five private hospitals were selected based on size and geographic location. There were two versions of the questionnaire: an Arabic version and an English version. The choice of the questionnaire was used based on the preferences of the participants. Most outpatients preferred that the surveyors read, explain, and then fill out the questionnaires based on their verbal responses. The surveyor has made a great effort to standardize the way of approaching the patients and explaining the questions; the answers may still have been subject to interviewer bias. Therefore, to ensure the confidentiality and the privacy of the participants, there were no healthcare providers during data collection.

5.2 Summary of the Main Findings

Based on the results, the researcher uses the hypotheses' findings to conclude the final framework, which is part of the objective, to adapt and refine a final framework that recognizes and establishes outpatient satisfaction for Lebanese private hospitals.

5.2.1 Hypothesis 1

The first hypothesis of this Thesis examines the impact of perceived service quality on patient satisfaction with the help of six service quality dimensions, as indicated below:

H1: Perceived service quality has a positive impact on patient satisfaction.

SH1-1: The technical quality of care dimension has a significant positive impact on patient satisfaction

SH1-2: The Patient-provider communication dimension has a significant positive impact on patient satisfaction

SH1-3: The physical characteristics dimension has a significant positive impact on patient satisfaction

SH1-4: The perceived waiting time dimension has a significant positive impact on patient satisfaction

SH1-5: The perceived cost dimension has a significant positive impact on patient satisfaction

SH1-6: The accessibility dimension has a significant positive impact on patient satisfaction

This section addresses the first objective of the research. According to the results of the multiple linear regression, the model statistically significantly represents the relationship model between perceived service quality and patient satisfaction (Sig < 0.05, R-square (R^2) = 0.355), which means that H0 is rejected and H1 is accepted. Therefore, the researcher can confirm the positive impact of perceived service quality on patient satisfaction. In addition, the evaluation of the mean score for the service quality dimensions suggests that all service quality has a mean score greater than 3.85. The overall service quality had a mean score of 4.48 indicating that private hospitals in North Lebanon have a high quality of service (Table 4.13). In addition, an intercorrelation analysis of the service quality dimensions and patient satisfaction showed that each service quality dimension was positively correlated with patient satisfaction, and overall service quality and patient satisfaction had a correlation of 0.569 significant at the level of 0.01 (Table 4.20). This demonstrates that perceived service quality and patient satisfaction are correlated.

The results of chapter four confirm that out of six service quality dimensions selected during the literature review, five service quality dimensions are significant, while the most influential dimensions come in the following order: perceived cost, perceived waiting time, technical quality of care, physical characteristics, and accessibility. This implies that outpatient satisfaction depends on the cost versus the services received, the waiting time to receive medical services, the professionalism and expertise of medical professionals in providing complete medical care, the hygienic conditions of the outpatient department, and the ease to receive the service. Patient-provider communication had no significant impact on patient satisfaction. It could be considered that the demeanor, honesty, truthfulness, courtesy, respectfulness, and sympathy of doctors were not the key factors in satisfaction among the participants surveyed.

These findings are consistent with the study by Aoun *et al.* (2019), who showed that the patient's perception regarding the physician leadership in Lebanon lies in the ability of the physician to provide the best quality of care with a minimum of prescribed tests. This is a need that corresponds to the current socio-economic situation of Lebanon as a developing country. Indeed, cost-effectiveness and efficiency are two characteristics that are considered essential in a middle-income country like Lebanon. Perceived waiting time and perceived cost showed to have the biggest contribution to patient satisfaction, followed by the technical quality of care. This confirms the study by Arawi (2010) regarding a public viewpoint on Lebanese physicians. They revealed that patients do not put that so much emphasis on scientific skills because they already had faith in the scientific qualifications, and the problem lies in the fact that physicians lack other skills; of which being materialistic, treating them as numbers, and not giving enough time to patients were the most prominent disliked character in physicians.

Good quality of service will make patients feel satisfied and will affect the patient's behavior in the future, whether to repurchase or request treatment in the future. Patient satisfaction is highly dependent on the quality of service that meets the needs and requirements of patients. The better the services are tailored to the needs and requirements of the patient, the healthier the quality of services, and the higher the patient satisfaction (Karsana and Murhadi, 2021; Deji-Dada *et al.*, 2021).

In summary, the primary results show the positive impact of perceived service quality on patient satisfaction of which the perceived cost, perceived waiting time, technical quality of care, physical characteristics, and accessibility were strong predictors of patient satisfaction. Perceived cost and perceived waiting time were the predominant factor in patient satisfaction. Therefore, it is noteworthy that healthcare providers should prioritize key interventions that improve patient satisfaction. They include setting priorities on maintaining a certain level of patient satisfaction from registration to treatment to make patients feel that total medical cost was worthwhile; establishing an optimized appointment system, and managing the wait time experience; enhancing the knowledge and expertise of healthcare providers, and ensuring a clean environment and offering easy access to care.

5.2.2 Hypothesis 2

The second hypothesis of this Thesis examines the impact of perceived quality on patient emotions with the help of six service quality dimensions, as indicated below:

H2: Perceived service quality has a significant positive impact on patient emotions

SH2-1: The technical quality dimension has a significant positive impact on patient emotions

SH2-2: The Patient-provider communication dimension has a significant positive impact on patient emotions

SH2-3: The physical characteristics dimension has a significant positive impact on patient emotions

SH2-4: The perceived waiting time dimension has a significant positive impact on patient emotions

SH2-5: The perceived cost dimension has a significant positive impact on patient emotions

SH2-6: The accessibility dimension has a significant positive impact on patient emotions

This section addresses the second objective of the research. According to the results of the multiple linear regression, the model statistically significantly represents the relationship model between perceived service quality and patient emotions (Sig<0.05, R-square (R^2) = 0.238), which means that H0 is rejected and H1 is accepted. Therefore, the researcher can confirm the positive impact of perceived service quality on patient emotions. In addition, an intercorrelation analysis of the service quality dimensions and patient emotions showed that each dimension of service quality was positively correlated with patient emotions and overall service quality and patient emotions had a correlation of 0.459 significant at the level of 0.01 (Table 4.25). This demonstrates that perceived service quality and patient emotions are correlated.

The results showed that only four of six dimensions (technical quality of care, perceived waiting time, perceived cost, and Accessibility) showed a positive and significant association with patient emotions and added statistically significantly to the prediction, Sig<0.05. The patient-provider communication and physical characteristics dimensions did not show any significant associations with patient emotions. This finding highlights the importance of technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions of service quality in the context of the healthcare setting in Lebanon to create great perceptions on the quality of care to evoke patient emotions. Therefore, hospital management can focus on refining the technical quality of care, perceived waiting time,

perceived cost, and accessibility items to heighten desired feelings, which in turn impact patient satisfaction.

5.2.3 Hypothesis 3

The third hypothesis of this Thesis examines the impact of perceived quality on patient trust with the help of six service quality dimensions, as indicated below:

H3: Perceived service quality has a significant positive impact on patient trust

SH3-1: The technical quality dimension has a significant positive impact on patient trust

SH3-2: The Patient-provider communication dimension has a significant positive impact on patient trust

SH3-3: The physical characteristics dimension has a significant positive impact on patient trust

SH3-4: The perceived waiting time dimension has a significant positive impact on patient trust

SH3-5: The perceived cost dimension has a significant positive impact on patient trust

SH3-6: The accessibility dimension has a significant positive impact on patient trust

This section also addresses the second research objective, “To determine their relative influence and impact on patient emotions and patient trust”. According to the results of the multiple linear regression, the model statistically significantly represents the relationship model between perceived service quality and patient trust (Sig < 0.05, R-square (R^2) = 0.417), which means that H_0 is rejected and H_1 is accepted. Therefore, the researcher can confirm the positive impact of perceived service quality on patient trust. In addition, an intercorrelation analysis of the service quality dimensions and patient trust demonstrated that each service quality dimension is positively correlated with patient trust and overall service quality and patient trust had a correlation of 0.445 significant at the level of 0.01 (Table 4.29). This finding also confirms that perceived service quality and patient trust are correlated.

The results of chapter four confirm that out of six service quality dimensions selected in the literature review, five service quality dimensions are significant, while the most influential dimensions are in the following order: technical quality of care, perceived waiting time, physical characteristics, perceived cost, and accessibility. The technical quality of care had the biggest contribution. The above results confirm that patients trust hospitals due to the quality of healthcare they experienced (Wibowo *et al.*, 2020).

The technical quality of care, perceived waiting time, physical characteristics, perceived cost, and accessibility dimensions had a significant impact on trust, especially technical quality of care. This finding clearly shows that patients are more concerned about the professionalism and expertise of medical professionals, the wait time and the consultation duration, the cost of the service, and the easy access to care rather than the interpersonal communication to have high trust in the healthcare system. Based on this result, the researcher suggests that greater gains in patient trust can be realized by attending to the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility. Therefore, establishing, and fortifying patient-physician trust is vital for healthcare experts. This study has shown that reinforcing this relationship is dependent on the ability of the healthcare system to promote all these positive dimensions (technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility). More specifically, hospitals should always work to improve and expand the professional knowledge and expertise of healthcare providers as the technical quality of care dimension had the greatest influence on patient trust.

5.2.4 Hypothesis 4

The fourth hypothesis of this Thesis examines the impact of patient emotions on patient satisfaction.

H4: Patients' emotions have a significant impact on patient satisfaction

This section addresses Research objective three (RO3); to examine the influence of patient trust and patient emotions on outpatient satisfaction. The current study results show that the Spearman correlation is 0.396 and positive. This means that patient emotions have a moderate positive correlation with patient satisfaction, and thus hypothesis 4 (H4) is accepted. Therefore, the researcher can confirm the positive impact of patient emotions on patient satisfaction. This finding confirms that patients' feelings towards private hospitals influenced their satisfaction. In particular, the technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions were significant in explaining patient emotions. According to this result, the researcher suggests that greater gains in patient emotions can be realized by attending to the technical quality of care, perceived waiting time, perceived cost, accessibility items, and patient satisfaction.

5.2.5 Hypothesis 5

The fifth hypothesis of this Thesis examines the impact of patient trust on patient satisfaction.

H5: Patient trust has a significant positive impact on patient satisfaction

This section addresses Research objective three (RO3); “To examine the influence of patient trust and patient emotions on outpatient satisfaction”. The current study results show that the Spearman correlation is 0.452 and positive, which means that the relationship is positive and moderate in strength; H0 is rejected and H1 is accepted. Therefore, the researcher can confirm the positive impact of patient trust on patient satisfaction. This means that patient satisfaction would increase significantly if out-patients trust the private hospitals. Moreover, the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions were significant in explaining patient trust. According to this result, the researcher suggests that establishing and developing patient trust can be realized by attending to the technical quality of care, perceived waiting time, perceived cost, physical characteristics, accessibility items, and patient satisfaction.

5.2.6 Hypothesis 6

In this section, the researcher tests the impact of patient demographics on patient satisfaction.

H6: There is a significant positive relationship between patients’ demographics (age, gender, educational level, marital status, income) and patient satisfaction.

This section addresses the research objective (RO4) “To determine the impact of patient demographics on patient satisfaction and on particular service quality dimensions”. The Chi-Square analysis results revealed that there was no significant relationship between satisfaction with patients’ demographics (age, gender, marital status, and educational level). Only income showed a positive relationship with patient satisfaction. Low-income outpatients (Less than 700 and between 700-1300) were more likely to be satisfied with hospital services.

After presenting the hypothesis findings, the results summary is displayed in Table 5.1.

Table 5.1: Hypotheses Results

Hypotheses	Content	Accepted	Rejected
H1	Perceived service quality has a positive impact on patient satisfaction	✓	
SH1-1	The technical quality of care factor has a significant positive impact on patient satisfaction	✓	
SH1-2	The Patient-provider communication factor has a significant positive impact on patient satisfaction		✓
SH1-3	The perceived waiting time factor has a significant positive impact on patient satisfaction	✓	
SH1-4	The perceived cost factor has a significant positive impact on patient satisfaction	✓	
SH1-5	The Accessibility factor has a significant positive impact on patient satisfaction	✓	
SH1-6	The physical characteristics factor has a significant positive impact on patient satisfaction	✓	
H2	Perceived service quality has a significant positive impact on patient emotions	✓	
SH2-1	The technical quality dimension has a significant positive impact on patient emotions	✓	
SH2-2	The Patient-provider communication dimension has a significant positive effect on patient emotions		✓
SH2-3	The physical characteristics dimension has a significant positive impact on patient emotions		✓
SH2-4	The perceived waiting time dimension has a significant positive impact on patient emotions	✓	
SH2-5	The perceived cost dimension has a significant positive impact on patient emotions	✓	
SH2-6	The accessibility dimension has a significant positive impact on patient emotions	✓	
H3	Perceived service quality has a significant positive impact on patient trust	✓	
SH3-1	The technical quality dimension has a significant positive impact on patient trust	✓	
SH3-2	The Patient-provider communication dimension has a significant positive impact on patient trust		✓
SH3-3	The physical characteristics dimension has a significant positive impact on patient trust	✓	
SH3-4	The perceived waiting time dimension has a significant positive impact on patient trust	✓	
SH3-5	The perceived cost dimension has a significant positive impact on patient trust	✓	

SH3-6	The accessibility dimension has a significant positive impact on patient trust	✓	
H4	Patient emotions have a significant impact on patient satisfaction	✓	
H5	Patient trust has a significant positive impact on patient satisfaction	✓	
H6	There is a significant positive relationship between patients' demographics (age, gender, educational level, marital status, income) and patient satisfaction		✓
SH6-1	There is a significant positive relationship between patients' age and patient satisfaction		✓
SH6-2	There is a significant positive relationship between patients' gender and patient satisfaction		✓
SH6-3	There is a significant positive relationship between patients' educational level and patient satisfaction		✓
SH6-4	There is a significant positive relationship between patients' marital status and patient satisfaction		✓
SH6-5	There is a significant positive relationship between patients' income and patient satisfaction	✓	

After presenting the main important conclusions regarding the research objectives and the research hypotheses, below is a discussion of the dimensions affecting patient satisfaction and the relationship among perceived service quality, patient emotions, patient trust, and patient satisfaction.

5.3 Final Design of the Patient' Satisfaction Model

In this section, the researcher addresses research objective 6; "To adapt and refine a final framework that recognizes and establishes outpatient satisfaction for Lebanese private hospitals". The previous sections in chapter five have addressed the service quality dimensions, patient trust, patient emotions, and finally patient demographics. All these variables were tested with the overall patient satisfaction, allowing the researcher to reveal the new and tested model recommended for private hospitals in North Lebanon.

Considering the primary results of this study, the results showed that hypothesis 1, "perceived service quality has a significant positive impact on patient satisfaction", was confirmed; of which the patient-provider communication dimension had no significant impact on patient satisfaction. The results also showed that hypothesis 2; "perceived service

quality has a significant positive impact on patient emotions” was confirmed; of which the physical characteristics and patient-provider communication dimensions had no significant impact on patient emotions. Similarly, the results show that hypothesis 3, “perceived service quality has a significant positive impact on patient trust” was confirmed; of which the patient-provider communication had no significant impact on patient trust. The results of hypothesis 4 showed that patient emotions have a significant impact on patient satisfaction. The results of hypothesis 5 showed that patient trust has a significant impact on patient satisfaction. The patient demographics did not show a significant relationship with patient satisfaction (Hypothesis 6). The results of the final model through Ordinary Least Square Regression revealed that patient demographics do not account for a significant amount of variance above and beyond perceived service quality, patient trust, and patient emotions.

Now, the framework after testing has changed dramatically. Results revealed after testing that the patient demographics construct was dropped from the framework because it did not account for any amount of variance beyond the other constructs (perceived service quality, patient emotions, and patient trust).

The constructs perceived service quality, patient trust, and patient emotions showed to have a positive impact on patient satisfaction. In terms of perceived service quality, the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions have a positive impact on patient satisfaction. The patient-provider communication dimension was removed because it had no impact on patient satisfaction.

Patient emotions and patient trust have a significant positive impact on patient satisfaction. They are affected by different perceived service quality dimensions. The technical quality of care, perceived cost, perceived waiting time, and accessibility dimensions have an impact on patient emotions. The technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions have a positive impact on patient trust.

The technical quality of care, perceived cost, perceived waiting time, and accessibility dimensions have an impact on patient emotions, patient trust, and patient satisfaction. This is interpreted in such a way that if the healthcare providers lack expertise and professionalism, waiting times are not managed, and costs are not affordable, the level of trust, emotions, and patient satisfaction would have a negative effect. Based on these findings, private hospitals are recommended to improve the professional skills of healthcare

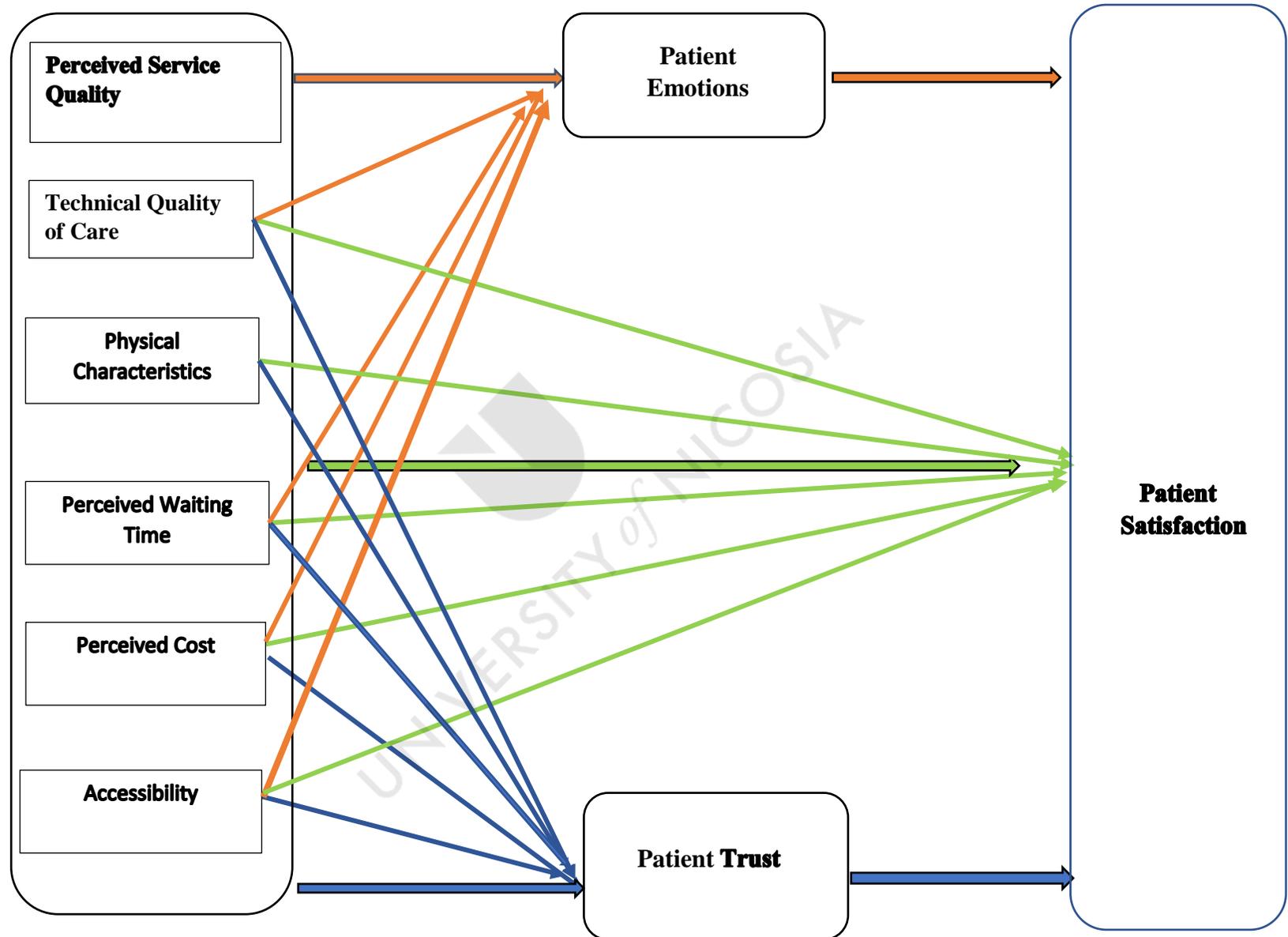
providers, manage the waiting time, and provide cost-effective services to retain patients and build a competitive edge for private hospitals in the face of increasing competitive pressure.

In assessing the impact of perceived service quality, patient trust, and patient emotions on patient satisfaction, this framework highlights the importance of taking advantage of the dimensions that lead to patient satisfaction, while at the same time using the dimensions that evoke patient emotions and enhance their trust, thus guaranteeing the highest level of patient satisfaction. Therefore, efforts can be made to improve patient satisfaction by improving the quality of service in these dimensions, and the quality of service can also be achieved by providing excellent training to improve health workers' skills and expertise in the provision of services. . In the next section, the researcher reveals the final framework after testing it.

Final Conceptual Framework Development

Following the findings of the primary quantitative research of this study and the main outcomes of the critical analysis of the narrative literature review, the preliminary framework was developed, refined, and finalized (see Figure 5.1).

Figure 5.1: Final Conceptual Framework



The next section of this chapter will discuss in detail the contribution of this research to theory and practice.

5.4 Research Contribution

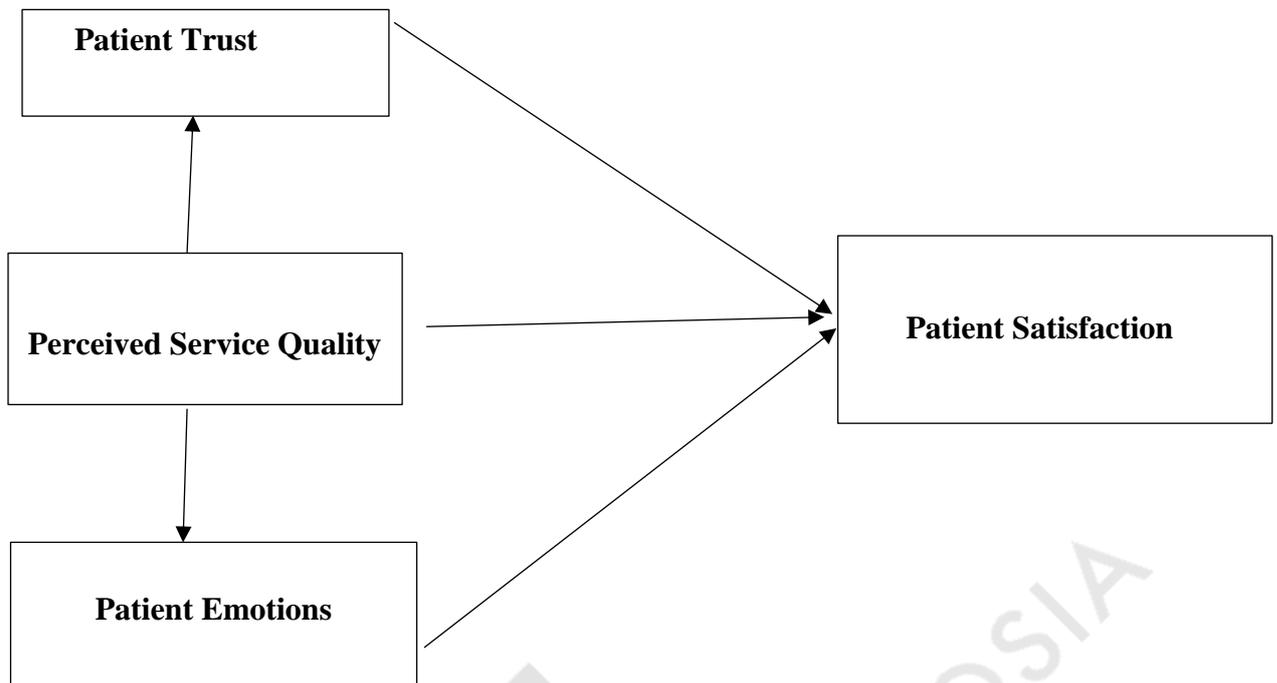
5.4.1 Theoretical Contribution

This Thesis has introduced an enhanced assessment of patient satisfaction. First, it develops a new conceptual model of perceived service quality reflecting the social, economic, and cultural characteristics of Lebanon. Second, it extends the patient satisfaction model by tackling the affective component “patient emotions”. Third, it examines the influence of patient trust. Finally, it successfully tests the patient satisfaction questionnaire developed for this research, which led to valuable empirical findings.

New patient satisfaction model

This research develops a new conceptual model for the evaluation of patient satisfaction applicable to private hospitals. The model is based on the results of the present research and the supporting hypothesis. The new model for patient satisfaction is based on three important key constructs that were tested through a patient satisfaction survey: perceived service quality, patient emotions, and patient trust. These constructs help to identify the main determinants that improve patient satisfaction level regarding the hospital services provided at the outpatient department in private hospitals. The operationalized model represented in Figure 5.2 provides a useful framework for private hospitals to better understand and strengthen patient satisfaction in the OPD of the private health care system. This useful framework can be used for further theoretical and empirical research.

Figure 5.2: Patient Satisfaction Model (Source: Author's Own)



As discussed in chapter 2, patient satisfaction is considered as the patient's perception regarding hospital service quality. This research explores the service quality dimensions that influence the satisfaction of hospital outpatients. The above findings revealed that perceived service quality has a direct positive influence on patient satisfaction. In particular, the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions are the main dimensions that affect the level of patient satisfaction. Although service quality has been reported as a very important driver in customer satisfaction in all industries, its contribution to the healthcare industry is even more important (Yesilada and Direktor, 2010). In summary, it can be said that the medical expertise and the professionalism of health care providers, the perceived cost, the wait time for an appointment and the consultation duration, the ease of appointment, and the hygienic condition of the OPD are key drivers that affect patient satisfaction.

Patient Emotions

Another objective of this research was to examine the influence of patient emotions on patient satisfaction, including the influence of service quality dimensions on patient emotions. The findings indicated that patient emotions positively influence patient satisfaction, and patient emotions are stimulated by the technical quality of care, perceived

waiting time, perceived cost, and accessibility. In conclusion, hospital managers can use technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions of perceived service quality to create a great perception of the quality of care to elicit patient emotions, which may result in favorable behavior. Therefore, hospital management can focus on refining the technical quality of care, perceived waiting time, perceived cost, and accessibility dimensions to heighten popularity and desired feelings.

Patient Trust

A key objective of this research was to examine the influence of patient trust on patient satisfaction, including the influence of service quality dimensions on patient trust. The findings showed that patient trust is highly related to perceived service quality dimensions and influences patient satisfaction. According to Chou *et al.* (2019), patient trust arises when medical institutions accurately fulfill their service commitment, provide timely services, and focus on caring and personalized patient care.

Similarly, Orrange *et al.* (2021) showed that patient trust is shaped by many visit-related factors, including convenience and time spent. This research found that patients build their trust based on the technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility dimensions. Patients expect medical expertise, scheduled appointment, affordable service costs, a good environment, and easy access to health care. These expectations are not surprising in a high-end industry as patients build their trust based on the quality of health care they experienced, and competent physicians have been proven to impact patient trust positively and in turn influence patient satisfaction levels.

Patient Satisfaction

The empirical findings of this research showed that the key constructs perceived service quality, patient trust, patient emotions have a positive impact on patient satisfaction. The new model of patient satisfaction benefits the management of private hospitals. Given that the findings show a positive correlation of perceived service quality, patient emotions, patient trust, and patient satisfaction, the management of private hospitals needs to consider how the perceived service factors can be managed to satisfy the patients.

This multi-dimensional framework is a result of primary data analysis and it is now considered a contributor to the field of marketing in healthcare. Many authors have produced

models and frameworks for patient satisfaction, but none of the existing literature has combined perceived service quality, patient emotions, and patient trust into a single framework. This new knowledge can be used as a key to turning concepts into a core-marketing instrument.

5.4.2 Practical Contributions

Formulating health business goals requires patient satisfaction, as it is a principal determinant of performance. Patient satisfaction is an integral part of measuring the quality of healthcare as it reflects the progress made by workers toward patients' desires (Umoke *et al.*, 2020).

As the literature has clearly shown, multiple dimensions influence patient satisfaction that private hospitals must consider. However, this thesis has brought to the forefront critical aspects that private hospitals have to address. For instance, it has explored patient satisfaction from a new perspective by addressing the key constructs to find out which ones are decisive to patient satisfaction. These constructs allow private hospitals managers to form viable choices, not just act without knowing on the off chance that they will be successful or not. According to the literature, it costs five to eight times more to gain a customer than to retain an existing one. Therefore, it is important to know what matters to patients to track their satisfaction. In the face of an increasingly competitive healthcare market, private hospital managers must work hard to achieve high or perfect satisfaction ratings to improve the quality of the services provided. This is can be achieved if researchers provide guidance to healthcare managers on what does this satisfaction depends on and what factors it includes (Hawrysz *et al.*, 2021).

The results suggest that patients are overall satisfied with the quality of healthcare. Therefore, healthcare organizations should maintain their customers. In this context, the results emphasize the importance of providing high-quality services. Perceived service quality is intangible and difficult to evaluate. Understanding the relative importance of service quality dimensions is pivotal to determining patient satisfaction as it allows hospital managers to identify the dimensions that are decisive to patient satisfaction (Carlucci *et al.*, 2013). These findings highlight the importance for private hospitals in North Lebanon to continuously increase patient satisfaction, retain existing patients, and attract new ones. The key is to understand the drivers of patient satisfaction to start benchmarking and tracking satisfaction.

Today, the healthcare industry has begun to embrace sustainability more aggressively as one important strategy driving global competition by measuring patient satisfaction. Only by this, they can identify the factors or dimensions that influence care, figure out which items should be prioritized, and which should be modified based on patients' responses. Patient satisfaction with the use of healthcare services becomes important to develop the quality of health services, improving access and monitoring.

This research emphasizes the positive impact of perceived service quality on patient satisfaction. Healthcare management must work hard to improve patient satisfaction with the medical services received, as this would reflect positively on the perceived service quality. By understanding patients' perceptions regarding hospital service quality, managers can better understand patient satisfaction. Therefore, such information will help managers and decision-makers make informed decisions and develop appropriate strategies. Their focus should not be only on what is important to patients but also on patient satisfaction with the services delivered.

Second, satisfied patients are more easily retained, and the value of existing customers increases with employment. Therefore, patient satisfaction contributes directly to future financial performance. Third, the quality of customer care can only be improved if service providers assess their performance against key patient criteria (Alrubaiee and Alkaa'ida, 2011; Nelson *et al.*, 1992; Powers and Bendall-Lyon, 2003). Therefore, it is important for hospitals to continuously measure the quality of service against patient satisfaction to identify areas that need improvement and whether or not patients are satisfied. Given that the five-service quality dimensions (technical quality of care, perceived waiting time, perceived cost, physical characteristics, and accessibility) positively and significantly impact patient satisfaction, hospital managers could build service improvement strategies based on these dimensions.

Another major contribution this research has produced is the positive impact of patient emotions on patient satisfaction and which service quality dimensions impacted patient emotions and shaped their satisfaction. The results showed that patients are overall happy, reassured, and guided. Managers of private hospitals should therefore keep their patients feeling positive. The technical quality of care, perceived cost, perceived waiting time, and

accessibility dimensions had a significant impact on patient emotions, especially the technical quality of care. This means that patients are mainly concerned with the expertise and the professionalism of their healthcare providers followed by the wait time, the cost of the service, and setting appointments. To inspire positive emotions during patients' visits to the OPD, managers of private hospitals must concentrate on the above dimensions, which trigger patient emotions and more specifically the technical quality of care.

One more major contribution this research has produced is the impact of patient trust on patient satisfaction and identifying which service quality dimensions have influenced patient trust and shaped their satisfaction. Results revealed that technical quality of care, wait time, cost, physical characteristics, and accessibility offered had a significant impact on trust, especially technical quality of care. This means that patients are more concerned about the expertise and competency of healthcare providers, timely services followed by hygiene and comfortability, the cost of service, and accessibility more than interpersonal relationships. To build customer trust, managers of private hospitals should consider all these factors, particularly focusing their efforts on the way of communication between providers and patients, and support with the needed training.

Managers can use these findings to differentiate themselves in a competitive healthcare market. Since the patient's willingness to trust and feel better is also a result of how well they are treated in the health system. Hospital managers can use these findings to develop health services marketing strategies that deepen and enhance patient satisfaction, patient trust, and patient emotions.

The final major contribution of this research is the insignificant impact of patient demographics on patient satisfaction combined with perceived service quality, patient trust, and patient emotions. In the presence of these three constructs, the impact of patient demographics on patient satisfaction can be disregarded. This means that if medical services providers can ensure a high-quality service, patient trust, and elicit patient emotions, patient satisfaction is guaranteed. As a result, healthcare providers in Lebanon must focus not only on the quality of care but also on learning from marketing theory to develop strategies to build patient trust and evoke better emotions.

The technical quality of care, perceived cost, perceived waiting time, and accessibility dimensions are the only dimensions that have been shown to have an impact on patient satisfaction, patient emotions, and patient trust. This suggests that although healthcare providers' expertise may be necessary for the development of patient satisfaction, patient trust, and patient emotions, this factor alone did not appear sufficient. Therefore, managers must also consider other aspects such as emotional intelligence and social competence when hiring healthcare workers, which are likely to result in high levels of courtesy and responsiveness in patient-hospital staff relationships. The results of this study should be communicated to managers of private hospitals as a signal to improve the perceived service quality of services or to lose patients.

This research has developed a practical framework for health institutions and practitioners to assess patient satisfaction in private hospitals in North Lebanon. The researcher expects that by applying this research framework, the evaluation of patient satisfaction would eventually change and the assessment of health care quality of private hospitals in North Lebanon would change. This framework is used as a pilot site, which will be expanded nationally in the future. Regarding health care management, managers of private hospitals would benefit from this framework as a practical tool to assess patient satisfaction to improve the quality of health care. Conducting patient satisfaction surveys would engage patients to participate in the process of improving the quality of healthcare of private hospitals as their perceptions are reflected and their role in the process is raised. Moreover, hospital administrators can learn from the results of the study, formulate more scientific and reasonable service quality factors from the perspective of patients, and conduct patient-oriented scientific quality management. Hospital staff can address patient needs based on the service demand, take appropriate measures that meet the patient's expectations and potential needs and enhance the patient's actual perception of service quality. So, by doing this, they jointly achieve high patient satisfaction, attract, and retain patients, create a better image for the hospital which ensures its competitiveness and its influence, and subsequently create good social and economic benefits.

5.5 Research Limitations

While this study has provided important practical and theoretical points for managers of private hospitals, however, like any other study, it has several limitations, that can be used as a guide for future studies in the field.

The first limitation is that the survey questionnaire was filled out during the patients' visits to the clinic. Previous studies reported that data gathering time influences study results and that patients' scores on service quality items decrease after their visit and return home (Gasquet *et al.*, 2004; Säilä *et al.*, 2008).

The second limitation is that the participants could not be sampled from all governorates of Lebanon, and the research focuses on North Lebanon.

The third limitation is that the researcher uses self-report data to assess patient satisfaction and, the self-report is bound to be biased. However, this limitation is accepted as self-reporting surveys are considered the most viable method of data collection and reflect the attitudes of participants.

The fourth limitation is that this study focuses completely on outpatients visiting specialty clinics, while there are other outpatients' departments, like emergency departments, medical tests, and imaging. However, this limitation is accepted, as according to Jager and Plooy (2007), outpatients are patients who receive medical consultation and/or treatment without being admitted.

For the research on patient satisfaction, many dimensions will be set to discuss patient satisfaction in hospitals. The medical technology of the hospital, one of these dimensions (Shen *et al.*, 2021), is not included in this research. This raises a limitation for this research.

5.6 Avenues for Future Research Directions

Through presenting insights into patient satisfaction in private hospitals, this Thesis suggests the directions for further research which are elaborated in this section. Thus, the potential content, methodological and contextual avenues for further research are presented.

Content Avenue

- 1) The framework of this Thesis has investigated the impact of perceived service quality, patient trust, and patient emotions. Future research may include additional relevant constructs such as perceived value and corporate image to identify if it similarly affects patient satisfaction.
- 2) Although the service quality scale was developed from previous studies, and a proposed model was validated; future studies should be cautious when testing this model and making conclusions because other dimensions have been reported in the literature that is worth considering. They include fair and equitable treatment and the medical technology of the hospital.
- 3) Looking at the outcomes of the examined relationship is positive. It would be interesting if further studies explore how to effectively use patient-reported data to improve hospital processes, profile patients' needs, and identify appropriate methodologies to capture the experience of vulnerable patients.
- 4) Although patient trust, patient emotions, and patient satisfaction have pointed to the service quality dimensions affected. They do not clearly show which segments or processes the outpatients are experiencing in the medical service. Future research can elaborate on this work by examining particular patient segments and/or processes that have an impact on patient satisfaction.

Methodological Avenues

This study employed focus group discussions to explore possible dimensions related to patient satisfaction. Future studies on the same topic but using a different methodological approach would be interesting. In particular, a face-to-face semi-structured interview with outpatients would capture an enhanced picture of the factors and their corresponding items.

Context Avenues

1) Departing from the fact that patient satisfaction is context-specific and, in particular, service quality is context-specific; it is important to note that the cultural context is an exogenous factor that can influence the outcome of the study. It would be interesting to see if the results are replicated in different cultural settings. Therefore, a cross-cultural study is suggested for future research.

2) This study was conducted in the context of the private healthcare system in North Lebanon, Further research should research the perceived service quality dimensions, patient emotions, and patient trust impact in a different geographical environment.

5.7 Conclusion

In conclusion, the researcher of this Thesis aimed “to identify and examine the major key constructs affecting outpatients’ satisfaction, including perceived service quality, patient’s emotions, patient trust, and patient demographics to develop and empirically test a model that depicts and estimates the relationships between them toward managerial utilization by Lebanese private hospitals”. In detail, this study identified the service quality dimensions that influenced outpatient satisfaction in private hospitals in North Lebanon. The impact of six perceived service quality dimensions were investigated i.e., patient trust, patient emotions, and patient demographics on patient satisfaction. This Thesis theoretically and practically contributes to the area of patient satisfaction by investigating impacts of perceived service quality, patient trust, patient emotions on out-patient satisfaction and determining the dimensions correlated with them. Therefore, this Thesis adds to knowledge and indicates the way hospital managers and decision-makers can learn from the results of the study. They formulate more scientific and reasonable service quality dimensions from the perspective of patients while taking advantage of the dimensions that lead to patient satisfaction and at the same time the factors that elicit patient emotions and enhance their trust, thus guaranteeing a higher level of patient satisfaction.

The findings of this research may help in creating tailored healthcare management strategies and marketing tools for the Lebanese healthcare system by concentrating on the dimensions that influence patient satisfaction. A better understanding of the dimensions that influence patient satisfaction and their contribution power will assist healthcare organizations in developing and delivering customized services that meet the patients’ demands. The findings

of this study provide additional evidence that patient satisfaction is influenced by perceived service quality, patient trust, and patient emotions with perceived service quality having a great influence. In specific, the service quality dimensions (technical quality of care, perceived cost, perceived waiting time, and accessibility) do appear as the important factors that influence patient satisfaction, patient trust, and patient emotions.

The existing western frameworks for patient satisfaction are incongruent with the healthcare context of developing countries due to cultural and economic differences. This research has developed an appropriate tool to measure the quality of healthcare services that reflects the uniqueness of services in Lebanon, as the literature confirms that every country and in some cases; every healthcare service organization should develop its framework for measuring the quality of healthcare services.

This research has proposed a framework that may be applied to private hospitals in North Lebanon, using three principal components to evaluate patient satisfaction. Additionally, this is the first theoretical framework for private hospitals in North Lebanon in relation to patient satisfaction. This new knowledge can be used as a key to turning concepts into a core-marketing instrument. Thus, this Thesis is expected to motivate hospitals to consider improvement areas with high priority including enhancing the professional skills of healthcare providers, managing waiting time, and providing cost-effective services to retain patients and opportunity areas with low priority including ensuring easy access to care and clean and comfortable environment, while maintaining the current satisfaction level and quality performed. This research provided actionable insights for them to address the shortcomings at the operational and strategic levels.

The above suggestions may be hindered by the current situation in Lebanon. However, the researcher suggested following the international trend in healthcare, which can fit the aforementioned proposed framework, its key constructs, and the dimensions of perceived service quality, which are the call for action to guarantee a high level of patient satisfaction.

For nearly 18 months now, Lebanon has been facing many crises-specifically, an economic and financial crisis, COVID-19 pandemic, and the explosion at the port of Beirut on August 4, 2020. Of the three, the major and the worst is the economic crisis that by far had the largest negative impact, which resulted in a sharp increase in poverty and lack of access to healthcare (The World Bank, 2020b; Farha and Abi Jaoude, 2020). As the proportion of impoverished Lebanese is increasing, the populations at the edge of poverty are bound to

disregard preventive care or to attempt to self-deal with their diseases, because most insurance plans do not cover outpatients at the point of care and are subsequently reimbursed by the National Security Fund (NSF) (Hamadeh *et al.*, 2021). The healthcare sector is exploring innovative healthcare delivery and financing models to ensure access to quality essential healthcare for the targeted population. The COVID-19 pandemic has encouraged the move to digital healthcare. Digital healthcare can not only improve the quality of care by ensuring medical compliance, but also will reduce the costs by keeping patients out of the hospital which also avoids the unnecessary waiting time for treatment while ensuring high professional expertise. In specific, Remote patient monitoring (RPM) tools, which empower a continuous stream of ongoing health data between patients and their doctors, will account for much of the savings. Therefore, to ensure a successful managerial strategy that addresses the need of the patients, while at the same time overcoming these shortcomings, Lebanese private hospitals can start planning to use telemedicine as a tool to respond to their patients' concerns and more specifically ensure a high level of patient satisfaction. Studies have shown that telemedicine visits enjoy high patient satisfaction (Bashshur *et al.*, 2016; Contreras *et al.*, 2020). Although this choice is not at present feasible in Lebanon (CDC, 2020; Bizri *et al.*, 2021), Shaarani *et al.* (2021) revealed that Whatsapp Messenger was the most telemedicine tool used by a larger part of Lebanese physicians during COVID-19 for interprofessional consultation. This far utilization of telemedicine and Whatsapp provides proof of the capability of a telemedicine tool that can be executed and incorporated into the health care system in Lebanon. Previous studies have shown that patients prefer telemedicine with a healthcare provider with whom they have an established relationship (Ackerman *et al.*, 2020), which reflects the case in the Lebanese healthcare system where patients have a good personal connection with their healthcare providers.

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Appendix I: Informed Consent Form

Invitation letter sent to Outpatients in the form of Informed Consent

University of Nicosia

PhD program in Business Administration

Informed Consent Form for Outpatients in North Lebanon and who the researcher is inviting to participate in research titled “Outpatient Satisfaction in Private Healthcare: Model Development and Application in Lebanon”

I am Amani Mallat, a student at the University of Nicosia and I am conducting a study examining perceived service quality factors affecting the levels of satisfaction of outpatient in order to develop a comprehensive framework for outpatient satisfaction toward managerial utilization by Lebanese private hospitals. I am going to give you information and to invite you to participate in this research which I am doing for my PhD at the University of Nicosia. The research will be conducted using focus group discussions and surveys. You will be part of the Surveys.

Patient satisfaction measures become the center of investigation in the healthcare delivery systems and it is seen as an important indicator of the quality of health care. Few or no empirical studies examined what influenced outpatient satisfaction in a Lebanese context. I want to explore the major factors affecting the level of outpatient satisfaction; perceived service quality dimensions, patient emotions, patient trust and patient demographics in order to assist healthcare managers in improving the quality of their services. Furthermore, the introduction of an enhanced assessment of patient satisfaction that categorizes patients' demographics, cognitive factors, and affective factors for the healthcare system will support with further insights to the theory. I believe that you can help me by telling me about your experience as outpatients. You are invited to take part of the research as your experience as an outpatient can contribute much to my understanding and knowledge of the factors that influence outpatient satisfaction. Your participation is entirely voluntary. Through your cooperation, the researcher can make successful recommendations about improvements in both theory and practice.

The results of my research will be reported with full anonymity, and after analysis of the data, all the documents will be destroyed in order to ensure confidentiality. In addition, during filling the questionnaire, if you feel you don't want to answer any of the questions included in the questionnaire, you can easily skip and move on to the next questions. The information shared is totally confidential and a number will identify you and no one will access your answers except me. Besides, no names or personal information will appear anywhere in the dissemination of results and use of findings.

On behalf of me and my supervisors, Professor Demetris Vrontis, Professor Alkis Thrassou and Doctor Sam Nemar, I would like to express our gratitude for your assistance.

Again, thank you very much.

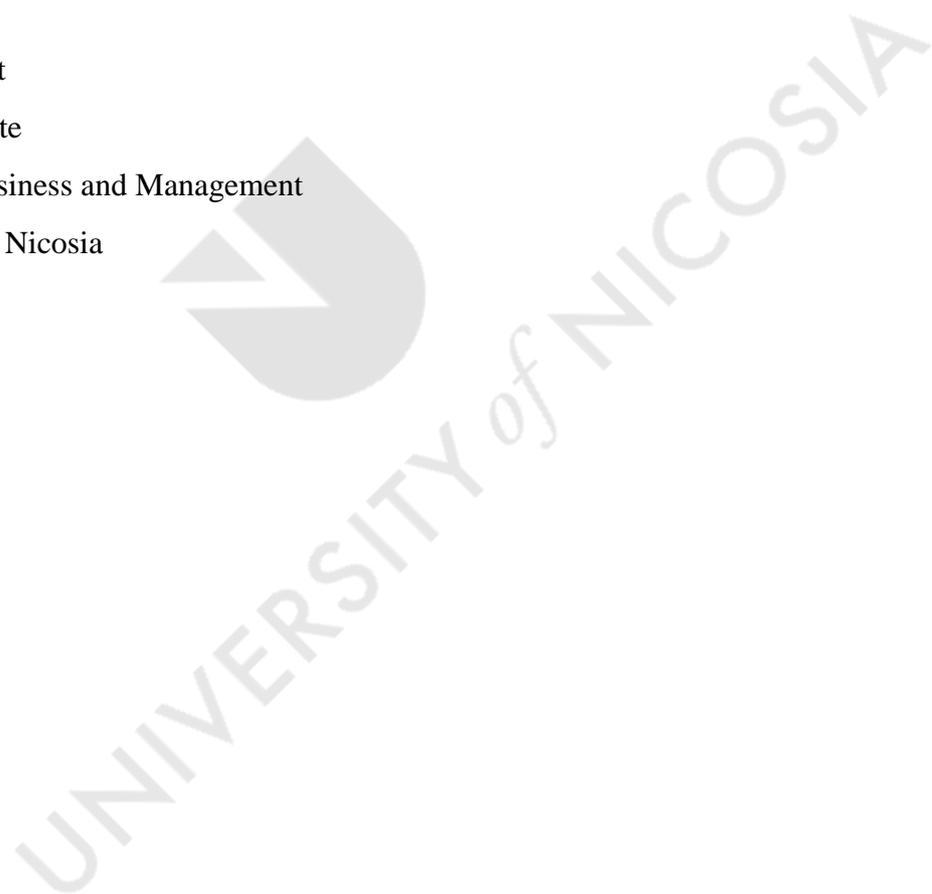
Sincerely,

Amani Mallat

PhD Candidate

School of Business and Management

University of Nicosia



Appendix II: Survey Questionnaire in English

Demographics

Circle the right number

A) Gender:

Female

1

Male

2

B) Age:

18-30

1

31-45

2

46-60

3

Over 60

4

C) Monthly income in USD:

less than 700

1

701-1300

2

1301-2000

3

2001-3000

4

≥ 3000

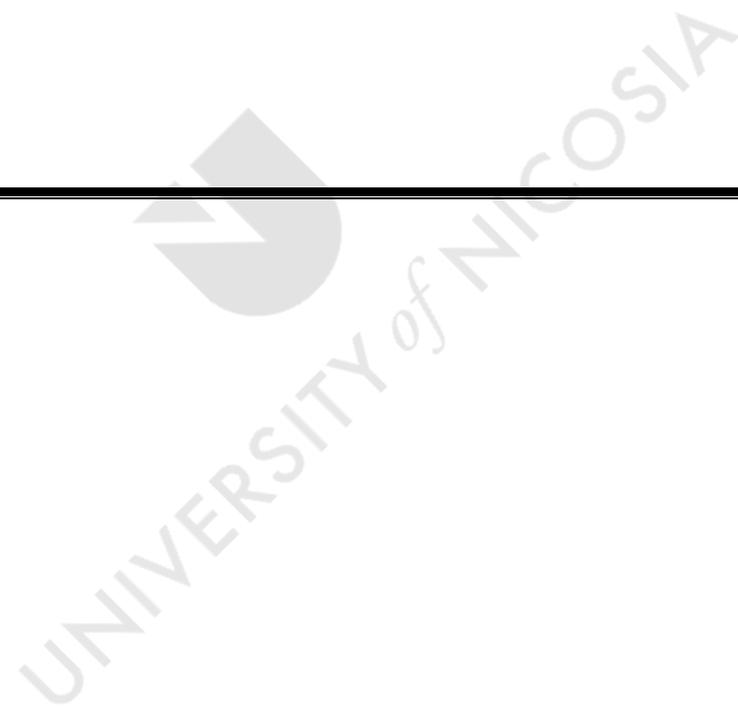
5

D) Marital Status:

Single	1
Married	2
Divorced	3
Widowed	4

E) Highest Educational Completed:

Elementary/Primary	1
Secondary/High school	2
College/University	3
Post-Graduate	4



Patient Satisfaction- Cognitive Part

Please circle the one number for each statement that comes closest to reflecting your opinion about it

1) Physical Characteristics:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
You are satisfied with the cleanness of the Waiting area	5	4	3	2	1
You are satisfied with the cleanliness of the Examination/consultation room /OPD.	5	4	3	2	1
You are satisfied with the comfortability of chairs in the waiting area.	5	4	3	2	1
You are Satisfied with the cleanliness of toilets	5	4	3	2	1
You are satisfied with the general atmosphere and the calm	5	4	3	2	1

2) Patient-Provider Communication

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
You are satisfied with the information provided by doctor/nurses (courteous and respectful).	5	4	3	2	1
Doctors provided you with enough time to ask all the questions you had about your illness and treatments	5	4	3	2	1
You are satisfied with your participation in making the appropriate decision for your health condition (Treatment)	5	4	3	2	1
You are satisfied with the way health providers listened to you.	5	4	3	2	1
Doctors treat you very friendly and in a courteous manner.	5	4	3	2	1
The doctor cares about me as a person	5	4	2	2	1

3) Accessibility

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
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Hospital has operating hours convenient to all patients	5	4	3	2	1
It is possible to contact a professional by phone when needed	5	4	3	2	1
Hospital has accessible location to all patients	5	4	3	2	1
It's easy to make an appointment by phone	5	4	3	2	1
When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient in	5	4	3	2	1
The kindness and professionalism of the receptionist	5	4	3	2	1

4) Technical quality of care

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Doctors are very careful to check everything when examining and treating me	5	4	3	2	1
Doctors are clear when they explain how to prevent your disease.	5	4	3	2	1
You are satisfied with Professional and scientific skillfulness of doctors.	5	4	3	2	1
You are satisfied with the doctor's ability to treat your problems		5	4	2	1
Doctor's office has everything needed to provide complete medical care	5	4	3	2	1
You are satisfied with your doctor/nurses' explanation of any work they do	5	4	3	2	1

You are satisfied with measures taken to assure your confidentiality.	5	4	3	2	1
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5) Perceived waiting time

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
You are satisfied with the waiting time to get outpatient services after registration	5	4	3	2	1
You are satisfied with the time spent to get services and get back (overall waiting time)	5	4	3	2	1
You can see the doctor at the appointed time	5	4	3	2	1
You are satisfied with the time given to you by the staff to listen to you and answer your questions	5	4	3	2	1
You are satisfied with the consultation duration	5	4	3	2	1

6) Perceived Cost

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
You feel confident that You can get the medical care I need without being set back financially.	5	4	3	2	1
You are satisfied with the reasonableness of medical costs.	5	4	3	2	1
You are satisfied with the medical services provided by the hospital versus the paid money	5	4	3	2	1

7) Patient Trust

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Your health care provider is usually considerate of your needs and put them first	5	4	3	2	1
You can trust your health care providers' decisions on which medical treatments are best for you	5	4	3	2	1
You have so much trust in your health care provider that you always try to follow his/her advice	5	4	3	2	1
Your health care provider offers you the highest quality in medical care	5	4	3	2	1

Because your health care provider is an expert, he is able to treat medical problems like yours	5	4	3	2	1
You trust your health care provider so much that whatever he/she tells you it must be true	5	4	3	2	1
Sometimes, you do not trust my health care provider's opinion, and therefore you feel you need a second one	5	4	3	2	1
You can trust your health care providers' judgments concerning your medical care	5	4	3	2	1
Your health care provider will do whatever it takes to give you the medical care that you need	5	4	3	2	1
All things considered; you completely trust my health care provider	5	4	3	2	1



Patient Satisfaction-Affective Part

8)How often do you have these feelings in your relationship with this healthcare center?

Positive Emotions	Very much	Somewhat	Neutral	Not Really	Not at all
you felt guided	5	4	3	2	1
you felt reassured	5	4	3	2	1
you felt happy	5	4	3	2	1
you learned something new about your condition	5	4	3	2	1

How often do you have these feelings in your relationship with this healthcare center?

Negative Emotions	Very much	Somewhat	Neutral	Not Really	Not at all
you felt lost	5	4	3	2	1
you felt nervous	5	4	3	2	1
you felt embarrassed	5	4	3	2	1
you felt you were wasting your time	5	4	3	2	1

9)In general, you are overall satisfied with outpatients' services

5	4	3	2	1
Strongly Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Strongly dissatisfied

Appendix III : Survey Questionnaire in Arabic

<u>البيانات الديمغرافية</u> ضع دائرة حول الرقم الصحيح	
1 أنثى	2 ذكر
1 أقل من مليون	2 1 مليون - 2 مليون
3 2 مليون - 3 مليون	4 4 مليون وما فوق
1 عزباء/عزب	

2 | متزوج (ة)
3 | مطلق (ة)
4 | ارمل (ة)

هـ) أعلى مستوى تعليمي:

1 | ابتدائي
2 | الثانوي
3 | الكلية/ الجامعة
4 | الدراسات العليا

رضا المريض - من ناحية
الجودة

يرجى وضع دائرة حول الرقم المرتبط بالبيانات أعلاه التي تعكس رأيك

1) الخصائص الفيزيائية:

غير موافق بشدة	غير موافق	محايد	أوافق	أوافق بشدة	
1	2	3	4	5	أنت راضٍ عن نظافة منطقة الانتظار
1	2	3	4	5	أنت راضٍ عن نظافة غرفة الفحص / الاستشارة / العيادات الخارجية

1	2	3	4	5	أنت راضٍ عن راحة الكراسي الموجودة في منطقة الانتظار
1	2	3	4	5	أنت راضٍ عن نظافة المراحيض
1	2	3	4	5	أنت راضٍ عن الجو العام والهدوء في القسم

(2) التواصل بين المريض ومقدم الرعاية:

غير موفق بشدة	غير موافق	محايد	وافق	وافق بشدة	
1	2	3	4	5	أنت راضٍ عن المعلومات التي يقدمها الطبيب / الممرضات (بتهديب واحترام)
1	2	3	4	5	يمنحك الأطباء الوقت الكافي لطرح جميع الأسئلة التي لديك عن مرضك وعلاجك
1	2	3	4	5	أنت راضٍ عن مشاركتك في اتخاذ القرار المناسب لوضعك الصحي
1	2	3	4	5	أنت راضٍ عن طريقة استماع مقدمو الخدمات الصحية إليك
1	2	3	4	5	يعاملك الأطباء بطريقة ودية للغاية وبأسلوب مهذب
1	2	3	4	5	تقديم الطبيب تفسيرات بسيطة ومفهومة للمريض

(3) إمكانية الوصول:

غير موفق بشدة	غير موافق	محايد	وافق	وافق بشدة	
1	2	3	4	5	ساعات عمل المستشفى مريحة لجميع المرضى
1	2	3	4	5	من الممكن الاتصال بأخصائي عن طريق الهاتف عند الحاجة
1	2	3	4	5	موقع المستشفى يمكن الوصول إليه لجميع المرضى في السهل عليك تحديد موعد عبر الهاتف
1	2	3	4	5	عند اخذ الموعد، أنت راضٍ عن اهتمام الموظفين واعطائك المعلومات الدقيقة والكافية
1	2	3	4	5	لطافة واحتراف عامل الهاتف

(4) الجودة التقنية لتقديم الرعاية:

غير موفق بشدة	غير موافق	محايد	أوافق	أوافق بشدة	
1	2	3	4	5	حرص الأطباء الشديد خلال الفحص ومعالجتك
1	2	3	4	5	الأطباء واضحون عندما يشرحون كيفية الوقاية من المرض المصاب به
1	2	3	4	5	أنت راضٍ عن براعة الأطباء المهنية والعلمية
1	2	3	4	5	أنت راضٍ عن قدرة الطبيب على علاج مشاكلك
1	2	3	4	5	وجود كل ما يلزم لتقديم رعاية طبية كاملة في مكتب الطبيب
1	2	3	4	5	أنت راضٍ عن شرح الطبيب/الممرضين لك عن أي عمل يقومون به
1	2	3	4	5	أنت راضٍ عن الإجراءات المتخذة لضمان سريتك

(5) مدة الانتظار المتوقعة:

غير موفق بشدة	غير موافق	محايد	أوافق	أوافق بشدة	
1	2	3	4	5	أنت راضٍ عن وقت الانتظار للحصول على خدمات العيادات الخارجية بعد التسجيل
1	2	3	4	5	أنت راضٍ عن الوقت الذي تستغرقه للحصول على الخدمات والعودة (مدة الانتظار الإجمالية)
1	2	3	4	5	يمكنك رؤية الطبيب في الموعد المحدد

1	2	3	4	5	أنت راضٍ عن الوقت المعطى لك من قبل الموظفين للاصغاء لك والاجابة عن تساؤلاتك
1	2	3	4	5	أنت راضٍ عن مدة الاستشارة
(6) التكلفة المتوقعة:					
غير موفق بشدة	غير موافق	محايد	أوافق	أوافق بشدة	
1	2	3	4	5	شعر بالثقة إذ أنه يمكنك الحصول على الرعاية الطبية التي تحتاجها دون أن تتراجع مادياً
1	2	3	4	5	أنت راضٍ عن التكاليف الطبية وتجدها معقولة

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انت راض عن الخدمات الطبية التي تقدمها
المستشفى مقابل الأموال المدفوعة

1

2

3

4

5

(7) ثقة المريض:

غير موافق بشدة	غير موافق	محايد	اوافق	اوافق بشدة	
1	2	3	4	5	يراعي عادة طبيبك احتياجاتك ويضعها في المرتبة الاولى
1	2	3	4	5	انت تتق تماما في قرارات طبيبك بشأن العلاجات الطبية الافضل لك
1	2	3	4	5	يكون طبيبك صادقا تماما في إخبارك عن جميع خيارات العلاج المختلفة المتاحة أحالتك
1	2	3	4	5	يقدم لك طبيبك اعلى مستوى من الجودة والرعاية الطبية
1	2	3	4	5	نظرا لان طبيبك خبير ، فهو قادر على علاج المشكلات الطبية مثل مشاكلك
1	2	3	4	5	انت تتق بطبيبتك كثيرا لدرجة انه كل ما يخبره يجب ان يكون صحيح
1	2	3	4	5	في بعض الاحيان ، لا تتق في رأي طبيبك ، وبالتالي تشعر انك بحاجة إلى رأي ثان
1	2	3	4	5	يمكنك الوثوق باحكام طبيبك بشأن رعايتك الطبية
1	2	3	4	5	سوف يفعل طبيبك كل ما يلزم لتحصل على كل الرعاية التي تحتاجها
1	2	3	4	5	بشكل عام ، لديك ثقة كاملة في طبيبك

رضا المريض - من ناحية العاطفية

(8) متى تراودك بهذه المشاعر في علاقتك بمركز الرعاية
الصحية هذا؟

يرجى وضع دائرة حول الرقم المرتبط بالصفة اعلاه التي تعكس
رأيك

على الإطلاق	ليس صحيحاً	محايد	قليلاً	كثيراً	
1	2	3	4	5	شعرت بالإرشاد الصحيح
1	2	3	4	5	شعرت بالاطمئنان
1	2	3	4	5	شعرت بالسعادة
1	2	3	4	5	تعلمت شيئاً جديداً عن حالتي

(متى تراودك بهذه المشاعر في علاقتك بمركز الرعاية
الصحية هذا؟

يرجى وضع دائرة حول الرقم المرتبط بالصفة اعلاه التي تعكس
رأيك

على الإطلاق	ليس صحيحاً	محايد	قليلاً	كثيراً	
1	2	3	4	5	شعرت بالضيق
1	2	3	4	5	شعرت بالتوتر
1	2	3	4	5	شعرت بالحرج
1	2	3	4	5	شعرت أنني أضيع وقتي

(9) بشكل عام، أنت راضٍ عن خدمات العيادات الخارجية

5	4	3	2	1
راضٍ بشدة	راضٍ	محايد	غير راضٍ	غير راضٍ بشدة


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Appendix IV: Survey Questions after Focus Group Discussions

Initial survey questions	Adjusted survey questions	Changes that have occurred
<p>Physical Characteristics</p> <ul style="list-style-type: none"> -You are satisfied with the cleanness of the waiting area -You are satisfied with the cleanliness of the Examination/consultation/OPD -You are satisfied with the comfortability of chairs in the waiting area. -You are satisfied with the number of chairs for the patients to sit on -You are satisfied with the professional and neat appearance of staff 	<p>Physical Characteristics</p> <ul style="list-style-type: none"> -You are satisfied with the cleanness of the Waiting area. -You are satisfied with the cleanliness of the Examination/consultation room /OPD. -You are satisfied with the comfortability of chairs in the waiting area. You are satisfied with the number of chairs for the patients to sit on -You are satisfied with the professional and neat appearance of staff -You are satisfied with the cleanliness of toilets -You are satisfied with the general atmosphere and the calm 	<p>Raised in focus group discussions</p>
<p>Patient-provider communication</p> <ul style="list-style-type: none"> -You are satisfied with the information provided by Doctor/Nurses (courteous and respectful) -You are satisfied with the way health providers listened to you -Doctors treat you very friendly and in a courteous manner -There is honesty and truthfulness in dealing with patient -The doctor/provider cares about you as a person 	<p>Patient-provider communication</p> <ul style="list-style-type: none"> -You are satisfied with the information provided by Doctor/Nurse (Courteous and respectful) -Doctors provided you with enough time to ask all the questions you had about your illness and treatments -You are satisfied with your participation in making the appropriate decision for your health condition (Treatment and tests) -You are satisfied with the way health providers listened to You -Doctors treat you very friendly and in a courteous manner There is honesty and truthfulness in dealing with patient -The doctor/provider cares about you as a person 	<p>Raised in focus group discussions</p>
<p>Accessibility</p> <ul style="list-style-type: none"> -Outpatient department location is convenient for you -I have easy access to the medical specialists I need -you can get medical care whenever you need it -The clinic working days and hours are suitable -It's easy to make an appointment by phone 	<p>Accessibility</p> <ul style="list-style-type: none"> -Hospital has accessible location to all patients -It is possible to contact a professional by phone when needed -you can get medical care whenever you need it -Hospital has operating hours suitable to all patients -It's easy to make an appointment by phone -When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information -The kindness and professionalism of the receptionist 	<p>Restated after focus group discussions</p> <p>Restated after focus group discussions</p> <p>Raised in focus group discussions</p>
<p>Technical Quality of care</p> <ul style="list-style-type: none"> -Doctors are very careful when examining and treating me -Doctors are clear when they explain how to prevent your disease -You are satisfied with professional and scientific skillfulness of doctors -You are satisfied with doctors' ability to treat your problems -Doctor's office has everything needed to provide complete medical care -You are satisfied with measures taken to assure your confidentiality 	<p>Technical quality of care</p> <ul style="list-style-type: none"> -Doctors are very careful when examining and treating me -Doctors are clear when they explain how to prevent your disease -You are satisfied with professional and scientific skillfulness of doctors -You are satisfied with the doctors' ability to treat your problems -Doctor's office has everything needed to provide complete medical care -You are satisfied with measures taken to assure your confidentiality -You are satisfied with your doctor/nurses' explanation of any work they do 	<p>Raised in focus group discussions</p>
<p>Perceived waiting time</p> <ul style="list-style-type: none"> -You are satisfied with the waiting time to get outpatients services. -You are satisfied with the time spent to get services and get back (overall waiting time) -You can see the doctor at the appointed Time -The amount of time spent in the waiting room before a consultation was reasonable -You are satisfied with the consultation duration 	<p>Perceived waiting time</p> <ul style="list-style-type: none"> -You are satisfied with the waiting time to get outpatient services -You are satisfied with the time spent to get services and get back (overall waiting time) -You can see the doctor at the appointed time The amount of time spent in the waiting room before a consultation was reasonable -You are satisfied with the time given to you by the staff to listen to you and answer your questions -You are satisfied with the consultation duration 	<p>Raised in focus group discussions</p>
<p>Perceived Cost</p> <ul style="list-style-type: none"> -you feel that you can get the medical care you need without being set back financially -You are satisfied with the reasonableness of medical costs -You are satisfied with the medical services provided by the hospital versus the paid money -The cost of your visit is within your ability to pay 	<p>Perceived cost</p> <ul style="list-style-type: none"> -you feel confident that you can get the medical care you need without being set back financially -You are satisfied with the reasonableness of medical costs -You are satisfied with the medical services provided by the hospital versus the paid money -The cost of your visit is within your ability to pay 	

Appendix V: Questionnaire Addressing Hypotheses

Research Objectives	Research Hypothesis	Survey Questions
<p>RO1: To theoretically identify and examine the service quality dimensions (factors) that influence hospital outpatient satisfaction.</p>	<p>SH1-1: The Technical quality of care dimension has a significant positive impact on patient satisfaction</p>	<p>Q4) Doctors are very careful when examining and treating me</p> <ul style="list-style-type: none"> -Doctors are clear when they explain how to prevent your disease -You are satisfied with professional and scientific skillfulness of doctors -You are satisfied with doctors' ability to treat your problems -Doctor's office has everything needed to provide complete medical care - You are satisfied with your doctor/nurses's explanation of any work they do -You are satisfied with measures taken to assure your confidentiality <p>Q9) You are overall satisfied with Outpatient services</p> <p>Q4 and Q9 underwent a Spearman Correlation test and then they were included in Multiple Linear Regression Model</p>
	<p>SH1-2: The Patient-provider communication dimension has a significant positive impact on patient satisfaction</p>	<p>Q2)-You are satisfied with the information provided by doctor/nurses (courteous and respectful)</p> <ul style="list-style-type: none"> -Doctors provided you with enough time to ask all the questions you had about your illness and treatments -You are satisfied with your participation in making the appropriate decision for your health condition (Treatment and tests) -You are satisfied with the way health providers listened to you -Doctors treat you very friendly and in a courteous manner -Doctors care about you as a person <p>Q9) You are overall satisfied with Outpatient services</p>

		Q2 and Q9 underwent a Spearman Correlation Test and then they were included in Multiple Linear Regression
	SH1-3: The physical characteristics dimension has a significant positive impact on patient satisfaction	<p>Q1) You are satisfied with the cleanness of the waiting area</p> <p>You are satisfied with the cleanliness of the Examination/consultation/OPD</p> <p>-You are satisfied with the comfortability of chairs in the waiting area</p> <p>-You are Satisfied with the cleanliness of toilets</p> <p>- You are satisfied with the general atmosphere and the calm</p> <p>Q9) You are overall satisfied with Outpatient services</p> <p>Q1 and Q9 underwent a Spearman Correlation test and they were then included in multiple Linear Regression</p>
	SH1-4: The perceived waiting time dimension has a significant positive effect on patient satisfaction	<p>Q5) You are satisfied with the waiting time to get outpatients services.</p> <p>-You are satisfied with the time spent to get services and get back</p> <p>-You can see the doctor at the appointed Time</p> <p>- You are satisfied with the time given to you by the staff to listen to you and answer your questions</p> <p>-You are satisfied with the consultation duration</p> <p>Q9) You are overall satisfied with Outpatient services</p> <p>Q5 and Q9 underwent a Spearman Correlation test and they were then included in Multiple Linear Regression</p>
	SH1-5: The perceived cost dimension has a significant positive impact on patient satisfaction	<p>Q6) You feel that you can get the medical care you need without being set back financially</p> <p>-You are satisfied with the reasonableness of medical costs</p>

		<p>-You are satisfied with the medical services provided by the hospital versus the paid money</p> <p>Q9) You overall satisfied with Outpatient services</p> <p>Q6 and Q9 underwent a Spearman Correlation Test and they were then included in Multiple Linear Regression</p>
	<p>SH1-6: The Accessibility dimension has a significant positive effect on patient satisfaction</p>	<p>Q3)-Hospital has accessible location to all patients</p> <p>-It is possible to contact a professional by phone when needed</p> <p>-Hospital has operating hours suitable to all patients</p> <p>-It's easy to make an appointment by phone</p> <p>- When you take an appointment, you are satisfied with the staff attention and their accurate and sufficient information</p> <p>- The kindness and professionalism of the receptionist</p> <p>Q9) You are overall satisfied with Outpatient services</p> <p>Q3 and Q9 underwent a Spearman Correlation Test and they were then included in Multiple Linear Regression</p>
<p>RO2- To theoretically determine their relative impact and influence on patient emotions and patient trust.</p>	<p>H2: Perceived service quality have a significant impact on Patients' emotions</p>	<p>Q8) How often do you have these feelings in your relationship with this healthcare center? You felt guided; you felt Reassured; you felt Happy; you learned something new about my condition; you felt lost; you felt nervous; you felt embarrassed; you felt you were waiting your time</p> <p>Q8 and Q1-6 Underwent a Spearman Correlation Test and in Multiple Linear Regression</p> <p>Q7) T1-Your health care provider is usually considerate of my needs and puts them first</p>

	<p>H3: Perceived service quality have a significant impact on patient trust</p>	<p>T2- you can trust your health care providers' decisions on which medical treatments are best for you T3-you have so much trust in your health care provider that you always try to follow his/her advice T4-your health care provider offers you the highest quality in medical care T5-Because your health care provider is an expert, he can treat medical problems like yours T6-you trust your health care provider so much that whatever he/she tells you it must be true T7- Sometimes, you do not trust my health care provider's opinion, and therefore you feel you need a second one T8-you can trust your health care providers' judgments concerning your medical care T9-your health care provider will do whatever it takes to give you the medical care that you need T10-All things considered; you completely trust my health care provider</p> <p>Q7 and Q1-6 underwent a Spearman Correlation test and then a multiple Linear Regression</p>
<p>RO3) To theoretically examine the influence of patient trust and patient emotions on outpatient satisfaction</p>	<p>H4: Patients' emotions have a significant impact on patient satisfaction</p>	<p>Q8) How often do you have these feelings in your relationship with this healthcare center? you felt guided; you felt Reassured; you felt Happy; you learned something new about my condition; you felt lost; you felt nervous; you felt embarrassed; you felt you were waiting your time</p> <p>Q9) You overall satisfied with Outpatient services</p> <p>Q9 and Q8 Underwent a Spearman Correlation Test</p> <p>Q7) T1-Your health care provider is usually considerate of my needs and puts them first T2- you can trust your health care providers' decisions on which medical treatments are best for you T3-you have so much trust in your health care provider that you always try to follow his/her advice</p>

	<p>H5: Patient trust has a significant positive impact on patient satisfaction</p>	<p>T4-your health care provider offers you the highest quality in medical care T5-Because your health care provider is an expert, he can treat medical problems like yours T6-you trust your health care provider so much that whatever he/she tells you it must be true T7- Sometimes, you do not trust my health care provider's opinion, and therefore you feel you need a second one T8-you can trust your health care providers' judgments concerning your medical care T9-your health care provider will do whatever it takes to give you the medical care that you need T10-All things considered; you completely trust my health care provider</p> <p>Q7 and Q9 underwent a Spearman correlation test</p>
<p>RO4- To theoretically determine the impact of patient demographics on patient satisfaction</p>	<p>There is a significant positive relationship between patients' demographics (age, gender, educational level, marital status, income) and patient satisfaction.</p> <p>SH6-1: There is a significant positive relationship between patients' age and patient satisfaction. SH6-2: There is a significant positive relationship between patients' gender and patient satisfaction. SH6-3: There is a significant positive relationship between Patients' marital status and patient satisfaction. SH6-4: There is a significant positive relationship between patients' educational level and patient satisfaction. SH6-5: There is a significant positive relationship between patients' income and patient satisfaction.</p>	<p>Q9) You are overall satisfied with Outpatient services Q9 and Demographics underwent a Chi-Square test</p>