PATIENTS' SATISFACTION TOWARDS THE HEALTHCARE INSTITUTIONS SERVICE QUALITY: A COMPARISON BETWEEN PUBLIC AND PRIVATE HOSPITALS IN KLANG VALLEY

KANG AIK JOO

MASTER OF BUSINESS ADMINISTRATION

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT

APRIL 2019

Patient's Satisfaction Towards the Healthcare Institutions Service Quality: A Comparison Between Public and Private Hospitals in Klang Valley

Kang Aik Joo

A research project submitted in partial fulfilment of the

requirement for the degree of

Master of Business Administration

University Tunku Abdul Rahman

Faculty of Accountancy and Management

April 2019

Patient's Satisfaction Towards the Healthcare Institutions Service Quality: A Comparison Between Public and Private Hospitals in Klang Valley

By

Kang Aik Joo

This research project is supervised by:

K Shamini a/p T Kandasamy
Senior Lecturer
Department of Accountancy
Faculty of Accountancy and Management

DECLARATION

I hereby declare that:

1) This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.

2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

3) The word count of this research report is 8101.

Name of Student: _Kang Aik Joo_____

Student ID: _17UKM04913_____

Signature: _____

Date: _____

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

In Malaysia, there are 2 tier healthcare systems: government hospital and private hospital. There are 135 government hospitals with 9 special medical institutions and 187 private hospitals. In government hospital, the citizens only need to pay very minimum fee as there is subsidy from the government. However, there are still a lot of people prefer to seek for treatment in private hospitals.

The aim of this study is to determine the factors that influence the patients' satisfaction in the hospitals, by using the SERVQUAL models. Under this model, the five criteria of service quality are reliability, assurance, tangible, empathy, and responsiveness. Developed by Parasuraman, this model was widely used to determine the consumer perception of service quality (Parasuraman, Zeithaml, & Berry, 1988). The service quality is not considered high if the patient does not feel satisfied during the visit.

This quantitative research collects 230 results by randomly distributing the questionnaire to the respondents who visited the healthcare institution in the Klang Valley. The patients' satisfaction towards the service quality was analysed using SPSS software. The results revealed that the relationship between patients' satisfaction and service quality is stronger in private hospitals.

The results imply that tangible affects the patients' satisfaction the most. Identifying the service quality that affects the patients' satisfaction enables the management to implement the correct strategy. Future study can focus on the patients' satisfaction with the medical information informed by the physicians.

Keywords: Healthcare, patient satisfaction, service quality, medical information

CHAPTER 1

INTRODUCTION

1.0   Introduction

This chapter provides an overview on the study of patient's satisfaction with the healthcare institution service quality by comparing the private and public hospitals in Klang Valley, Malaysia. This study may help the healthcare facility institutions to understand the patient's feedback towards the quality of service provided. This chapter starts with the problem statement, research questions, research objectives, and lastly with the significant of the study.

1.1   Background of Study

In Malaysia, the healthcare sector is mainly under the control of Ministry of Health (MOH) which is the main regulatory and policy-making body. There are 2 tier healthcare systems which consist of both government hospital and private hospital that provide the medical services. Although there are clinics and specialist centers, this study only focuses on hospitals.

There are 135 government hospitals and 9 special medical institutions with total 41,995 beds available (Health Facts 2017, 2017). For private hospitals, there are 187 units with 13,957 beds. The number of admissions in government hospitals are 2,510,438 and for private hospitals is 1,073,039. There is a huge number for outpatients which amounts

to 20,721,556 and 3,821,698 respectively for government and private hospital in the year 2016 (Health Facts 2017, 2017). The data collected is summarized in Table 1.

Table 1: Number of Healthcare Institutions with Number of Beds and Admissions for Year 2016

Hospitals Type	Public	Private
Units	144	187
Number of beds	41,995	13,957
Admissions	2,510,438	1,073,039

Note. Adapted from Health Facts 2017. (2017).

Under the Budget 2018, the Ministry of Finance allocated RM27 billion to provide and improve the quality of healthcare services (2018 Budget, 2018). In the budget they have allocated RM1.4 billion that is to be used for the upgrading and maintaining of the healthcare facilities. It can be seen that the facilities for healthcare is one of the government concerns in developing the country.

1.1.1 Customer Satisfaction

Customer satisfaction is a measurement on how customers perceived the performance of a supplier (Hill & Alexander, 2017). It will be the measure of success for many organizations. Thus, patient satisfaction is one of the most important measurement and key success indicators for hospitals. Palmer, Donabedian, and Pover concluded that patient satisfaction is a judgement whether the care delivered to the patient is meeting with their expectations (Aliman & Mohamad, 2013). Zineldin (2006) argued that the patient's satisfaction is a cumulative construct which is affected by technical, functional, infrastructure, interaction and the atmosphere of the hospitals. Donabedian (1996) suggested that patient's perception of service quality is the key success of hospitals.

1.1.2 Service Quality

Service is an intangible product. Gronroos (as cited in Sadiq Sohail, 2003) explained that both technical and functional services are the main factor to deliver good quality services. Sadiq (2003) further explained that technical quality in health care service is related to the diagnosis and procedures of treatment. Meanwhile functional quality involves the manner to deliver the health care services.

The care service quality is not considered high if the patient does not feel satisfied (Dayasiri, 2010). The service quality from hospital can be justified from a few criterias. It can be the attitude of the staff, the facilities, the environment, the skills of the practitioner, how well the emotions of patient being taken care of and so on.

1.2 Problem Statement

It is a common knowing that healthcare institutions happen to be the place to provide disease diagnosis and treatment. Other than these functions, people tend to expect more from the institution. Patients hope to receive better service when they are sick and seek for help from the staff at hospitals. As there are public and private hospitals, sometimes it can be dilemma for patients to decide where to go for treatment.

There are studies examined the quality of services provided by the private healthcare facilities (Sadiq Sohail, 2003; Aliman & Mohamad, 2013). Not only private sector, there are researches done to study the patient satisfaction on the service of public hospitals as well (Manaf & Phang, 2009; Ahmad et al., 2011). As customers of healthcare facilities, patients' desires are different from normal customers for other products. They are more concern with the severity of the diseases, process and outcome of the treatment (Angelopoulou, Kangis, & Babis, 1998). Thus, they tend to look for and access to the services that they are satisfied with various factors such as quality of doctor care, medical cost, environment, waiting time, and so on.

Public hospitals are subsidized and there is no issue on the source of income. For private hospitals, the survival is depends on the customer, which is the patient. Better service is provided to satisfy the patients so that they will back to the same healthcare institution and even refer the hospital to the people around (Andaleeb, 2000).

Although there is budget allocated by the government but the amount might be reduced due to the high debt. For private hospital, the management has limited the budget every year to improve the service and facilities. Thus, it is important to find out the crucial factors that affects the patient's satisfaction. With that, the service and performance of hospital can be improved with limited budget.

1.3   Purpose statement

The purpose of this comparative analysis study is to relate the service quality of hospital to the patient's satisfaction at Klang Valley, which include Cyberjaya and Putrajaya ("Kuala Lumpur Structure Plan 2020," n.d.). Quantitative method will be used to examine the level of patient's satisfaction towards the service quality from public and private healthcare institution. SERVQUAL instrument developed by Parasuraman, Zeithami, & Berry (1988) is the most widely used tool to determine the service quality. It is a multiple-item scale to measure the consumer's perceptions of service quality in service organizations.

SERVQUAL involves five dimensions which are reliability, assurance, tangible, empathy, and responsiveness. According to Parasuraman et al., (1988), reliability is "the ability to perform the service dependably and accurately". Assurance is defined as "employee's knowledge courtesy and ability to convey trust and confidence". Tangible refers to the "physical facilities equipment and appearance of personnel". Empathy is the "level of caring and individual attention provided to customers". The willingness to help customers and provide prompt services is considered as responsiveness.

1.4   Research Questions

In this study, which service quality criteria of the healthcare institution affects the patient's satisfaction will be discussed and determined. 1. To determine whether reliability affects patient satisfaction. 2. To determine whether assurance affects patient satisfaction. 3. To determine whether tangible affects patient satisfaction. 4. To determine whether empathy affects patient satisfaction. 5. To determine whether responsiveness affects patients' satisfaction.

1.5   Research Objectives

The purpose of this research is to determine the factors that influence patients' satisfaction in the hospitals. The factors to be studied are reliability, assurance, tangible, empathy, and responsiveness. The patients' satisfaction towards the service provided by public and private hospitals in Klang Valley will be compared. In order to improve the quality of healthcare institution, it is necessary to know the feedback from the public regarding the service provided. The opinion is considered as a realistic tool to compare and understand the patient's satisfaction towards the service provided by the hospitals.

1.6   Hypothesis of the Study

This study hypothesise that service quality of hospital has significant relationship with patient satisfaction. Patient might have different satisfaction for each public and private hospital. The framework of this study is shown in Figure 1 as below.

Figure 1: Hypothesis Framework of the Study
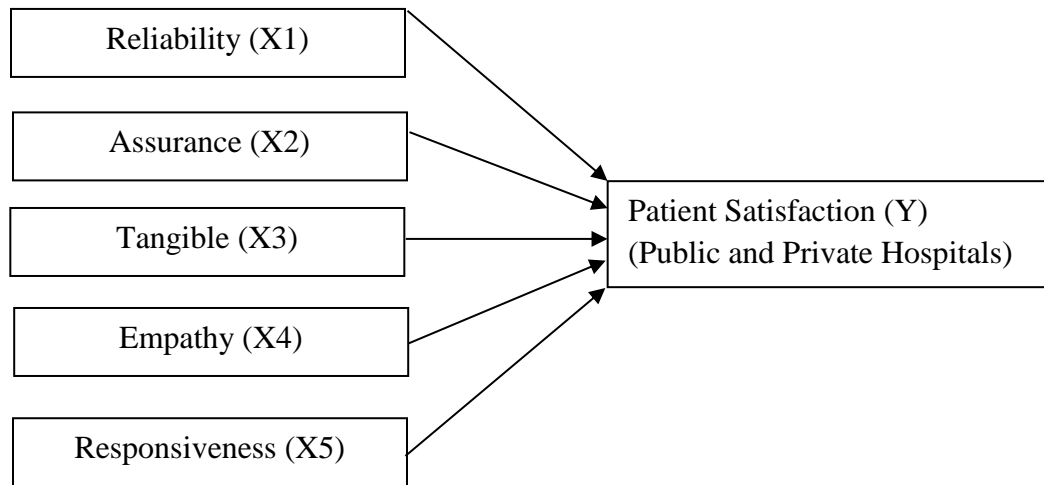
H_o: There is no relationship between Reliability (X1) and patient satisfaction (Y).

H_1: There is relationship between Reliability (X1) and patient satisfaction (Y).

H_o: There is no relationship between Assurance (X2) and patient satisfaction (Y).

H_2: There is relationship between Assurance (X2) and patient satisfaction (Y).

H_o: There is no relationship between Tangible (X3) and patient satisfaction (Y).

H_3: There is relationship between Tangible (X3) and patient satisfaction (Y).

H_o: There is no relationship between Empathy (X4) and patient satisfaction (Y).

H_4: There is relationship between Empathy (X4) and patient satisfaction (Y).

H_o: There is no relationship between Responsiveness (X5) and patient satisfaction (Y).

H_5: There is relationship between Responsiveness (X5) and patient satisfaction (Y).

1.7   Significance of the Study

This study compares and examines the patient's satisfaction towards the public and private hospital after experiencing the service provided. There are five independent variables to measure the service quality, includes reliability, assurance, tangible, empathy, and responsiveness.

The result of this study would help the researchers and healthcare facilities institution to understand more on the patient's feedback towards the services provided. With funds available to hospitals, the hospital can pay more attention to customer feedback for the facilities. The services will then be improved specifically and satisfy the patients' needs.

CHAPTER 2

LITERATURE REVIEW

2.0   Introduction

From the summary in Chapter 1, the research question of this study is to know which service quality from the healthcare institution that affects the patient's satisfaction. Previous researches will be studied and the findings will be presented in this chapter.

Firstly, the patient satisfaction and the measurement are discussed in details. It will then followed by the service quality variables that affect the patient satisfaction, which are reliability, assurance, tangible, empathy, and responsiveness.

2.1   Patient Satisfaction

Al-Abri and Al-Balushi (2014) defined patient satisfaction is a quality outcome indicator of how successful is a service delivery system. They concluded that questionnaire is a significant quality improvement tool. A seven point Likert-type scale was used in questionnaire (Aliman & Mohamad, 2013). A five point Likert scale was used in certain studies as well (Ahmad et al., 2011; Alrubaiee & Alkaa'ida, 2011; Rad, Mat Som, & Zainuddin, 2010).

Doctor reputation has direct impact on patient satisfaction. This satisfaction is then the determinant of patient loyalty (Suki, 2011). Female patients tend to have higher satisfaction than male patients (Alrubaiee & Alkaa'ida, 2011).

The size of hospital can be the factor to affect the satisfaction of inpatients (Kraska, Weigand, & Geraedts, 2017). Large hospital consists of large number of beds to serve the patients, which in turn has a lower rating of patients' satisfaction. It is due to the shortage of nursing staff to provide the medical care for each bed.

Education level is found to be associated with the patients' satisfaction (Aldosari, Tavares, Matta-Machado, & Abreu, 2017). Patients with low education level tend to be more satisfied with the service from government hospital. This situation could be explained as this group of patients has low awareness and less access to private institution.

Performing ward rounds at patient bedside increase the patients' satisfaction with care compared to conduct rounds in the hallway (Luthy et al., 2017). Such a result was interpreted as the patients able to know more about their health condition when the physicians were in discussion. Patients are preferred to take part in the process to decide the treatment for their illness.

Satisfaction of surgical patients are affected by the care provided, especially shorter length of stay (Tsai, Orav, & Jha, 2015). The level of satisfaction is higher for the healthcare institution with lower surgical readmission rates and lower surgical mortality rates. Tsai's finding concluded that the patient satisfaction is related to the efficiency of hospital.

Level of satisfaction is crucial as it affects the patient's behaviour to revisit the healthcare institution and recommend the unit or service to people around (Cham, Lim, Aik, & Tay, 2016). However, a satisfied customer might not be a loyal customer (Kuo, Tsai, Lu, & Chang, 2009). In medical, there are other switching factors such cost and psychology to affect the loyalty of patient (Hu, Cheng, Chiu, & Hong, 2011).

2.2 Service Quality

There are three characteristics for service, which are intangibility, heterogeneity, and inseparability (Parasuraman, Zeithaml, & Berry, 1985). Rather than measuring the quality objectively for goods, service quality is determined by measuring the consumers' perceptions of quality. SERVQUAL was developed to measure the consumer perceptions of service quality (Parasuraman, Zeithaml, & Berry, 1988).

The service quality study performed by Parasuraman and his colleagues is the masterpiece in service industry, especially the SERVQUAL questionnaire. It has been used in many industries such as hotel (El Saghier, 2015), management education (Datta & Vardhan, 2017), retail (Naik, Gantasala, & Prabhakar, 2010), and academic libraries (Asogwa, Asadu, Ezema, Ugwu, & C., 2014).

SERVQUAL framework is a widely used tool to measure the healthcare service quality (Aliman & Mohamad, 2013; Butt & Run, 2010; (Alrubaiee & Alkaa'ida, 2011). According to SERVQUAL multiple-item scale, there are five dimensions in measuring the service satisfaction: reliability, responsiveness, assurance, empathy, and tangibles. This approach able to help the organization to focus on limited resource to maximize the profit (Butt & Run, 2010).

2.2.1 Reliability

Reliability is the accurate, dependable and consistent performance of the service (Aliman & Mohamad, 2013). Parasuraman defined reliability as the "ability to perform the promised service dependably and accurately" (Parasuraman, Zeithami, et al., 1988). It has been proved that the patient will return back to the same healthcare institution if they are satisfied with the level of reliability (Anbori, Ghani, Yadav, Daher, & Su, 2010).

2.2.2 Assurance

Aliman and Mohamad (2013) and Parasuraman (1988) defined assurance as the "employees' knowledge and courtesy, ability to inspire trust, confidence, and security". Confidentiality and privacy are very important to the patients. In the study of assessing the HIV/AIDS patients' satisfaction, the patients are more satisfied with the confidentiality and privacy, competency of health care workers, and responsiveness (Tran & Nguyen, 2012).

2.2.3 Tangible

The appearance of employees, equipment and physical facilities of the hospital are considered as tangibles (Parasuraman, Zeithami, & Berry, 1988; Aliman & Mohamad, 2013). Aliman and Mohamad's research showed that the tangibles have strong relationship with patient satisfaction (Aliman & Mohamad, 2013).

When assessing the patients' satisfaction in different healthcare facility types and levels, it found that the level of satisfaction is highest for private hospitals (Adhikary et al., 2018). The authors explained the result is due to the better cleanliness and patient privacy settings. The factor that influences the patients' satisfaction significantly in the study is the cleanliness of the healthcare facility.

2.2.4 Empathy

Empathy means providing convenient services and giving attention to the customers' needs (Aliman & Mohamad, 2013). It was defined as the "caring, individualized attention the firm provides its customers" (Parasuraman, Zeithami, & Berry, 1988). Other than ease of communication, attention and patience of the staffs are the indicators of empathy (Naik et al., 2010)

This element is important especially for female patient during embarrassing examinations performed by the physician (Chiapponi, Witt, Dlugosch, Gülberg, & Siebeck, 2016). The patients hope the doctors can pay more attention and listen to them. Nairz found out that the patients prefer to have the medical interviews conducted by the radiologist prior to the imaging procedure (Nairz et al., 2018).

2.2.5   Responsiveness

Responsiveness refers to the willingness to provide prompt service to the customers (Aliman & Mohamad, 2013; Parasuraman, Zeithami, & Berry, 1988). Aliman and Mohamad's study shows that responsive has no significant effect to the patient satisfaction. However, there is study that showed that the waiting time affect the patient satisfaction towards public hospital significantly (Manaf & Phang, 2007). Study from Anbori and partners discovered that responsiveness is less related to patients' loyalty (Anbori et al., 2010).

2.3   Relationship between Service Quality and Patient Satisfaction

Study from Aliman and Mohamad (2013) stated that tangibility, reliability and assurance of service quality affect the patient satisfaction which will then determine their intention to visit the hospital again. Kitapci, Akdogan, and Dortyol found out that empathy and assurance are positively related to the patient satisfaction (Kitapci, Akdogan, & Dortyol, 2014a).

Ahmad et al. 's study (2011) used 5-point Likert scale to measure the patient satisfaction by using questionnaire. The questionnaire consists of 40 questions for six domains: satisfaction from staff, satisfaction from treatment, satisfaction from environment, satisfaction from management, patient awareness, and overall satisfaction. The population of the study was all the admitted patients in a teaching hospital. The sample size of 176 was then obtained using systematic random sampling. This study showed

that the predictors of patient satisfaction are satisfaction from staff, patient awareness, and satisfaction from management.

Empirical analysis conducted by Alrubaiee and Alkaa'ida using data collected from two public hospitals and two private hospitals (Alrubaiee & Alkaa'ida, 2011). SERVQUAL-type questionnaire was distributed to the patient and the response rate was 88 percent. All five dimensions of SERVQUAL showed significant relationship with patient satisfaction.

Sadiq Sohail modified the SERVQUAL model and used the revised version in the study for private hospitals (Sadiq Sohail, 2003). However, the five dimensions of SERVQUAL still remained and new question was added under empathy. From the analysis of 150 respondents, the results showed that the patients' satisfaction towards hospital is high as they have the low expectations. This might be due to the patients who prefer to obtain the treatment in public hospitals where the cost is much lower.

Research conducted on private hospitals showed positive relationship between healthcare service quality and patient satisfaction (Rad et al., 2010). Random sampling method was used to choose the respondents to answer the questionnaire. The questionnaire used in the study was adopted from Sohail's research (Sadiq Sohail, 2003). A sample of 200 patients from private hospital has participated in the survey.

2.4   Conclusion

The articles reviewed above studied about the measurement of patient satisfaction towards hospital service quality, either public hospital or private hospital. Simple and multiple regression analysis methods are used to determine the relationship between the healthcare service quality and patient satisfaction. The reliability of each variable is assessed by using the Cronbach's alpha coefficient. The significance of the data is analysed by using t-test. The next chapter will be describing the methods used in details.

CHAPTER 3

RESEARCH METHODOLOGY

3.0   Introduction

Research methods are methods used in a research. A systematic procedure to resolve a problem is defined as research methodology (Rajasekar, Philominathan, & Chinnathambi, 2013). It determines the data collection, data processing, and data analysis method for a study to be carried out.

This chapter discuss on the research design and the data collection procedures used in the study. The details on data collection and data analysis are explained in this chapter. It consists of research design, data collection method, sampling design, and data analysis methods.

3.1   Research Design

This study is a quantitative research which dealing with numbers and presents the data in statistical form. It is used to answer questions on relationships within measurable variables (Perumal, 2014). The purpose of this research is to study the relationship between the service quality of hospital and patient satisfaction.

It is also a cross-sectional study that the research is carried out at one period of time. A self-administered questionnaire is used for data collection purpose. The SERVQUAL

questionnaire will be distributed to the public who ever experienced the service from hospitals. The statistical analysis will be conducted by using the SPSS software.

3.2   Data Collection Method

Primary data is used in this study. Primary data is the first hand data collected by the researcher for the purpose of a study. In this study, the data is collected by using questionnaire method. The questionnaire is adopted from Parasuraman model (Parasuraman, Zeithaml, et al., 1988). The questionnaire is distributed to the respondents to answer the survey. The 5-point Likert scale was used to measure the response.

3.3   Sampling Design

The focus of this research is about the patient satisfaction towards the hospital service quality. Thus, the population is those who experienced the hospital service, regardless of inpatient or outpatient. The experience can be with public hospital or private hospital.

According to Central Limit Theorem (CLT), the general rule stated that the sample size is sufficient if it is equal to or greater than 30. The size indicates that it is large sample size and the distribution of the sample mean is considered as normally distributed. The average of sample mean will be the average of population mean (Stephanie, 2018).

In this research, the population is the patient who received treatment at medical center. However, it is impossible to know the number of patient population and calculate the sample size from it. By referring to the articles in literature review above, sample size of 100 for each public hospital and private hospital will be needed. In total, there are 230 sample sizes for this study.

As the population of patient is not well defined, nonprobability sampling method is used to select the sample (Etikan, Musa, & Alkassim, 2016). Respondents to answer the questionnaire are chosen randomly as long as they experienced the service from hospitals.

3.4   Questionnaire Design

The questionnaire was developed by referring to the previous studies. The questions set was modified from Parasuraman's model (Parasuraman, Zeithaml, et al., 1988). Other than referring the 22-items instrument, demographic information was added in the survey as well.

There are two sections in the questionnaire as shown in the table below:

Table 2: Two Sections of Questionnaire

Section	Components / Variables
Section A	Demographic Profile
Section B	Patient Satisfaction

There is a total of 27 questions to be answered by the respondents. Section A consists of 6 demographic questions. Section B consists of 25 questions on the patient satisfaction towards the service quality of hospitals. A five-point Likert scale used in the questionnaire ranged from strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5).

3.5   Data processing

Once the data is collected, manual checking is conducted to check the survey. Any incomplete questionnaires are removed as each of the data is important for analysis.

The remaining data is then keyed in to the SPSS software to run the analysis. Non-parametric statistics will be conducted as the samples size is not from a given population distribution. Non-parametric test has no assumption that the data has to be normally distribution, which normally in used with parametric test (Cleophas & Zwinderman, 2011).

3.6   Data analysis

3.6.1   Descriptive Analysis

Descriptive analysis describes the data in other manners. It might be in percentage, ratio, mean, median, and so on. The form of data enables the readers to understand the results easily, especially those who are not from the related field.

Another type of descriptive analysis is graphical presentation. The data is presented in visual forms which are histograms, bar charts, or even pie charts. Visual representation is a much better way to present the data as the readers can interpret or even compare the data easily.

3.6.2   Inferential Analysis

As mentioned above, there is no known number of population for this study as it is impractical to know the population of all patient. Thus, inference is made that the sample is drawn from the population. Inferential analysis is used to analyse the collected data and answer the research questions (LoBiondo-Wood & Haber, 2014). The conclusion of the study is drawn from the analysis.

Besides, five hypotheses were constructed in this study. Thus, hypothesis tests need to be conducted to examine whether the hypotheses should be accepted or rejected. The relationships between independent variables and dependent variable are determined through regression analysis.

3.7   Conclusion

This chapter describes the study design, sample size, data collection method, questionnaire design, and data processing. The above methods will be able to produce the relevant outputs and findings for this study. The next chapter explains the data analysis and results.

CHAPTER 4

RESEARCH RESULTS

4.0   Introduction

An overview of the research design and methodology utilized in this study was provided in Chapter 3. This overview highlights several important statistical techniques that were used to test the validity and reliability of the measuring instrument as well to empirically test the proposed hypothesized model.

In this chapter, generated results are presented in an orderly manner. Firstly, descriptive analysis in this study is shown in frequency tables and pie charts. Linear regression, independent t-test, and reliability analysis obtained from SPSS software are explained as well.

4.1   Descriptive Analysis

Analyses made on demographic data collected from 230 respondents are explained in this sub-section. There are five demographic data: gender, age, income, education level, and type of hospital visited.

4.1.1 Gender

Table 3: Frequency Table on Gender of Respondents

Gender	Respondents	Percentage
Male	107	46.52 %
Female	123	53.48 %
Total	**230**	**100.00 %**

Figure 2: Bar Chart on Gender of Respondents
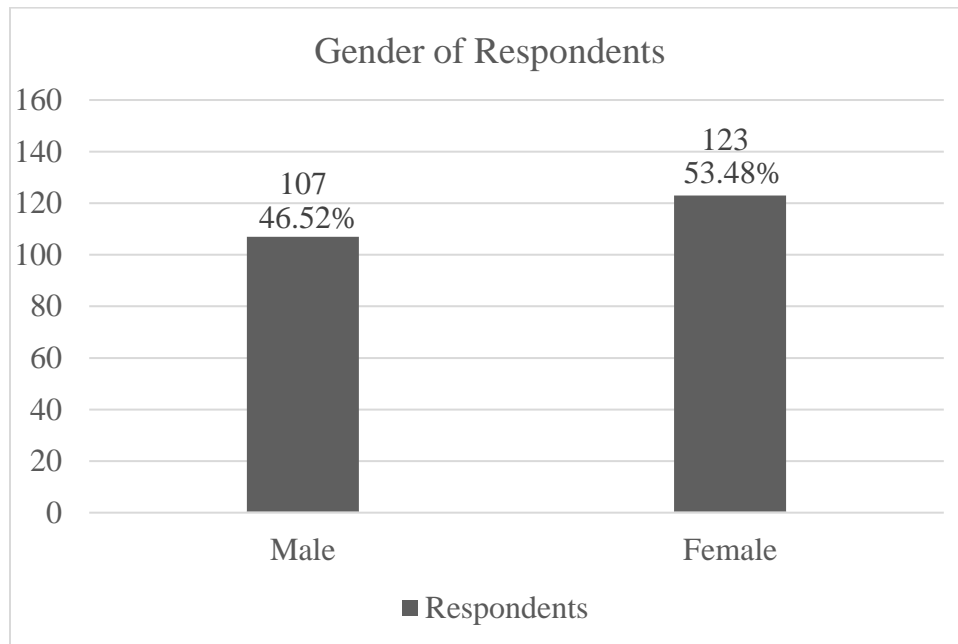
Based on the Table 3 and Figure 2, out of 230 respondents, 107 were male and 123 were female. Each of them accounting for 46.52 % and 53.48 % respectively.

4.1.2 Age Group

Table 4: Frequency Table on Age Group of Respondents

Age	Respondents	Percentage
20-25	57	24.78 %
26-35	105	45.65 %
36-45	54	23.48 %
Above 45	14	6.09 %
Total	**230**	**100 %**

Figure 3: Bar Chart on Age Group of Respondents
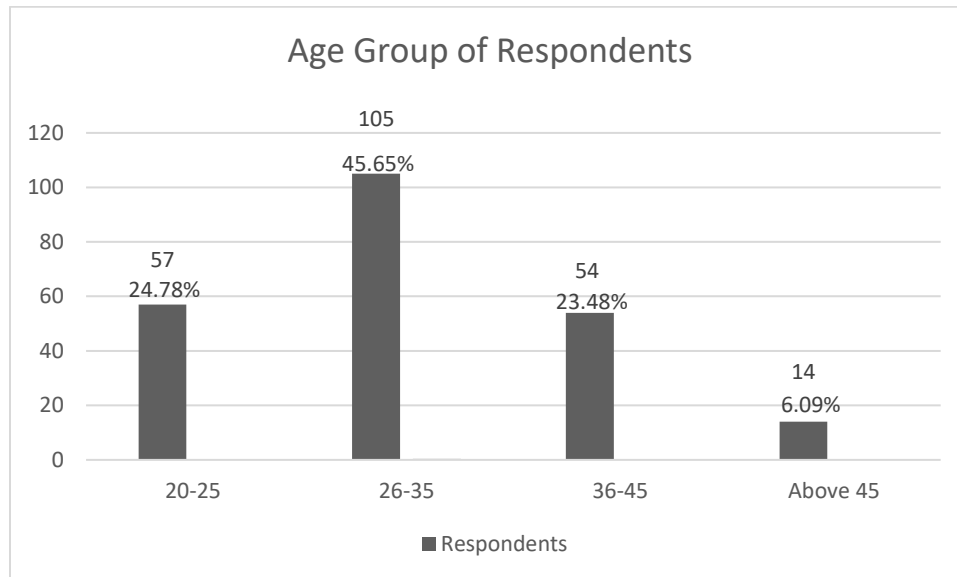
Based on Table 4 and Figure 3, majority of the respondents consists of age range from 26 to 35 years old with 105 respondents (45.65 %). Next are respondents with age group of 20 to 25 years old with 57 people (24.78 %). It was followed by the respondents of 36 to 45 years old with 54 in total (23.48 %). Finally, there are 14 respondents (6.09 %) were above 45 years old.

4.1.3 Monthly Income

Table 5: Frequency Table on Monthly Income of Respondents

Monthly Income	Respondents	Percentage
Less than RM 2,500	35	15.22 %
RM 2,501 – RM 3,500	39	16.96 %
RM 3,501 – RM 4,500	35	15.22 %
RM 4,501 – RM 6,000	51	22.17 %
RM 6,001 – RM 7,500	29	12.60 %
Above RM 7,501	41	17.83 %
Total	**230**	**100 %**

Figure 4: Bar Chart on Monthly Income of Respondents
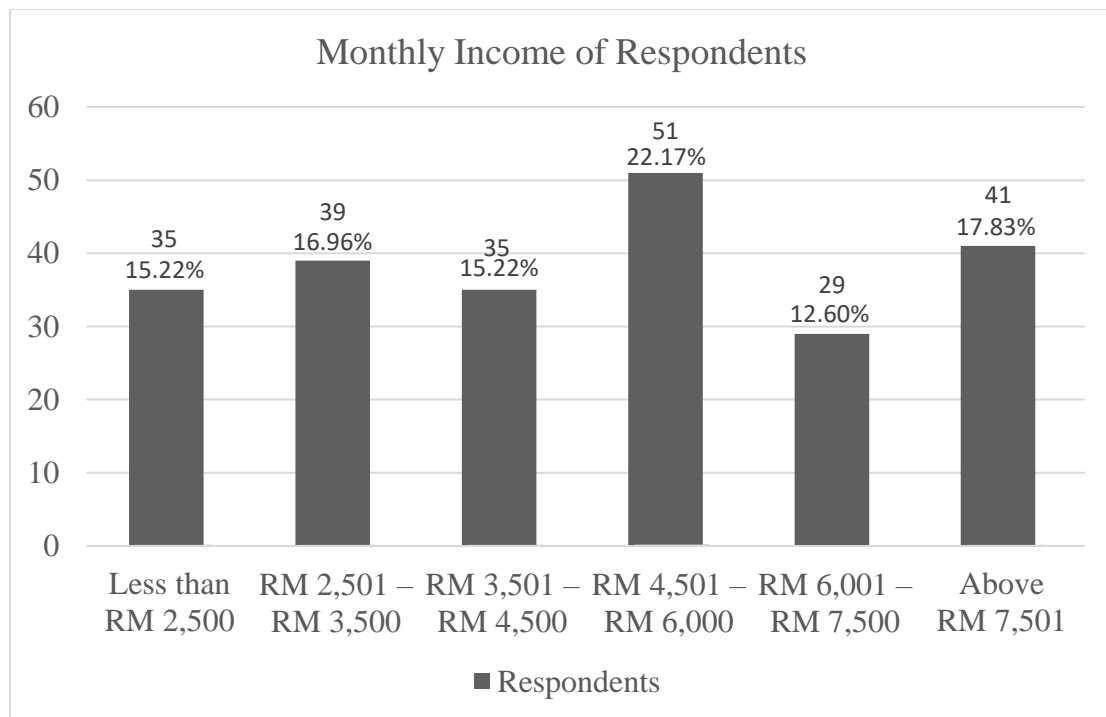
Based on Table 5 and Figure 4, there are 15% of the respondents that earn less than RM 2,500 monthly. Income ranges between RM 2,501 and RM 3,500 are 17 %, RM 3,501 to RM 4,500 are 15 %, RM 4,501 to RM 6,000 are 22 %, and RM 6,001 to RM 7,500 are 13%. Finally, income more than RM 7,501 are accounted for 18% of the respondents.

4.1.4   Education Level

Table 6: Frequency Table on Education Level of Respondents

Education Level	Respondents	Percentage
Primary / Secondary School	41	17.83 %
Graduates	99	43.04 %
Masters and above	90	39.13 %
Total	**230**	**100 %**

Figure 5: Bar Chart on Education Level of Respondents
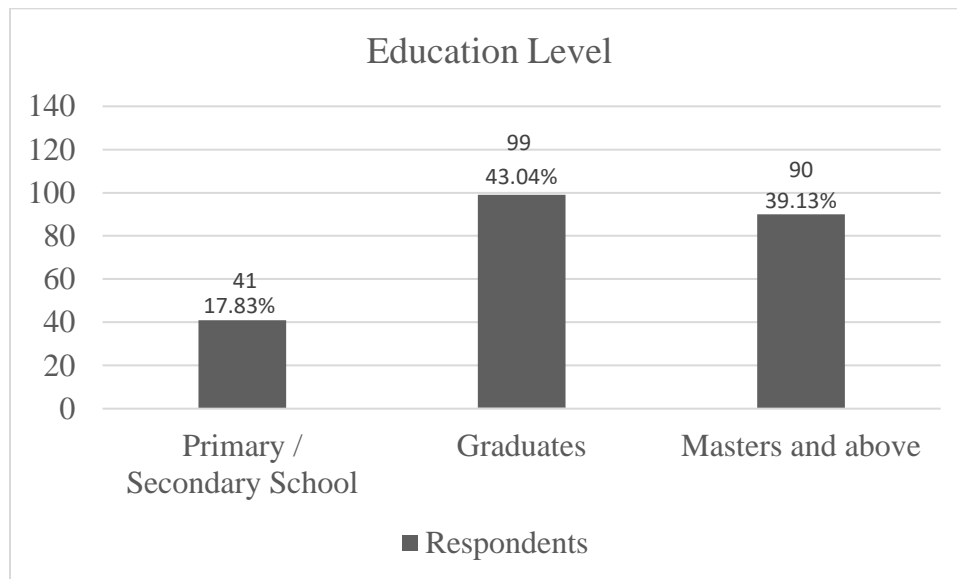
Based on Table 6 and Figure 5, majority of the respondents are Graduates and accounted for 99 respondents (43.04 %). There are 41 respondents (17.83 %) with primary or secondary school level and 90 respondents (39.13 %) were Masters and above.

4.1.5 Type of Hospital Visited

Table 7: Frequency Table on Type of Hospital Visited of Respondents

Type of Hospital Visited	Respondents	Percentage
Government	107	46.52 %
Private	123	53.48 %
Total	**230**	**100 %**

Figure 6: Pie Chart on Type of Hospital Visited of Respondents
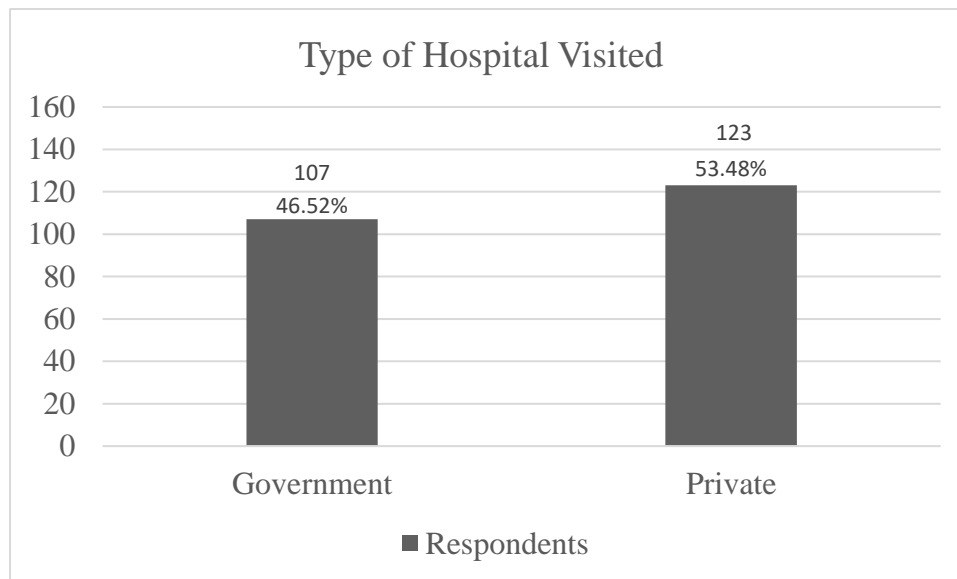
Based on Table 7 and Figure 6, government hospital and private hospital visited by the respondents are 46.52 % (123 response) and 53.48 % (107 response) respectively.

4.1.6 Information Sharing

Table 8: Patients to Ask for Medical Information

	Frequency	Percent
Yes	138	60.0
No	92	40.0
Total	230	100.0

Table 9: Doctors to Provide Medical Information

	Frequency	Percent
Yes	151	65.7
No	79	34.3
Total	230	100.0

Table 8 and 9 show the medical information sharing between doctors and patients such as alternative treatment or any side effects. Majority (60 %) of the patients will have to ask for the medical information during consultation. However, there is higher percentage (65.7 %) that the doctors are willing to disclose the medical information to the patient.

4.2 Pearson Correlation

Pearson correlation coefficient is the method that measures the validity of the data relationship. It also indicates the direction, the strength and significant of the relationship among all variables. The value of Pearson correlation is between 0.00 and 1.00.

Table 10: Correlations (Demographic)

Demographic	Correlation
Gender	-0.023
Age	-0.110
Income	0.081
Education	0.116
Hospital Type	0.128

Table 11: Correlations of Independent Variables

Dimensions	Hospital Type	
	Public	Private
Tangible	0.457	0.658
Reliability	0.449	0.617
Responsiveness	0.532	0.544
Assurance	0.444	0.550
Empathy	0.404	0.551

The correlation Table 10 show the results of correlation between the dependent variables and demographic. As the value for all demographic are not more than 0.20, the relationship with the patients' satisfaction is negligible.

Meanwhile the correlation between the dependent variables and independent variables are shown in Table 11. Since all the coefficient values are fall within 0.40 to 0.70, all the independent variables have positive and moderate correlation with patients' satisfaction.

4.3　Linear Regression Analysis

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1.	.691	.477	.465	.58288	2.042

Table 13: ANOVA

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.419	5	13.884	40.865	.000[a]
	Residual	76.104	224	.340		
	Total	145.523	229			

Table 12 and Table 13 are the result of multiple regression analysis. In ANOVA test, we hypothesized as below:

H_O: all the population means are equal.

H_A: not all the population means are equal.

The significant p-value (0.000) is less than α 0.05. Therefore, Ho is rejected, H_A is accepted. Therefore, group means are different.

Table 14: Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.351	.212		1.657	.099		
	Tangibles	.264	.067	.254	3.949	.000	.566	1.767
	Reliability	.230	.059	.234	3.865	.000	.639	1.565
	Responsiveness	.184	.069	.184	2.663	.008	.491	2.036
	Assurance	.136	.061	.140	2.231	.027	.593	1.687
	Empathy	.070	.073	.064	.955	.340	.516	1.937

a. Dependent Variable: PS

From coefficient Table 14 above, we could make the unstandardized equation of customer satisfaction as

$patient\ \widehat{satisfaction}_i = 0.351 + 0.264\ (\text{Tangibles})_i + 0.230\ (\text{Reliability})_i + 0.184$ $(\text{Responsiveness})_i + 0.136\ (\text{Assurance})_i + 0.070\ (\text{Empathy})_i + 0.212\varepsilon_i$

t-statistics = [3.949***] [3.865***] [2.663***] [2.231**] [0.955 ^{ns}]

$R^2 = 0.477, \bar{R}^2 = 0.465$

The value of R^2 indicates that there is only 47.7% of patients' satisfaction can be explained by the 5 variables: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The remaining 52.3% can be resolved by increasing the sample size and remove not significant data.

Variance Inflation Factors (VIF) is used to detect the degree of multicollinearity. VIF value more than 5 indicates the variable has multicollinearity problem. In this case, there is no any VIF value is more than 5. Thus, there is no multicollinearity problem in this analysis.

4.4　Independent t-test

Table 15: Independent t-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PS	Equal variances assumed	.203	.652	-1.950	228	.052	-.20424	.10474	-.41063	.00215
	Equal variances not assumed			-1.958	226.455	.051	-.20424	.10432	-.40981	.00133

Table 15 shows Levene's test and we hypotheses as below:

H_O: Group or means are come from population with variance are equal.

H_A: Group or means are come from population with variance are not equal.

The significant p-value (0.652) of Levene's test is greater than α 0.05. It means the variances are equal across the two groups, which is public hospital and private hospital in this case. Therefore, we refer to the first row of output for equal variances.

The 2-tailed significant value (0.052) is more than α 0.05. Therefore, H_O is accepted and population means are the same. There is no significant difference in all the population means. Meaning, there is no difference in patients' satisfaction for government and private hospital.

4.5   Histogram and P-P Plot

Figure 7: Histogram

Histogram

Dependent Variable: PS

Mean =-1.94E-16
Std. Dev. =0.989
N =230
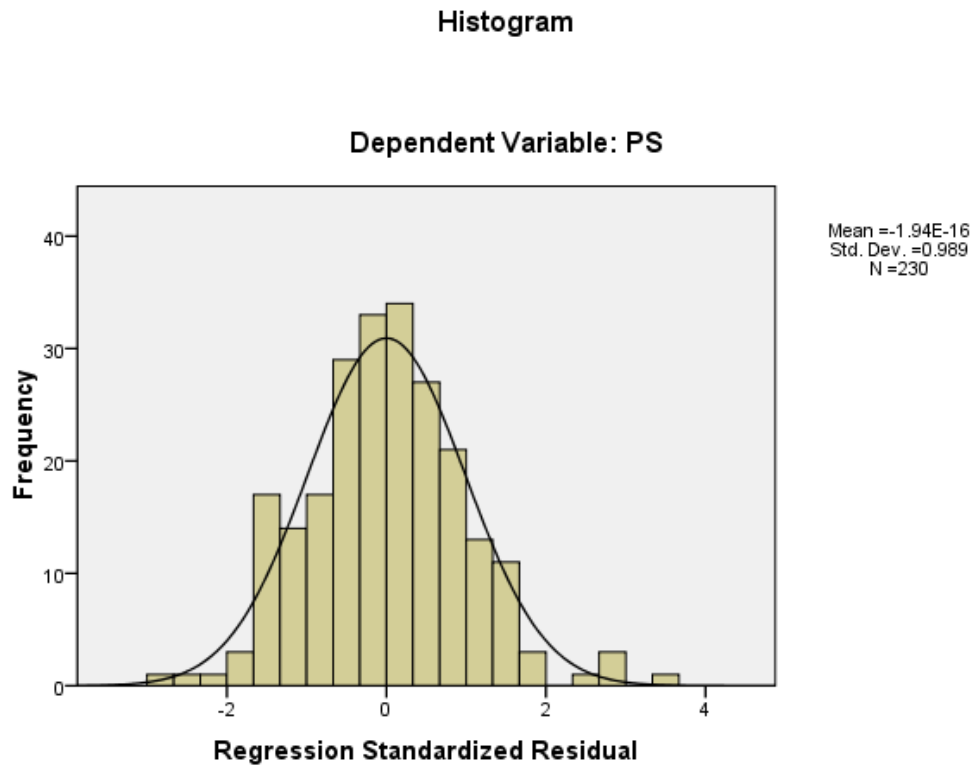
Histogram of patients' satisfaction is shown in Figure 7 as above. It shows that the data is normally distributed. In overall, the patient satisfaction is considered moderate towards the service quality of healthcare institution in Klang Valley, Malaysia.

Figure 8: Normal P-P Plot

Normal P-P Plot of Regression Standardized Residual
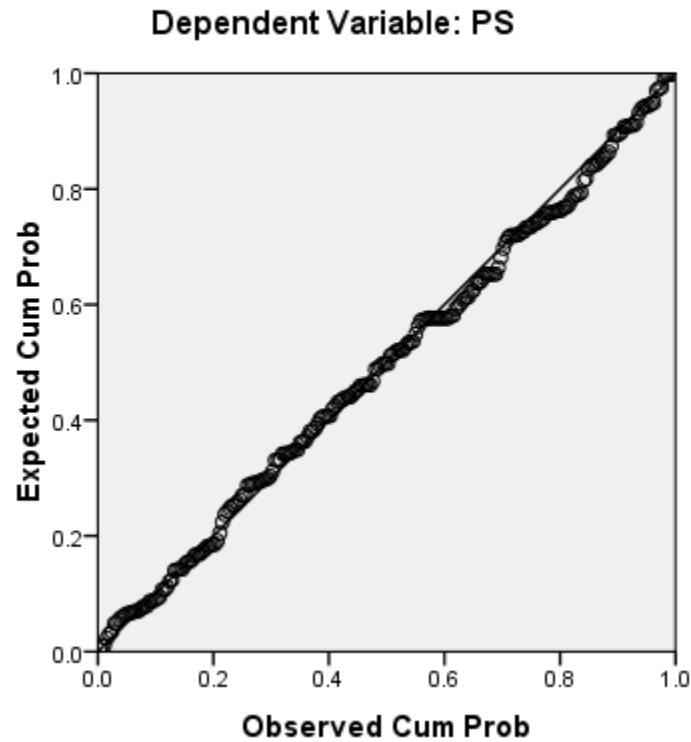
The data distributions in normal P-P plot are lie along the line (Figure 8). Thus, the data is normally distributed. The results from normality test, histogram and P-P plot have showed a normal data. Therefore, we concluded that our data is normally distributed.

4.6   Reliability

Table 16: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.868	.868	6

Reliability of a set of data is checked by observing the value of Cronbach's Alpha. Table 16 shows that the alpha coefficient is 0.868, which is more than 0.70. Thus, the data is reliable.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.0   Introduction

This is the last chapter of this study and it covers the overall results. The implications of study are explained after the discussion of results. The limitations of this study and recommendations for future studies are discussed lastly.

5.1   Discussion on Findings

Table 17: Summary of Results on the Hypotheses Testing

Hypothesis	Correlation	Decision
H_1: There is relationship between Tangible (X1) and patient satisfaction (Y).	0.575	Supported
H_2: There is relationship between Reliability (X2) and patient satisfaction (Y).	0.547	Supported

H$_3$: There is relationship between Responsiveness (X3) and patient satisfaction (Y).	0.545	Supported
H$_4$: There is relationship between Assurance (X4) and patient satisfaction (Y).	0.509	Supported
H$_5$: There is relationship between Empathy (X5) and patient satisfaction (Y).	0.499	Supported

Table 17 shows the result of hypothesis tests. All the five independent variables have relationship with the overall patients' satisfaction. Tangible is the strongest variable, followed by reliability and responsiveness. The least related variables are assurance and empathy.

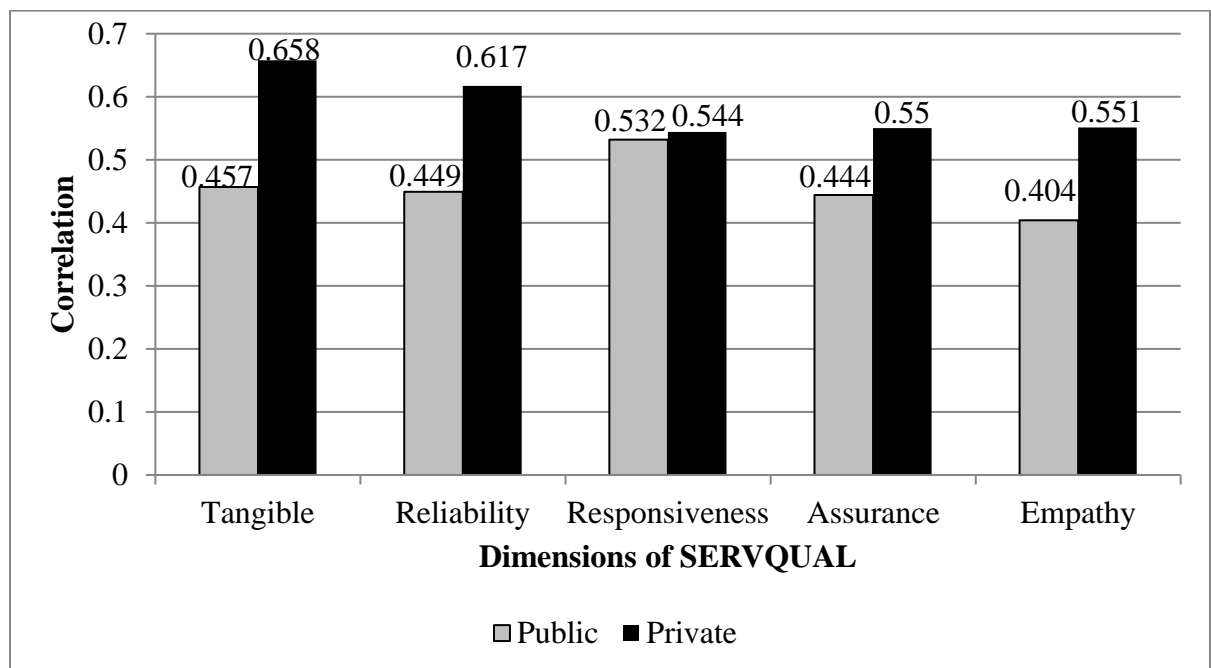Figure 9: Correlation of SERVQUAL Dimensions

Figure 9 indicates the correlation of each SERVQUAL dimensions in types of hospital. All the dimensions are related to the patients' satisfaction in both public and private hospitals. There are significant relationships between all the dimensions with patient's satisfaction. However, the relationships are found to be stronger in private hospitals.

5.1.1 Dimensions of SERVQUAL model

The first dimension of SERVQUAL, tangible, shows a positive relationship with patient satisfaction in this study. In Sohail's study, the patients are satisfied with all the service quality provided in private hospital (Sadiq Sohail, 2003). However, the result is contrast with Rad's study which showed no significant correlation between tangibles and patients' satisfaction in private hospital (Rad et al., 2010). This might be explained that some patients visit the private hospital to receive better treatment from the professional physician and nurse regardless of the facilities. But, highest ranking of tangible in this study reflects the importance of new and well-maintained facilities in hospital.

The findings in this study indicate a relationship between reliability and patients' satisfaction. Similar result can be found in other researches as well (Sadiq Sohail, 2003; Aliman & Mohamad, 2013; Al-damen, 2017). In current study, the patients feel that private hospital is more reliable than government hospital. Reliability of healthcare institution provides the confidence on patients to seek for medical treatment.

Responsiveness was proved to have relationship with the patients' satisfaction. It is crucial that the medical staffs able to response to patients' needs effectively. Medical attention has to be given promptly to ensure that the patients feel less uncomfortable or even save their lives.

The results from the analysis illustrate that there is a significant relationship between assurance and patients' satisfaction. Several past studies are able to support this hypothesis as well (Anbori, Ghani, Yadav, Daher, & Su, 2010; Aliman & Mohamad, 2013; Al-damen, 2017; Fan et al., 2017). Patients are so worry about their health

condition when they are not feeling well. Thus, the hospitals need to create a trustworthy environment to provide professional medical service to the customers.

Current study also suggests a positive relationship between empathy and patients' satisfaction. It is consistent with a few researches conducted in the past (Alin, Juin, Mandy, & Harun, 2009; Kitapci, Akdogan, & Dortyol, 2014; Al-damen, 2017). As a service provider, medical staffs should always pay attention to the needs of customers, which are patients in this case. Best interest of patients should be the priority before any new policy to be implemented.

In this research, we added two questions about medical information sharing in demographic section. 60 percent of the respondents need to ask for more medical information such as alternatives or any side effects from the treatment. Majority patients from this group of respondents are highly educated. They might have high level of awareness of the patients' right to raise questions during the consultation.

This finding is consistent with another research result. According to Péfoyo and Wodchis, the highly educated patients are more likely to know about their condition and hope to involve in the decision making process of treatment (Péfoyo & Wodchis, 2013). The study concluded that the transfer of medication information between practitioners and patients is the strong predictor of patients' satisfaction. The doctors should communicate with the patients about the treatment and any side effects before any decision made.

A previous study found out that the patients are tend to be more satisfied if they are allowed to ask questions to the service providers (Adhikary et al., 2018). The study explained that the shortage of doctors leads to the limited consultation time and the patients are not able to ask questions. Although the patients can ask questions, the doctors are annoyed with the repeatedly questions asked by the patients especially the uneducated patients (Jalil, Zakar, Zakar, & Fischer, 2017).

5.2   Implications on this Study

From the result obtained, tangible affects the patients' satisfaction the most. Thus, it is suggested that the management should put more effort in improving the facilities and cleanliness. As a healthcare institution, hygiene is very important to prevent any infection and worsen the patients' condition.

Both government and private hospital are controlled by Ministry of Health (MOH). They are referring to the same standard but it depends on the management to implement it and to serve the patients. As revenue affects the survival of private hospital, the management must monitor the service quality continuously to ensure that the patients are satisfied and willing to revisit again.

Customer loyalty is influenced by the satisfaction (Anbori, Ghani, Yadav, Daher, & Su, 2010). Thus, identify the service quality that affecting the patients' satisfaction is helpful in planning the marketing strategy. The policy-makers are able to implement and provide better service to the patient so that they will visit the same healthcare institution again.

5.3   Limitation of Study

Although study is conducted in Klang Valley, the results can be more precise if the sample is taken from each of the hospital in the area. In this research, the subjects are only required to choose the type of hospitals visited. By distributing the questionnaire in each of the hospitals, the accuracy of the results can be improved with the increased of sample size.

This is a quantitative research and the patients' satisfaction is studied in objective perspective. Qualitative questions should be included in the survey so that the patients are able to express their opinions clearly. Questionnaire with Likert Scale limits the feedback and is not able to reflect the patients' satisfaction in details.

5.4   Recommendations on Future Research

As the service quality studied in this research is based on general environment, further study can be conducted on particular department such as emergency department, intensive care unit (ICU), or imaging department. This is to investigate the service quality in different care units and to improve it accordingly.

Different geographic location might leads to different level of patients' satisfaction as well. Hospitals in rural area might have less facility but the staffs are friendly and able to pay more attention on the patients. The level of empathy might be higher compare to the hospital in urban areas.

Besides, the comparison of service quality can be conducted on teaching hospital and non-teaching hospital. The management for these two types of hospital might be different. Thus, it would be interesting to compare their quality management as well.

Further study can be conducted on informing the patient about the details of treatment. The research in this particular field is very less. Patients' opinion should be collected whether they prefer the physicians to let them know all the treatments available and any side effects for each treatment. This is because the patients do not understand the disease and medical terms. They might prefer to rely on the physicians to decide the best treatment for them.

5.5   Conclusion

Patients' satisfaction in private hospital is more related to the service quality. This could be explained that private hospitals charged for the services provided. Thus, the management tends to ensure good quality of services and it results in high level of patients' satisfaction. Highly educated patients required the physicians to inform them about the side effects of the treatment and the alternatives. It is because this group of patients are well educated and they hope to be involved in the decision making of

treatment. Future research can focus on the involvement of patients in decision making of treatment. The management can consider whether to enforce the doctors to explain the details of treatment to the patients.

REFERENCES

2018 Budget. (2018). Ministry of Finance Malaysia, Kuala Lumpur.

Adhikary, G., Shawon, M. S. R., Ali, M. W., Shamsuzzaman, M., Ahmed, S., Shackelford, K. A., … Uddin, M. J. (2018). Factors influencing patients' satisfaction at different levels of health facilities in Bangladesh: Results from patient exit interviews. *PLoS ONE*, *13*(5), e0196643. https://doi.org/10.1371/journal.pone.0196643.

Ahmad, I., Nawaz, A., Khan, S., Khan, H., Rashid, M. A., & Khan, M. H. (2011). Predictors of patient satisfaction. *Gomal Journal of Medical Sciences*, *9*(2), 183–188.

Al-Abri, R., & Al-Balushi, A. (2014). Patient satisfaction survey as a tool towards quality improvement. *Oman Medical Journal*, *29*(1), 3–7. https://doi.org/10.5001/omj.2014.02.

Al-damen, R. (2017). Health care service quality and its impact on patient satisfaction "Case of Al-Bashir Hospital." *International Journal of Business and Management*, *12*(9), 136–152. https://doi.org/10.5539/ijbm.v12n9p136.

Aldosari, M. A., Tavares, M. A., Matta-Machado, A., & Abreu, M. (2017). Factors associated with patients' satisfaction in Brazilian dental primary health care. *PLoS ONE*, *12*(11), 1–13. https://doi.org/10.1371/journal.pone.0187993.

Aliman, N. K., & Mohamad, W. N. (2013). Perceptions of service quality and behavioral intentions: A mediation effect of patient satisfaction in the private health care in Malaysia. *International Journal of Marketing Studies*, *5*(4), 15–29. https://doi.org/10.5539/ijms.v5n4p15.

Alrubaiee, L., & Alkaa'ida, F. (2011). The mediating effect of patient satisfaction in the patients' perceptions of healthcare quality – patient trust relationship. *International Journal of Marketing Studies*, *3*(1), 103–127. Retrieved from www.ccsenet.org/ijms.

Anbori, A., Ghani, S. N., Yadav, H., Daher, A. M., & Su, T. T. (2010). Patient satisfaction and loyalty to the private hospitals in Sana'a, Yemen. *International*

Journal for Quality in Health Care, *22*(4), 310–315. https://doi.org/10.1093/intqhc/mzq029.

Andaleeb, S. S. (2000). Public and private hospitals in Bangladesh: Service quality and predictors of hospital choice. *Health Policy and Planning*, *15*(1), 95–102.

Angelopoulou, P., Kangis, P., & Babis, G. (1998). Private and public medicine: A comparison of quality perceptions. *International Journal of Health Care Quality Assurance*, *11*(1), 14–20. https://doi.org/10.1108/09526869810199601.

Asogwa, B. E., Asadu, B. U., Ezema, J. U., Ugwu, C. I., & C., U. F. (2014). Use of ServQUAL in the evaluation of service quality of academic libraries in developing countries.

Butt, M. M., & Run, E. C. de. (2010). Private healthcare quality: Applying a SERVQUAL model. *International Journal of Health Care Quality Assurance*, *23*(7), 658–673. https://doi.org/10.1108/09526861011071580.

Cham, T. H., Lim, Y. M., Aik, N. C., & Tay, A. G. M. (2016). Antecedents of hospital brand image and the relationships with medical tourist' behavioral intention. *International Journal of Pharmaceutical and Healthcare Marketing*, *10*(4), 412–431. https://doi.org/10.1108/IJPHM-02-2016-0012.

Chiapponi, C., Witt, M., Dlugosch, G. E., Gülberg, V., & Siebeck, M. (2016). The perception of physician empathy by patients with inflammatory bowel disease. *PLoS ONE*, *11*(11), e0167113. https://doi.org/10.1371/journal.pone.0167113.

Cleophas, T. J., & Zwinderman, A. H. (2011). Non-Parametric tests. In *Statistical Analysis of Clinical Data on a Pocket Calculator* (pp. 9–13). Springer, Dordrecht. https://doi.org/10.1007/978-94-007-1211-9_4.

Datta, K. S., & Vardhan, J. (2017). A SERVQUAL-based framework for assessing quality of international branch campuses in UAE: A management students' perspective. *SAGE Open*, *7*(1), 1–9. https://doi.org/10.1177/2158244016676294.

Dayasiri, K. (2010). Predictors of patient satisfaction with quality of health care in Asian hospitals. *Australasian Medical Journal*, *3*(11), 739–744.

https://doi.org/10.4066/AMJ.2010.375.

Donabedian, A. (1996). The effectiveness of quality assurance. *International Journal for Quality in Health Care*, *8*(4), 401–407.

El Saghier, N. M. (2015). Managing service quality: Dimensions of service quality: A study in Egypt. *International Journal of African and Asian Studies*, *9*, 56–63. https://doi.org/10.1002/lary.26024.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11.

Fan, L., Gao, L., Liu, X., Zhao, S., Mu, H., Li, Z., … Lou, F. (2017). Patients ' perceptions of service quality in China : An investigation using the SERVQUAL model. *PLoS ONE*, *12*(12), 1–13.

Health Facts 2017. (2017).

Hu, H., Cheng, C., Chiu, S., & Hong, F. (2011). A study of customer satisfaction, customer loyalty and quality attributes in Taiwan ' s medical service industry. *African Journal of Business Management*, *5*(1), 187–195. https://doi.org/10.5897/AJBM10.951.

Jalil, A., Zakar, R., Zakar, M. Z., & Fischer, F. (2017). Patient satisfaction with doctor-patient interactions : A mixed methods study among diabetes mellitus patients in Pakistan. *BMC Health Services Research*, *17*(1). https://doi.org/10.1186/s12913-017-2094-6.

Kitapci, O., Akdogan, C., & Dortyol, İ. T. (2014a). The impact of service quality dimensions on patient satisfaction, repurchase intentions and word-of-mouth communication in the public healthcare industry. *Procedia - Social and Behavioral Sciences*, *148*, 161–169. https://doi.org/10.1016/j.sbspro.2014.07.030.

Kitapci, O., Akdogan, C., & Dortyol, İ. T. (2014b). The impact of service quality dimensions on patient satisfaction, repurchase intentions and word-of-mouth communication in the public healthcare industry. *Procedia - Social and*

Behavioral Sciences, *148*, 161–169. https://doi.org/10.1016/j.sbspro.2014.07.030.

Kraska, R. A., Weigand, M., & Geraedts, M. (2017). Associations between hospital characteristics and patient satisfaction in Germany. *Health Expectations*, *20*(4), 593–600. https://doi.org/10.1111/hex.12485.

Kuala Lumpur Structure Plan 2020. (n.d.). Retrieved January 5, 2019, from http://www.dbkl.gov.my/pskl2020/english/international_and_national_context_of_growth/index.htm.

Kuo, T., Tsai, G. Y., Lu, I.-Y., & Chang, J.-S. (2009). Relationships among service quality, customer satisfaction and customer loyalty: A case study on mobile shopping APPs. *Computers in Human Behavior*, *25*(4), 887–896. Retrieved from http://apiems2016.conf.tw/site/userdata/1087/papers/0186.pdf.

LoBiondo-Wood, G., & Haber, J. (2014). *Nursing research: Methods and critical appraisal for evidence-based practice.* (8th ed.). St. Louis: Elsevier.

Luthy, C., Francis Gerstel, P., Pugliesi, A., Piguet, V., Allaz, A. F., & Cedraschi, C. (2017). Bedside or not bedside: Evaluation of patient satisfaction in intensive medical rehabilitation wards. *PLoS ONE*, *12*(2), 1–11. https://doi.org/10.1371/journal.pone.0170474.

Manaf, N. H. A., & Phang, S. N. (2007). Patient satisfaction as an indicator of service quality in Malaysian public hospitals. *The Asian Journal on Quality*, *10*(1), 77–87.

Manaf, N. H. A., & Phang, S. N. (2009). Patient satisfaction as an indicator of service quality in Malaysian public hospitals. *The Asian Journal on Quality*, *10*(1), 77–87.

Ministry of Finance Malaysia. (2018). 2018 Budget.

Naik, C. N. K., Gantasala, S. B., & Prabhakar, G. V. (2010). Service quality (Servqual) and its effect on customer satisfaction in retailing. *European Journal of Social Sciences*, *16*(2), 231–243. https://doi.org/10.1016/j.arth.2015.11.029.

Nairz, K., Bohm, I., Barbieri, S., Fiechter, D., Hosek, N., & Heverhagen, J. (2018). Enhancing patient value efficiently: Medical history interviews create patient satisfaction and contribute to an improved quality of radiologic examinations. *PLoS ONE*, *13*(9), e0203807.

Parasuraman, A., Zeithami, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, *64*(1), 12–40.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, *49*(4), 41–50. https://doi.org/10.2307/1251430.

Parasuraman, A., Zeithaml, V., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailling*, *64*(1), 12–37. https://doi.org/10.1016/S0148-2963(99)00084-3.

Péfoyo, A. J. K., & Wodchis, W. P. (2013). Organizational performance impacting patient satisfaction in Ontario hospitals : A multilevel analysis. *BMC Research Notes*, *6*(1), 509.

Perumal, T. (2014). Quantitative research methods. In *Course Material* (Vol. Chapter 8, pp. 87–104). Open University Malaysia. https://doi.org/http://dx.doi.org/10.5210/fm.v8i1.1023.

Rad, N. F., Mat Som, A. P., & Zainuddin, Y. (2010). Service Quality and Patients' Satisfaction in Medical Tourism. *World Applied Sciences Journal (Special Issue of Tourism & Hospitality)*, *10*, 24–30.

Rajasekar, S., Philominathan, P., & Chinnathambi, V. (2013). Research methodology. https://doi.org/arXiv:physics/0601009v3.

Sadiq Sohail, M. (2003). Service quality in hospitals: More favourable than you might think. *Journal of Service Theory and Practice*, *13*(3), 197–206. https://doi.org/10.1108/09604520310476463.

Stephanie. (2018). Central limit theorem: Definition and examples in easy steps. Retrieved August 11, 2018, from http://www.statisticshowto.com/probability-and-statistics/normal-distributions/central-limit-theorem-definition-examples/.

Suki, N. M. (2011). Assessing patient satisfaction, trust, commitment, loyalty and doctors' reputation towards doctor services. *Pakistan Journal of Medical Sciences*, *27*(5), 1207–1210.

Tran, B. X., & Nguyen, N. P. T. (2012). Patient satisfaction with HIV/AIDS care and treatment in the decentralization of services delivery in Vietnam. *PLoS ONE*, *7*(10), e46680. https://doi.org/10.1371/journal.pone.0046680.

Tsai, T. C., Orav, E. J., & Jha, A. K. (2015). Patient satisfaction and quality of surgical care in US hospitals. *Annals of Surgery*, *261*(1), 1–8. https://doi.org/10.1097/SLA.0000000000000765.

Zineldin, M. (2006). The quality of health care and patient satisfaction: An exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics. *International Journal of Health Care Quality Assurance*, *19*(1), 60–92. https://doi.org/10.1108/09526860610642609444.

APPENDIX A

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Re: U/SERC/20/2019

15 February 2019

Ms K Shamini a/p Kandasamy
Department of Accountancy
Faculty of Accountancy and Management
Universiti Tunku Abdul Rahman
Jalan Sungai Long
Bandar Sungai Long
43000 Kajang, Selangor

Dear Ms Shamini,

Ethical Approval For Research Project/Protocol

We refer to your application dated 22 January 2019 for ethical approval for your research project (Master student's project) and are pleased to inform you that your application has been approved under expedited review.

The details of your research project are as follows:

Research Title	Patients' Satisfaction Towards the Healthcare Institution Service Quality: Comparison of Public and Private Hospitals in Klang Valley
Investigator(s)	Ms K Shamini a/p Kandasamy Kang Aik Joo (UTAR Postgraduate Student)
Research Area	Social Sciences
Research Location	Klang Valley
No of Participants	200 participants (Age: 20 and above)
Research Costs	Self-funded
Approval Validity	15 February 2019 - 14 February 2020

The conduct of this research is subject to the following:

(1) The participants' informed consent be obtained prior to the commencement of the research;

(2) Confidentiality of participants' personal data must be maintained; and

(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Questionnaire about patients' satisfaction towards the hospital service in Klang Valley, Malaysia

We would be grateful if you could spend few minutes of your precious time to fill out this questionnaire. Your answers will be part of a research project on patient satisfaction towards hospital service quality in Klang Valley, Malaysia, for medical and non-medical facilities. There is no right or wrong answer. You will not be required to reveal your identity in this research and all answers will be handled with confidentiality.

1. Your gender:
   ☐ Male   ☐ Female

2. Your age:
   ☐ 20 – 25
   ☐ 26 – 35
   ☐ 36 – 45
   ☐ Above 45

3. Current monthly income:
   ☐ Less than RM 2,500
   ☐ RM 2,501 – RM 3,500
   ☐ RM 3,501 – RM 4,500
   ☐ RM 4,501 – RM 6,000
   ☐ RM 6,001 – RM 7,500
   ☐ Above RM7,501

4. Education level:
   ☐ Illiterate
   ☐ Primary and secondary school
   ☐ Graduates
   ☐ Masters and above

5. Type of hospital visited for the past 2 years in Klang Valley:
   ☐ Government hospital
   ☐ Private hospital

6. Do you need to ask for more medical information?
   ☐ Yes   ☐ No

7. Are the doctors willing to provide more medical information?
    ☐ Yes   ☐ No

Please circle to what extent, on a scale of 1 to 5, you do agree with the statement below.
(**1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree**)

1. Tangibles

1.1	The hospitals has up-to-date equipment.	1	2	3	4	5
1.2	The physical facilities are visually new.	1	2	3	4	5
1.3	The staffs are well dressed and appear neat.	1	2	3	4	5
1.4	The appearance of the physical facilities of the hospital are well maintained with the type of services provided.	1	2	3	4	5

2. Reliability

2.1	When the hospital promised to do something by a certain time, it does so.	1	2	3	4	5
2.2	When you need more information, the hospital staffs are willing to help.	1	2	3	4	5
2.3	The hospital is dependable / reliable.	1	2	3	4	5
2.4	The hospital provides services at the time as promise to do so.	1	2	3	4	5
2.5	The hospital keep the records accurately / online.	1	2	3	4	5

3. Responsiveness

3.1	The hospital let you know exactly when the services will be performed.	1	2	3	4	5
3.2	The staffs give prompt services to you upon request.	1	2	3	4	5
3.3	The staffs are always willing to help you.	1	2	3	4	5
3.4	The staffs give medical attention promptly.	1	2	3	4	5

4. Assurance

4.1	The staffs are trustworthy.	1	2	3	4	5
4.2	You feel safe in their transactions with the hospitals.	1	2	3	4	5
4.3	The staffs are polite, friendly, and helpful.	1	2	3	4	5

| 4.4 | The staffs have adequate support from the hospitals to do their jobs well. | 1 | 2 | 3 | 4 | 5 |

5. Empathy

5.1	The hospital gives individual attention.	1	2	3	4	5
5.2	The staffs give patient personal attention.	1	2	3	4	5
5.3	The staffs are knowledgeable to understand your specific needs.	1	2	3	4	5
5.4	The hospital has your best interests at heart.	1	2	3	4	5
5.5	The hospital has operating hours convenient to all the patients.	1	2	3	4	5

6. I am satisfied with my decision to use the service at this hospital.

          1   2   3   4   5

7. My choice to come to this hospital is a wise decision.

          1   2   3   4   5

8. My experience at this hospital is satisfactory.

          1   2   3   4   5

9. I am not disappointed to use this hospital's service.

          1   2   3   4   5

Thank you for consenting to fill up this questionnaire!