

An Exploratory Study on the Factors that Influence Patient Satisfaction and Its Impact on Patient Loyalty

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Abstract—The rise of medical tourism is due to the rapid growth of trade in health around the world, accommodate by the increased of international mobility of services between health provider, intermediary and patients and the advancement of information technology and communications that contributed to the expansion of private hospitals. Medical tourism exist in the market for quite some time, and this study examine on why foreign patients, focusing on Indonesian chose to seek medical treatment in overseas (Malaysia) rather than home-country. Hence, the purpose of this study is to examine the contributing factors that push them to seek medical treatment in a foreign hospital that will trigger their satisfaction and lead to loyalty toward the specific hospital they seek. This study uses multiple analyses such as reliability analysis, normality test, descriptive analysis, and Pearson Correlation on all the variables tested. All the hypotheses that have been developed indicate that there is relationship between the independent variables and dependent variable. Medical error has the strongest influence on patient satisfaction with the standard coefficient beta of 0.395.

Index Terms—Medical tourism, patient satisfaction, patient loyalty, private hospital.

I. INTRODUCTION

The biggest challenge in medical tourism that potential visitor has to face is the challenge of convincing to believe the credibility and medical care in the relatively poor countries can perform comparable with that available surgeries that can be perform at home in term of safety and dealing with pain thresholds. Malaysia private health care has been on the rise since 1980 and during the 1997 Asian financial crisis, there is a drastic drop in domestic patients visiting private hospitals. The Malaysia Government takes a lead in the medical industry into Malaysia through trade mission and other promotional activities such as marketing promotions and road shows, supported by Malaysian External Trade Development Corporation (MATRADE) and Tourism Malaysia [1].

There is also a rapid growth of corporate investor-owned hospital, which attracted physicians, medical specialists and nurses from the public hospital to work in private hospital. A private hospital started in Malaysia in the 1970s where it made up of a group of physicians and non-profit hospital operating as a small business to public that can afford to pay a higher price for a better service and treatment. This so-called “small business” quickly changes when large corporation or investor came into this industry and buying

up the “small business” and enlarging them and setting up more large private hospital. Based on the Ministry of Health (MOH) Health Facts 2010, currently there are 217 licensed private hospitals and 131 government hospitals in Malaysia.

Malaysia joined in the bandwagon of health tourism industry after realizing the potential growth and revenue in this market by the Ministry of Health with the collaboration and set up by Health Tourism Unit at the Medical Practice Division in year 2004. This body functions as the focal point to form a partnership with relevant bodies involve in offering and developing health tourism. Many researches have been done in determining what is the main reason behind for an individual to travel to another country rather than home country to seek for medical treatment but there is still no clear indicators that influence their satisfaction level to seek medical treatment in Malaysia, therefore, the research questions can be extracted as follows:

- Does medical error affect patient’s satisfaction?
- Does cost of medical affect patient’s satisfaction?
- Does quality service affect patient’s satisfaction?
- Does doctor’s expertise affect patient’s satisfaction?
- Does availability affect patient’s satisfaction?
- What is the relationship between patient’s satisfaction and patient’s loyalty?

II. RESEARCH OBJECTIVES

In order to answer the research questions, the following objectives are clearly defined:

- To investigate the relationship between medical error and patient’s satisfaction.
- To investigate the relationship between cost of medical and patient’s satisfaction.
- To investigate the relationship between quality services and patient’s satisfaction.
- To investigate the relationship between doctor’s expertise and patient’s satisfaction.
- To investigate the relationship between availability and patient’s satisfaction.
- To determine the relationship between patient’s satisfaction and patient’s loyalty.

III. METHODOLOGY

Research framework offers a conceptual foundation to proceed with the research and identifying the network of relationships among variables in any given problem situation [2]. From the research framework, testable hypotheses can be developed to examine whether the relationship is valid or not.

Hypotheses:

H1: There is a significant relationship between medical

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error and patient satisfaction

H2: There is a significant relationship between cost of medical and patient satisfaction

H3: There is a significant relationship between quality service and patient satisfaction

H4: There is a significant relationship between physician's expertise and patient satisfaction

H5: There is a significant relationship between availability and patient satisfaction

H6: There is a significant relationship between patient satisfaction and patient loyalty

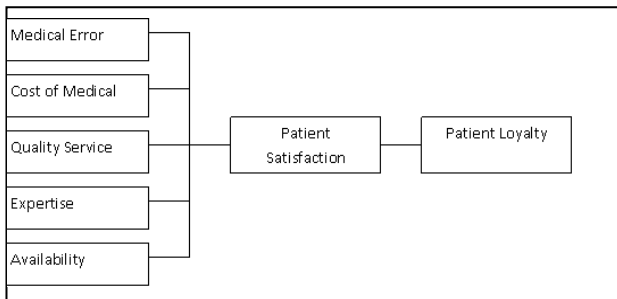


Fig. 1. Research framework.

In this research, questionnaires are being used to collect data. A set of 150 bilingual questionnaires (English & Bahasa Indonesia) are given to the hospital marketing department for distribution. Only 131 questionnaires are returned, 90 pieces are completed and valid to be used, 40 pieces of questionnaires are found to be incomplete and 1 unfilled questionnaire. Therefore, the total response rate is 60%. These questionnaires are only distributed to in-patients that already received treatment or stayed in the hospital. These questionnaires are distributed to three departments such as the customer service, chemotherapy unit and health-screening center with the help of the department staffs to distribute the questionnaires to the foreign patient. It takes approximately three weeks to complete the data collection.

A judgmental sampling or known as one type of purposive sampling is used because data collected are from an appropriate special group. The questionnaire development consists of three parts. The first part of the questionnaire consists of demographic questions such as gender, age, cultural background, medical care expenditure and area where the respondent stays. The second part of the questionnaire focuses on both, the dependent and independent variables. The questionnaire setting require respondent to choose their answer based on a 5 Likert-scale where 1 represent strongly disagree and 5 represent strongly agree. The last part consist of five general questions to determine whether the patient is happy during their stay and will he or she recommend it to his or her family and friends in future. After collecting the survey questionnaires from the targeted respondents, data will then arranged properly and prepare to be analyzed by using the statistical computing software (Statistical Package for the Social Sciences, SPSS) for evaluation and assessment. The analysis of data consist of two stages, which the first stage consist of tables obtained after the processing of the data and second stage is where the obtained data are being analyze using the reliability analysis, normality test, descriptive analysis and Pearson Correlation.

IV. RESULTS AND DISCUSSIONS

Table I shows the Cronbach's Alpha value for each of the variable tested in this research. As shown, the variable which has the highest value is medical error 0.8330 which the lowest Cronbach's Alpha value indicated by customer satisfaction 0.5000. According to [3], an alpha value of 0.5 is considered as an acceptable value.

TABLE I: RELIABILITY ANALYSIS

Variables	Number of Items	Cronbach's Alpha
Customer Satisfaction	5	0.5000
Customer Loyalty	5	0.6750
Medical Error	5	0.8330
Cost of Medical	5	0.8220
Quality Service	6	0.8270
Expertise	5	0.5920
Availability	6	0.8000

Normality test is to determine whether the data are well model by a normal distribution or otherwise, or to compute how likely the underlying random variables is to be normally distributed [2]. The sample skewness and kurtosis statistics are excellent descriptive and inferential measurements for evaluating normality [4]. Data is considered normally distributed when the skewness value falls within the range of positive three to negative three (+/- 3) and kurtosis value must be within positive five to negative five (+/-5) [5], [6]. The normality test as shown in Table II indicated that all the variables distributed normally as all the values are in the range of skewness and kurtosis.

TABLE II: NORMALITY TEST

Variables	N Statistics	Mean Statistics	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Customer satisfaction	90	3.9644	0.364	0.254	0.231	0.503
Customer loyalty	90	4.1644	-0.037	0.254	0.316	0.503
Medical Error	90	4.3311	-0.323	0.254	-0.707	0.503
Cost of Medical	90	3.6222	0.001	0.254	0.280	0.503
Quality Service	90	4.2037	-0.240	0.254	0.588	0.503
Expertise	90	3.8978	0.933	0.254	0.500	0.503
Availability	90	4.0278	0.342	0.254	0.281	0.503

Demographic profiles are being ask in the questionnaire is to achieve two main purposes, first is to see how closely the model replicates to the known population and second is to analyze the sub-group of those respond to the questionnaire. Out of 90 patients, 41.1% (37 respondents) are male and the remaining 58.9% (53 respondents) are female. From Table III, majority of respondents are from the age category of 40 – 49 (32.2%) and above 50 years old (32.2%). In this research, all the respondents that took part in this survey are Indonesian as this hospital is well known in Indonesia. To participate in this research, the patient must be an in-patient where he or she already seek and received medical treatment from this hospital. Medical expenditure factor shows that 27.8% of patients spent between RM 2001 to RM 4000 annually on medical bills follow by 23.3% patients spent more than RM 6000 annually on their medical bill, which is the second highest. Patients who spent less than RM 1000 only consist of 11.1% of total patients. This also indicate that patient is more willing to travel abroad to seek for medical treatment regardless of medical cost. Next, 27.8% of the patients come from a rural area and 45.6% are from urban.

TABLE III: DEMOGRAPHIC PROFILES

Variables	Category	Frequency	Percentage
Gender	Male	37	41.1%
	Female	53	58.9%
	Total	90	100%
Age	<20	2	2.3%
	21 – 29	8	8.9%
	30 – 39	22	24.4%
	40 – 49	29	32.2%
	> 50	29	32.2%
	Total	90	100%
Medical Expenditure	< RM 1000	10	11.1%
	RM 1001 – RM 2000	15	16.7%
	RM 2001 – RM 4000	25	27.8%
	RM 4001 – RM 6000	19	21.1%
	> RM 6001	21	23.3%
	Total	90	100%
Area	Rural	25	27.8%
	Urban	41	45.6%
	Both	24	26.7%
	Total	90	100%

Hypothesis is a process by which an analyst tests a statistical hypothesis. A statistic data compute from survey and is determine whether the null hypothesis should be accepted or rejected. The null hypothesis is rejected otherwise accept [2]. The hypothesis testing is where the entire developed hypotheses will put on test before a summary can be determine and in this particular research, a Pearson Correlation analysis been used to determine the relationship among the variables.

TABLE IV: RELATIONSHIP BETWEEN MEDICAL ERROR AND PATIENT SATISFACTION

Variable	Pearson Correlation, <i>r</i>	Significant, <i>p</i>	Mean	Standard Deviation	Results
Medical Error	0.559**	0.000	4.3311	0.5297	<i>H</i> ₀ rejected

** Correlation is significant at the 0.01 level (2-tailed).

*H*₀: There is no significant relationship between medical error and patient satisfaction.

*H*₁: There is a significant relationship between medical error and patient satisfaction.

Table IV shows the *p*-value for medical error is 0.000 and is less than α -value 0.01 at 99.0% significance level. Therefore, *H*₀ is being rejected and concludes that there is a relationship between medical error and patient satisfaction. The *r*-value (0.559) indicates a moderate relationship between medical error and patient satisfaction. Medical error comprises of error made in medication, surgery and diagnosis to name a few. All these mistakes does not only happen in hospital's settings, but it also happen in doctor's office, pharmacies, care centers and home care. Mistake can happen from the negligence of the doctors, general practitioner, specialist, administration staffs, nurses, pharmacists, pharmaceuticals suppliers and many more but patient has the responsibility to ensure their safety is regards to health care. Mistakes or errors can be learn by analyzing errors that occur through the understanding of prevalence and problems of medical errors; hence, it can reduce the number of medical mistakes. In this study, it shows that medical error is the highest contributor or regard as the main concern for foreign patients when they seek for overseas medical treatment. The above result can be further elaborate with previous result indicates there is a relationship between medical error and patient satisfaction. Satisfaction is relate to improve of functional health such as ability to perform in daily activities and satisfied patient gave a better rating for physicians and hospital, less hospitalization, less symptoms

or diagnoses, good self-perceived health, better emotional health and greater socializing activities [7]. He added that when doctor spend more time with patients, inform them more, engage in a discussion of problem, social-emotional issues will make patients more satisfied and it make physicians technically competence.

TABLE V: RELATIONSHIP BETWEEN QUALITY SERVICE AND PATIENT SATISFACTION

Variable	Pearson Correlation, <i>r</i>	Significant, <i>p</i>	Mean	Standard Deviation	Results
Quality Service	0.355**	0.000	4.2037	0.4726	<i>H</i> ₀ rejected

** Correlation is significant at the 0.01 level (2-tailed).

*H*₀: There is no significant relationship between quality service and patient satisfaction.

*H*₁: There is a significant relationship between quality service and patient satisfaction.

The *p*-value for quality service is 0.000, which is lesser than the α -value = 0.01 significant at 99.0%. Hence, the null hypothesis being rejected and concludes that there is a relationship between quality service and patient satisfaction. The *r*-value (0.355) indicates there is a weak strength between the dependent and independent variable. Quality services in a hospital setting have a wide variety of meanings. To some patients, a short waiting time to see a doctor represent quality health care. Besides that, a doctor that communicates well with the patient also considered as a quality service provide by the doctor. While it is important for all service sector to provide a quality service to their respective customers, health or hospital quality health care is much more important compare to any other services. The hypothesis result above is support with previous research that indicates that quality service is associated with patient satisfaction. Significant elements of physician's communication such as respect and dignity involve in patient decision-making and respect for preferences contributed in patient satisfaction. Besides that, a good patient-physician communication is important and has various impacts on multiple aspects of health outcomes such as higher compliance, higher patient satisfaction, better health result and minimize malpractice risk [8]. Moreover, doctor's communication showed a reduction in emotional distress in patients [9], [10]. Besides communication, courtesy qualities are equally important such as showing empathy and friendliness from physicians and nurses found to be the selected attributes in patient satisfaction [11].

TABLE VI: RELATIONSHIP BETWEEN EXPERTISE AND PATIENT SATISFACTION

Variable	Pearson Correlation, <i>r</i>	Significant, <i>p</i>	Mean	Standard Deviation	Results
Expertise	0.508**	0.000	3.8978	0.4956	<i>H</i> ₀ rejected

** Correlation is significant at the 0.01 level (2-tailed).

*H*₀: There is no significant relationship between physician's expertise and patient satisfaction.

*H*₁: There is a significant relationship between physician's expertise and patient satisfaction.

Table VI shows the *p*-value for expertise is 0.000 and is less than α -value 0.01 at 99.0% significance level. Therefore, *H*₀ is being rejected and signify there is a relationship

between doctor’s expertise and patient satisfaction. The r -value (0.508) shows a moderate relationship between doctor’s expertise and patient satisfaction. Doctor’s expertise does not cover only on their skills; it includes knowledge, empathy and communication. According to [12], communication plays an important role towards patient satisfaction in evaluating the physician’s competence. Simple action like asking for patient’s opinion or thought, allow them to tell stories and encouraging patient to ask question may leave a substantial impact toward patient’s satisfaction rating. [13] stressed that empathy is emotion and disagree that empathy to be categorize as cognitive skill. Besides that, empathy happens spontaneously from an individual’s feeling and reaction when “you and I” becomes “I am you” or “I could be you”. Patient value most is empathy after competence. He believes that empathy requires compassion but not passion. A research conducted by [14] shows that quality emphatic communication between patient-physician associate a higher patient satisfaction and recorded a lower chance of malpractice suits. He added that when a physician expressed empathy and interest for 40 seconds, it would eventually make the patient feels less anxious.

TABLE VII: RELATIONSHIP BETWEEN AVAILABILITY AND PATIENT SATISFACTION

Variable	Pearson Correlation, r	Significant, p	Mean	Standard Deviation	Results
Availability	0.554**	0.000	4.0278	0.5017	H_0 rejected

** Correlation is significant at the 0.01 level (2-tailed).

H_0 : There is no significant relationship between availability and patient satisfaction.

H_1 : There is a significant relationship between availability and patient satisfaction.

Availability proves to have a relationship with patient satisfaction since the p -value of 0.000 is lesser than α -value = 0.01 at 99.0% significance level. Hence, null hypothesis is being rejected. The r -value (0.554) for this variable shows a moderate relationship between availability and patient satisfaction. Availability of health care has a big impact toward a particular community or a geographical area whereby it influences the overall physical, social and mental health status. Access to medical care means there is improvement of quality of life and longer life expectancy because of patient accessible to medical care when needed. Inequalities in accessing to health care affect not only individual, but society as well and limited access to health services control people’s ability to reach their full potential, hence, lead a negative impact to the quality of life. These barriers to health services include high cost of setting up a hospital, lack of availability and lack of insurance coverage. These barriers of health care lead to delay of receiving appropriate medical care, inability to receive preventive services whereby setting up a hospital could have prevented such catastrophe. Patient satisfaction can include quality of clinical care provided, availability of physicians and medicine, the behavior of physicians and health staffs, cost of services, the infrastructure, physical comfort, empathy, emotional support and respect for patient’s decision [15]

TABLE VIII: RELATIONSHIP BETWEEN COST OF MEDICAL AND PATIENT SATISFACTION

Variable	Pearson Correlation, r	Significant, p	Mean	Standard Deviation	Results
Cost of Medical	0.498**	0.000	3.622	0.7136	H_0 rejected

** Correlation is significant at the 0.01 level (2-tailed).

H_0 : There is no significant relationship between cost of medical and patient satisfaction.

H_1 : There is a significant relationship between cost of medical and patient satisfaction.

According to Table VIII, cost of medical proved there is a relationship with patient satisfaction because the p -value = 0.000 is lesser than α -value (0.01) at 99.0% significance value, hence we reject H_0 and indicate that there is a relationship between cost of medical and patient satisfaction. The Pearson Correlation value of 0.498 shows a moderate relationship between the two variables. [16] study examines the relationship between patient satisfaction and healthcare cost from consumer’s perception did not identify any statistically relationship. They concluded that to improve patient satisfaction, it might not require any additional spending. Meanwhile, [17] survey shows that the rise of medical expenditures has push patients to seek for medical treatment abroad where the same surgery procedure cost much cheaper. Treatments abroad can range from one-half to as little as one-fifth of the price in United States. Therefore, [16] study is contradict with other researches that agree cost of medical indicates a significant relationship with patient satisfaction and in conclusions, patients are willing to travel abroad to seek for medical treatment and with the huge saving they are definitely happy.

TABLE IX: RELATIONSHIP BETWEEN PATIENT SATISFACTION AND PATIENT LOYALTY

Variable	Pearson Correlation, r	Significant, p	Results
Patient Satisfaction vs Patient Loyalty	0.565**	0.000	H_0 rejected

** Correlation is significant at the 0.01 level (2-tailed).

H_0 : There is no significant relationship between patient satisfaction and patient loyalty.

H_1 : There is a significant relationship between patient satisfaction and patient loyalty.

The final hypothesis shows the relationship between patient satisfaction and patient loyalty. The p -value shown in the table above indicate that it is lesser than the α -value and it can be conclude that it shows there is a significant relationship between patient satisfaction and patient loyalty ($p < 0.01$). Meanwhile, the r -value shows that there is a moderate strength too between the two variables. Having a patient satisfied is important to a doctor’s job evaluation and pay, how can doctor ensure that the decision he or she makes will not make the patient unhappy about it? Sometimes a doctor’s judgment risks a poor rating because patient demand for inappropriate care and when doctors reject by saying “no” lead to unhappy patient. Hence, the doctor suffers from a bad score and worst financial penalties. Doctors and hospital should devote more time and attention to patient satisfaction such as do patient wants phone calls or texts to remind about the upcoming appointment? Besides,

patient always look for transparency, knowledge and convenience in solving a problem. This problem can be solve by offering tools such as Internet access in the waiting area, mobile check-in, medication and health services pricing tools. Hospital management can take advantage to educate and engage consumers through multiple access points. Be it through in-person contact as long as the patient gets to keep in touch with the hospital about their health status. Patient always expect a transaction beyond their expectation, hence, hospital and doctors can be proactive in acknowledging and apologize for any mistakes that occur during the patient stay or receiving service in the particular hospital. [18] research shows a significance relationship associated between patient satisfaction with his or her physician's work and concern throughout the consultation resulted in developed of patient loyalty toward the doctor. Their finding indicate that patient loyalty act as an important factor in attracting new patients to the primary care doctor as previous patient recommend the physicians to other people. Loyalty plays an important role for a hospital because during economic downturn, patient prefers to seek medical treatment in government hospital than private hospitals [19]. Therefore, during this time, he mentioned that loyalty is the key for survival during the uncertain time.

Out of the 90 respondents, only 60 patients answered the first general question. 60 agreed that their health get better upon the stay in the hospital of their choice, and none disagree. The remaining left unanswered. Next, the question asked roughly how many days the patient feels well enough to go home and it range from one day to more than five days. 47 patients answered this question whereas 43 did not answer; 4% stayed for 1 day, 17% stayed for 2 days, 19% for 3 days, 15% for 4 days and 45% for more or equal to five days. 56 patients answered yes that the hospital staffs explain to them what patient safety is and how it might influence their perception. The following question asked about are the patients happy that throughout the stay in hospital was for their benefit, as usual not all patient answer and 60 patients agreed upon this questions. Lastly, in term of whether the patient willing to recommend the hospital to his or her family and friends, 98.4% (60 patients) agreed and 1.6%, which represent one patient answered no. The remaining did not answer.

V. CONCLUSION AND RECOMMENDATIONS

Hospital that is active in medical tourism shall exhibit the point of difference from other private hospital that cater medical tourism such as having expert specialist in a particular procedure but by having more doctors does not reflect the betterment of the patient's outcome. Besides having specialist serve in the hospital, hospital management can look into the factors that attract foreign patients to travel abroad for medical purposes. In this research, it includes factors such as medical tourism, cost of medical, quality service, expertise and availability. Hospital management can conduct an in-depth research or marketing strategies to determine which factors that highly recommends foreign patients to seek medical treatment in the hospital. However, the study indicates that medical error as the most influential determinant to patient satisfaction.

In general, the outcome of this research suggests that majority of the patients aware about the important of factors to be considered before traveling abroad and the benefits of medical tourism that brings to their lives. However, there are many other factors may influence medical tourism. Thus, this research is a stepping-stone in helping potential medical tourist, hospitals organization, and government to understand patient preferential, subsequently find effective ways to market, and attract foreigners. By doing so, it does not only satisfy patient, it encourage patients to recommend to their family and friends and bring the outcome of increase patients and revenue volume. The overall performance of Malaysia private hospitals still has room for expansion and during Budget 2012, Federal Government of Malaysia has allocated a totaled of RM13.6 billion in to the social sector that include health, education and training, welfare, housing and community development. Additional information extracted from World Health Organization (Malaysia) stated that Malaysian spent 4.4% of the total GDP as of year 2010. Besides that, people are getting technology savvy nowadays and information can be obtain at the tip of finger, therefore, health industry has a bright future ahead in this competitive and emerging market.

TABLE X: GENERAL QUESTIONS ON PATIENT EXPERIENCE THROUGHOUT THE STAY IN HOSPITAL

Question	Category	Frequency	Percentage (%)
Do you feel better after your hospital stay then you did when you were admitted?	Yes	60	100
	No	0	0
	Total	60	100
How long did you stay in the hospital after you felt well enough to go home?	1 day	2	4
	2 days	8	17
	3 days	9	19
	4 days	7	15
	5 days	21	45
	Total	47	100
Did anyone explain to you what is patient safety is and how it might influence your perception of our attentiveness you need?	Yes	56	100
	No	0	0
	Total	56	100
Are you happy that everything that done during your hospital stay was for your benefit?	Yes	60	100
	No	0	0
	Total	60	100
Would you recommend your family and friends to seek medical care in future?	Yes	60	98.4
	No	1	1.6
	Total	61	100

General questions were extracted from [20] research in examining patient satisfaction and are set in the last section after the patient has answered Part I and Part II. These general questions are being asked to have a further understanding on patient experience throughout the stay in hospital and the willingness to recommend to others. The setting for these general questions consists of numeric open end and multiple-choice questions. This is to ensure that patient has the ease to answer all the questions. The complete result of the questions shown in Table X. In this particular section, it is up to the patient whether to answer the question or not; therefore, the results generated are from those that have answered and are present in frequency and percentage value.

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