Johor's Potential as a Medical Tourism Destination:
Measuring Medical Tourism Service Quality using Modified SERVQUAL Scale

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Abstract

This article aims to examine medical tourism activities in Malaysia focusing in Johor area, as Johor is one of a potential destination attracted health and medical tourists and Malaysia as a hub of medical tourism in Asia and worldwide. A study was conducted recently which identify the possible demand and the important issue in medical tourism, the service quality on medical service among tourists visiting a private hospital in Johor. A survey was undertaken of their views on consuming medical tourism service and perception over expectation on the service. SERVQUAL measurement accepted by researchers as one of the most improved methods for measuring and determining the quality of services. However, criticism of the measurement explains the SERVQUAL scale is not a generic scale of these instruments cannot be used in all areas of service. This highlights the need to establish a new scale within the generic scale and focus area, medical tourism. It was found that there is a definite opportunity for medical tourism to expand in Johor with the huge number of potential medical tourist among Indonesian and new dimensions of medical tourism service quality been identified. Johor Bahru, focused the study area is a research limitation, however the is chosen area as a perfect place to study Indonesian outbound tourists. Eventually, this will be the case in many more destinations in Malaysia and the results could be seen as predictive. The implication of the research is the mismatch between the requirements of the demand side based on the service quality evaluation and this emerging niche shall be look into by the medical tourism provider in Johor. This is the first study of its kind is carried out amongst Indonesian medical tourists in Johor.

Keywords-component; health tourism; medical tourism, medical tourist Introduction

I. INTRODUCTION

Malaysia is one of world medical tourism provider. This industry is become important to Malaysia after recession 1997. This industry is identified as an industry that able to solve economic problem among developing countries due able to generate foreign exchange, new employment and creating diversify resources in a country. Since 1997, this industry was developing in stage in Malaysia. From 30,282 tourist in 1998 and in 2012, Malaysia is estimated to receive 689,000 medical tourist. Medical tourism is one of the 12 National Key Economic Areas (NKEAs) under the 10th Malaysia Plan and the government targeted RM10billion in annual revenue by 2020 (1). The Malaysia government is the catalyst to the development of medical tourism. Several initiative been taken to ensure progressive development of this industry, it start with the establishment of Malaysia Health Tourism Council, a coordination of the Ministry of Health Malaysia and Ministry of Tourism Malaysia. The promotional activities in all over the world of though business mission organize by MATRADE and Malaysia Tourism Board. The procedures and guidelines relate to medical tourism that is before unclear been clarified to ensure the development of this industry. There are several bodies supporting this industry development that are Association of Private Hospital Malaysia (APHM), Malaysia Medical Association (MMA), Malaysia Medical Academy and few others. To ensure the quality of medical service, Malaysia certification on medical service is established named, Malaysian society for Quality in Health (MSQH) in 1997. in 2009, Malaysia Health Tourism Council been establish and directly under Ministry of Health Malaysia. This main task of this agency to ensure the medical tourism industry in Malaysia can be developed at a maximum level and to ensure Malaysia ble to become hub of medical service to Asia and world tourist. Several financial benefit been given to the hospital by the government in 2010 to ensure that they able to achieve target given.

The latest effort is several international hospital and medical college been established in Malaysia as Hospital Gleaneagles Medini in Nusajaya, Johor and Universiti Perdana, Kuala Lumpur collaboration with University John Hopkins School of Medicine,USA. With all these effort, Malaysia shall be able to achieve what is targetted, however compare to other ASEAN countries as Singapore and Thailand, Malaysia is still behind for the number of tourist arrival and amount of income received from medical tourism activities tourist. It is likely that internally debated reforms on how Malaysia can be at par or a step a head from others, Singapore and Thailand. Accordingly, it has the potential to gain more knowledge and understand about medical tourist to Malaysia, which study is rarely done at now and the demand issues particulay on expectation from

the tourist perspective were mainly considered This article examines the possibility that Johor will be able to attract more medical tourist and Johor can be partly hub of medical tourism particularly for those tourists from largest neighbour, Indonesia.

A. Medical Tourism in Asia

Among world wide tourist group, medical tourism is main group do travelling all over the world. In 2006, 150,000 tourist from US traveling for medical service (Rising,2007) and it is increasing to 750,000 in 2008. Cuba is the first country that commercilized the medical service and the tourist are mainly for the US. This activities been emerged and attacting others to involve as Argentina, Bolivia, Brazil, Columbia dan Costa Rica. In Asia, the medical tourism been introduced after financial crisis 1997. At now, there are 21 countries listed as main provider of medical tourism,details as below.

There are 13 main medical procedure provided to medical tourist that are cadiovaskular,cosmetik dan plastic surgery, dental surgery, fertility dan reproduktive, neuro and spinal, hip replacment, birmingham hip resurfacing, oncology, penyelidikan stem sel, cosmetic surgery, wellness and alternative treatment. World income from medical tourism is US$40 billion in 2008, forcast to increase to US$100 billion in 2012 and 188 billion in 2013. Forcast on industry development is at 20 % a year (8). The Deloitte reported this industry demand will be increase 10 times in next decade. The industry is forcast maintain in long term even there are slight reduction of demand due to economic condition (4) The number of medical tourist arrive in Thailand is 630,000 and Singapore is 210,.000 tourist in 2002. Singapore is forcast to receive 1 million medical tourist in 2012 and in Malaysia forcast to receive 689,000 tourist in 2012.

TABLE 1 : COUNTRIES VISITED FOR MEDICAL TOURIST

Continent	Country
Europe	Hungary, Republik of Czech
Africa-Sub Sahara	South Africa
Middle East, Greater Arabia	Jordan, Isreal*, UAE
Asia	India, Thailand, Malaysia, Singapore, Philipine, Korea,Taiwan,India
North America	Mexico
Australia and Oceania	New Zealand
Midle America and Caribbean	Costa Rica, Panama, Antigua, Barbados
South America	Brazil

B. Medical Tourism in Johor

There are 217 in Malaysia registered hospital under APHM (9) that providing medical tourism service and only 41 been selected by The Ministry of Health Malaysia and Ministry of Tourism in promoting medical tourism. From 41 hospital, 2 hospital is located in Johor, the rest are in Penang and Klang Valley,Selangor. In Johor, the 2 hospital are KPJ Johor Hospital and KPJ Puteri Specialist. Hospital Gleaneagles, Kuala Lumpur providing over 31 speciality of treatment and the rest are average at 1 to 20 type os treatment. For KPJ Johor hospital providing 11 specility.

Average hospital in Malaysia is having in between 201-300 bed, in Johor KPJ Johor is provided with 206. Three type of hospital certification in Malaysia, MQSH, ISO and JCI. 6 of 41 hospital having JCI certification, 26 ISO and 21 only with MQSH and 11 without any certification recorded. Johor KPJ Johor is having MQSH certification. It was noticeable that the hospitals in Johor did not assertively market this medical service as what is done by hospital in other area as Penang, Klang Valley and Kuala Lumpur.

II   LITERATURE REVIEW
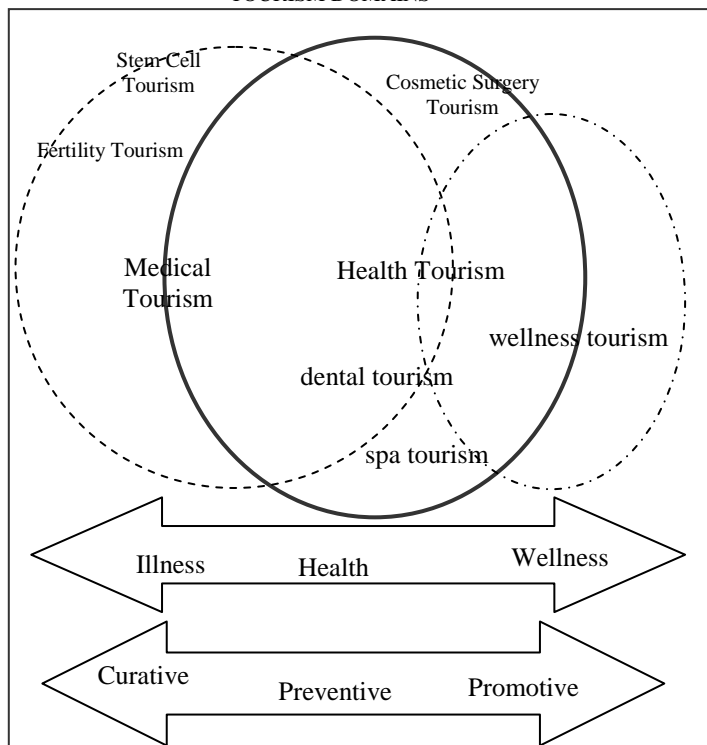
A. Medical Tourism a non universal terms

Medical tourism is a part of health tourism that having no universal agreed definition and each researcher use own definition, same goes to the countries providing the service. Some scholar stated (2) to understand the medical tourism one shall understand health tourism and wellness tourism. This is because medical tourism is define as below Figure 1.

There are 11 activities relate to health, medical and wellness tourism, some are combination of types of tourism as for surgery tourism, abortion tourism, dental tourism, spa tourism, transplant tourism, wellness tourism, medical tourism and some are stand alone as for fertility tourism, stem cell tourism and cosmetic surgery tourism. in other view, medical tourism in common accepted by scholar are a person that travel outside the boundries with the purpose to have medical service from a hospital. (6)(5)(7) .Initially at now, the definition is depend on the perspective and view of each person seeing the issue.

Fact, the definition of medical tourism can not be explained with certainty and applies to all people and in all situations. Therefore, there is no universal definition of (universal definition) of medical tourism. this writing only to refine the existing definition based on previous studies to allow allow this concept is clearly understood. Based on the literature review presented, medical tourism is defined by the authors as a way of cross-border activities of the country with the purpose of obtaining medical treatment, involving a total of more patients, done in a planned way and can

involve additional tourism or medical treatment purposes only.

FIGURE 1: INTERRELATEDNESS OF HEALTH AND MEDICAL TOURISM DOMAINS

B. Medical Tourism Resources

Attraction and repulsion factors which are among the factors influencing travel decisions of tourists,.Scholars has identified several elements to measure quality in medical tourism, however there are five important factors directly influence the medical tourism hospitals that are the human resource, physical resource, expertise, relationship and practice (12).

C. Service Quality –SERVQUAL Model

SERVQUAL is presented by Parasuraman measurement method that can be used to measure 5 quality service gap , however SERVQUAL is the best method to measure the gap to 5 compared to the other gap presented . Building a multi-dimnsional SERVQUAL and highlights five key dimensions , described as follows ;

- Tangible :
  Physical appearance of facilities , including equipment and human resources. Significant dimension for image enhancement and providing positive images based on customer perception of the service experience.

- Reliability

Ability to perform service promises accurate and reliable by customers . This means that service providers deliver services as promised , offer an appropriate price and resolve customer problems .

- Responsiveness
  The desire to help customers and provide prompt service includes paying attention to customers, handle customer complaints and problems in a reasonable time period . Service providers are always ready deliver services as required by the customer .

- Assurance
  Ability to deliver services professionally. This level of delivery service providers need to have a knowledgeable human resources , courteous and able to motivate boost of confidence and trust of customers .

- Empathy
  Ability to understand customer needs and provide individual attention to customers. Great attention is given to the customer service providers feel very concerned and give a high value on customer involvement in the business. Empathy also refers to building relationships with customers , understand their needs and provide personalized services if provided .

D. The Need for a Modified Scale

Researchers agree that the scale of measurement should be adjusted according to the needs of research conducted in the area; modification of SERVQUAL quality service measurement has been done by many researchers in various countries. Modification done when found significant service quality evaluation of different market. Finding differences contributed by different market environments . Therefore, the measurement scale modification needs to be ensured in accordance with the characteristics of a country's market and avoid a change of meaning survey questions SERVQUAL is believed to provide a measure of the quality of services, but most researchers found that this measure can not be used in all industries if not done modifications (13). Every industry needs to have a specific measurement means that the measurement of quality services to meet the needs and specific characteristics of an industry .

III. METHODOLOGY

Medical tourism where people travel often distances to overseas countries to obtain medical service at the same time being holidaymakers and it a popular mass culture. These is conventional sense of activities and mainly investigate through survey of patient expetation towards provided service refer to patient experience. Both primary and secondary sources is approach taken to the study to initially collect information.

A. *Phase of the study*

There are 2 phase of study, the first phase involves survey on a modified SERVQUAL scale testing according to the needs of medical tourism resource . Newly constructed scale to be tested reliability and validity. Exploratory factor analysis on the implementation of the new scale to enable the reduction of the scale and assess the reliability of the scale. The purification process is passed before it can be used in the second phase, main study..The first phase of this study provide an appropriate scale to measure service quality from the perspective of medical tourism hospitals. A survey of 150 respondents planned distributed in the first set with 60 elements involves 5 important factors of quality medical tourism services

The second phase of the survey that involves exploration on the unique dimensions of quality medical tourism services obtained from the first phase of the study. In addition, detailed information on the data obtained from the survey and data PSH hospitals were analyzed , interpreted and discussed. A survey of 200 respondents planned distributed in the second set with 40 elements involves 9 demension that been identified in first phase findings.

Tourist has been identified at a restricted target population, to avoid confusion between medical tourism and medical care for local. The age group has been selected to exclusively include adult participants, however those under age their relative have been consider as the participants to ensure their need on medical treatment and their financial practicality to decide on an overseas medical trip.

B. *Interview*

Interview been undertaken in one private hospital in Johor with managerial staff and the medical tourist to have a view of medical tourism important resources and to verify elements of service quality scale establish from the literature. Findings from the interview verified the important elements of service quality in medical tourism environment. is very high not only for local but also from medical tourist.

C. *Survey*

Survey approach was adopted using questionnaires. The first part of the survey use the multiple response question covered the knowledge on charaterictic of the medical tourism refer to the details of respondence profile. The second parts cover the knowledge on the medical tourist needs and their service expectation which refer to the details of despondence service expectation. Questionnaires have been administered using convenience sampling. Data were collected throughout a period of 6 month with the monthly target for 50 respondents. Questions have been designed and structured based on previous literatures and practical consideration on the current needs on medical services.

D. *Purification Process*

SERVQUAL instrument is the process of building phases of the first stage or step up to step 11 (14) (15). Each step needs to be passed and set to produce an instrument that can measure accurately and effectively. Building measures SERVQUAL instrument is as follows:

Step 1 : Determine the definition of Quality ($SQ = P /E$)
Step 2 : Introduction to Dimensions
Step 3 : Build 60 Items
Step 4 : Expectation and Perception Data Collection
Step 5 : Purification Scale (Scale Purification) .
Step 6 : Identify the Item - Item Dimensions And Results
Step 7 : Data Collection Expectation and Perception .
Step 8 : Process Scale Purification
Step 9 : Identify On Dimension and Item
Step 10 : Assessing
Step 11 : Assessing the Validity of SERVQUAL

IV.   RESULTS

The result reported is based on statistical analysis and involves presentation of 2 phase of findings.

The first phase of the study involves findings with respondents demographic information to give an idea of the breakdown of the study sample were age, gender, marital status , age and occupation Also, presentation of findings from a modified SERVQUAL scale testing according to the needs of medical tourism resource . Newly constructed scale to be tested reliability, validity and scale through a purification process before it can be used in the actual study. Exploratory factor analysis on the implementation of the new scale to enable the reduction of the scale and assess the reliability of the scale . Results of factor analysis produces a different dimension than the dimensions of medical tourism resource requirements. Acquired a new dimension with a new elements that appropriate to the findings of the literature review on SERVQUAL. The first phase of this study provide an appropriate scale to measure service quality from the perspective of medical tourism hospitals .

The second phase of the study involves the presentation of the findings of the exploration on the unique dimensions of quality medical tourism services obtained from the first phase of the study. In addition , detailed information on the data obtained from the survey and data PSH hospitals were analyzed , interpreted and discussed the results of this phase This phase commenced discussions with respondents demographic information for this phase are presented to give an idea of the breakdown of the study sample were age, gender, marital status , age and occupation.

This discussion is followed by a factor analysis is performed to confirm the results obtained in the first phase , followed by reliability testing to confirm the appropriateness

of the scale. The second phase of this study give a quality service status from the perspectives reviewed hospital medical tourists

A. Findings

Discussion on the findings of the first stage explains the overview of findings from a survey of 150 planned distributed in the first set with 60 elements involves 5 important factors of quality medical tourism services .The first phase of the survey distribution , of the 150 respondents found only 115 respondents were able to respond well and complete the questions presented in the questionnaire with the help of researchers. Some surveys could not be used because of incomplete information due to language problems and not all patients were found to agree to participate in this study , particularly in individual patients traveling without companions .The first phase of the study results showed that the respondents are from Indonesia with the majority of respondents were tourists , aged between 21 and 60 years old , Muslim and employed. . While travel information respondents indicated the majority of respondents consisted of tourists do visit the first and second

Most respondents do the daily commute in the morning traveling from Indonesia and back to Indonesia in the evening and do not stay in the hospital.Quality measurement scale testing service medical tourism is the main purpose of the first phase of the study performed. Testing involves the distribution of the survey consists of 60 elements that are constructed of SERVQUAL measurement scale modification and customized key factor of quality medical tourism services . The findings of the tests produce a new measurement scale measuring scale called medical tourism quality service that has 40 elements of the 9 dimensions. Of the 40 questions , only 16 elements SERVQUAL measurement scale still remains while the other element 24 is a new element . Dimension name for the new measurement scale still maintain dimensional SERVQUAL measurement scale , but most of the new dimension is the dimension related to security or safety of the patient .

B Reliability of scale

Scale quality service built in the first phase with 40 statements after a statement has removed high reliability with Cronbach's alpha coefficient 0.913 indicates this scale is appropriate to the store where it was tested. Apart from the value of Cronbach's alpha coefficient, if the item deleted value is between .929 to .933, and the overall reliability value is below 0.913. The findings show that if part of the statement removed the reliability of the overall scale will not increase. Reliability analyzes performed separately for each dimension and the findings are based on the results of Table 2. Description of the study according to the dimensions are as follows;

TABLE 2: CRONBACH ALPHA VALUE- FIRST PHASE

		Dimension	Cronbach Alpha
	1	Tangible and Assurance	0.947
	2	Tangible and Reliability	0.927
	3	Reliability 1	0.788
	4	Empathy	0.968
	5	Assurance 1	0.969
	6	Responsiveness	0.643
	7	Assurance 2	**
	8	Assurance 3	0.542
	9	Assurance 4	**

** Factor 8 and 9 is the single item scale

Discussion on the findings of the second stage explains the overview of findings from a survey of 200 sets planned distributed in the first set with 40 elements involves 9 dimension fmedical tourism service quality. Of the 200 respondents found only 150 respondents were able to respond well and complete the questions presented in the questionnaire with the help of researchers

Determination of quality services for the study is based on a comparison of customer perceptions and expectations of service quality (SQ = P / E). Translated into revenue comparison index, named quality index based on a scale of 1 to 5. Scale of 1 through 5 is divided into 3 levels of service that are;

- below the level specified quality,
- reach a minimum
- achieve a good level of quality achievement.

Medical tourism service element is measured and determined based on a survey distributed and answered by the respondents in the study, consisting of 150 Indonesian tourists who got treatment at PSH. Statistical tests are used to determine the quality index for each service element with the involvement of the sample of 150 respondents representing Indonesia medical tourists. Table 4 shows the results for the measurement of quality services in PSH.

TABLE 4 : THE RESULTS FOR THE MEASUREMENT OF QUALITY SERVICES IN PSH

EXPERTISE	
Elements	Index Value
As I expected, a doctor at PSH provide specialist treatment that can overcome my problem	3.7867
While receiving treatment, as I expected the doctor in PSH adept at using the latest technologies	3.6733

Doctors in PSH be professional as I expected in the course of my treatment	3.7667
Doctors in PSH provide an explanation of the procedure to complete the treatment received and exactly as I expected	3.7400
As I expected, I was treated by a specialist in the appropriate fields on offer in PSH	4.0800
Doctors in PSH have international certifications as I need	4.0467
PHYSICAL RESOURCE,	
PSH has transport facilities management system such as expected	3.3800
Food prepared as I expected to meet the health needs	3.5267
As I need the information and materials berkaiatan services are available and easily obtainable (bulletin boards, brochures and other counter services)	3.7667
PSH provide a healthy environment	3.7067
Facilities provided in PSH as expected customer friendly	4.0733
Medical facilities as expected PSH complete and available when I was undergoing treatment	3.6200
PSH building environment comfortable and cozy as I expected	3.5000
PSH is strategically located within easy reach	3.4400
Medical facilities are well maintained	3.4800
SH provide recreational skills as I expected	3.4200
HUMAN RESOURCE	
As I expected, the staff treated me being polite PSH	3.4867
As I expected, staffs sincerely PSH help solve my problem	3.3533
As I expected, the PSH staff treated me with respect and caring	3.4467
PSH staff treated my confidence	3.2800
I expect PSH staff as experts at doing his job	3.2200
PRACTICE RESOURCE,	
PSH staff have a feeling like I expected my interests	3.4267
As I expected, the PSH staff is always ready to meet my needs	3.3933

As I expected, the PSH staff sympathetic to my problem	3.3067
As expected, the staff made me feel safe PSH receiving treatment	3.1600
PSH staff treated me in a professional manner without any discrimination	3.3800
As I expected, the PSH staff have the knowledge to answer the questions that I submitted	3.3600
As I expected, I was treated perfectly on the first day I came to get treatment	3.7533
As I expected, involved the opportunity to make decisions regarding treatment given to patients	3.6600
PSH work procedures are clear	3.7200
RELATIONSHIP	
Collective learning is implemented and promoted in PSH	3.6467
In accordance with my expectations, I receive treatment without error	3.9667
As I expected, positive work culture exists among staff PSH	3.6267
As I expected, I was treated with care as promised	3.5467
As I expected, PSH manage complaints efficiently and effectively	3.2400
As I expected, PSH promise after promise	3.5867
PSH has a good image that meets my requirements	3.5333
As a patient, PSH good and lasting relationship with me as I expected	3.7000
As a patient, PSH good and lasting relationship with me as I expected	3.5533
As I expected, PSH has a good working relationship with my travel agent to manage	3.5667

V. CONCLUSION

This study present general demografic and travelling informatin of respondents which predicted a huge market of medical tourist amongst Indonesian. There is a definite opportunity to expand and establish medical centre in Johor area. Respondents participate in this survey are at age 21 to 50. This result indicates that having medical treatment in other countries is those that

physically fit for travelling. Majority of the respondent are employed in various level position, which indicate respondents hold sufficient financial condition but low cost of medical service is preferrable and the next factor in choice among this group tourist. this conclude that Johor is a potential medical tourism destination and several effort shall be planned to ensure sustainable development of this industry

Others finding from the study is respondents is highly concern on service quality and this is contradict to common perception regarding this tourist group may expect due the weakness of health-care system in their home town. Based on the service quality index, there are weak items on human resource factor and suggestion for improvement can be forwarded to the concern manager. Nine dimension of medical tourism service quality been established and confirmed through the factor analysis test. The scale having high reliability and validity which indicate that the scale is considered suitable for measuring service quality in medical tourism hospital.

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