



Predicting Muslim medical tourists' satisfaction with Malaysian Islamic friendly hospitals



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HIGHLIGHTS

- Muslim medical tourists' satisfaction is dependent on doctors and hospitals roles.
- Nurses' halal practices had no effect on Muslim medical tourists' satisfaction.
- Attitude mediates the effect of hospital halal practice and patients' satisfaction.

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ABSTRACT

This paper examines the factors affecting the Muslim medical tourists' satisfaction, and the role of their attitudes in shaping their clinical experience based on the expectation-disconfirmation paradigm. Data from a survey of 243 Muslim medical tourists who had received treatment from Malaysian Islamic friendly hospitals were analysed using the partial least squares technique. The findings provide evidence that Muslim medical tourists' satisfaction is dependent on the doctors' and hospitals' roles; whilst, the nurse's halal practice is not associated with it. The study also demonstrates that Muslim medical tourists' attitudes only play a mediator role between the hospital's halal practice and Muslim medical tourists' satisfaction. The research result provides useful information in understanding the critical halal practices and, more particularly, aims at helping Islamic hospitals offer quality healthcare services that suit the Muslim medical tourists' needs and, consequently, attracts the Islamic medical tourists.

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1. Introduction

The Muslim population was comprised of 1.7 billion people in 2014 and is expected to rise to 2.2 billion by 2030. The total Muslim population continues to grow at 1.5% annually, which is approximately twice the growth rate of non-Muslim populations (Thomson Reuters, 2014). The growing Muslim population, and the aftermath of the September 11 attacks, which have negatively impacted on the image of Muslims around the globe, has led to a flourishing interest in a variety of medical tourism products that are aligned to Islamic teachings (Potrafke, 2012). This phenomenon provides huge opportunities for the local healthcare industry to

market the Islamic friendly hospitals to Muslim medical tourists. In 2008, India, for instance, had successfully attracted 1.11 million Muslim medical tourists from countries such as Pakistan, Bangladesh, the Middle East and Africa that were seeking halal practices during their medical care (Medhekar & Haq, 2010).

The word "halal" literally means permissible, and is translated as lawful (Al-Qaradawi, 2007). Islamic teachings, however, forbid unnecessary touching, even the shaking of hands between unrelated adults of opposite sexes is prohibited (Al-Shahri, 2002). This means that the use of touch as a comfort measure when it is not directly related to performing a task is not valued amongst those of the Islamic faith and should be avoided. When touch is necessary, consideration should also be given for which hand is used. The preference for Muslims is for care to be given by the same sex (Halligan, 2006), and a male clinician should never attempt to interview or examine a female patient without another of her adult relatives or a female nurse being present (Al-Shahri, 2002). It would

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be considered totally unacceptable to have patients of opposite genders in the same room (Bloomer & Al-Mutair, 2013). Doctors, nurses, and hospitals need to be familiar with these halal practices to deliver care with respect to Muslim medical tourists' beliefs.

Despite the potential of this lucrative sector, the delivering of such services entails great challenges owing to the uniqueness of the Islamic medical ethics. Medical Ethics is concerned with moral principles as they relate to biomedical science in the clinical and investigational arenas. Islamic medical ethics is tied to Islamic Law (Shari'ah) which not only separates actions into required and forbidden, but also the intermediate categories of recommended, discouraged, and permitted (Padela, 2007). Since Islam lays the responsibility to practice the religion on individuals, there are personal and cultural disparities that may lead to difficulties in delivering the medical practice that tailors to all Muslim medical tourists. These challenges extend beyond languages to incorporate entire views, including the concept of health, illness, recovery and death, thus influencing the quality of the healthcare experience. Failure to strike a balance between the spiritual and physical needs may affect healthcare-seeking patterns, leaving patients frustrated and with a negative word-of-mouth, which could be costly for hospitals. High quality services that satisfy their needs, on the other hand, are directly linked to an enhanced hospital image leading to an increased market share and profits. In the Asian culture, ensuring Muslim medical tourists' satisfaction with the healthcare services delivered is pertinent as the purchase intention amongst prospective customers is greatly influenced by word-of-mouth from friends, neighbours and family members (Owusu-Frimpong, Nwankwo, & Dadson, 2010).

Whilst this issue is emerging, little is still known about the perceived healthcare quality amongst Muslim medical tourists. Within the literature, most of the studies have focused on the hospital's service quality and medical tourists' satisfaction with a limited perspective on the Islamic medical ethics (Amin & Nasharuddin, 2013; Naidu, 2009; and; Zineldin, 2006). Although these studies do provide insights, they are confined mostly to the Western society, which consists of homogenous populations, and are inadequate to fully describe the challenges encountered. To date, empirical studies relating to medical tourism from an Islamic perspective are not well articulated in the literature. With different religious backgrounds, the values underpinning such services may differ. Cultural differences may affect health and illness perceptions, and the expectations of the clinical treatment received (Kushnir, Esterson, & Bachner, 2013). Motivated by this gap, this study has aimed to evaluate the factors affecting the Muslim medical tourists' satisfaction and the role of their attitudes in shaping their perceptions towards the healthcare services offered by Islamic hospitals in Malaysia. The country has been listed as one of the favourite visited nations for Muslim medical tourists with the number of patients amounting to 770,134 in 2013. The majority of them were Indonesian, followed by the Middle East and North Africa (Leong, 2014). With rising medical costs in developed countries and the incidence of September 11, Asian countries, such as Malaysia, may become important export markets for Middle East tourists. With the growing numbers of medical tourists seeking treatment in Malaysia, it is imperative to understand these medical tourists' values and satisfactions as it could positively facilitate healthcare providers in providing health treatment, affecting future healthcare seeking behaviour.

2. Healthcare service quality

Improving the quality of medical service has become a primary concern for healthcare providers with the rising standards of living. Good quality health treatment is considered to be the right of

patients and the responsibility of hospital personnel (Zineldin, 2006). Excellent healthcare services have also served as an ethical obligation of hospitals. Poorly delivered medical treatment could cause infections and injuries, and may even lead to death. Faulty services for family planning clients, for instance, could also result in incorrect, inconsistent or discontinued contraceptive use and unwanted pregnancies. Challenging issues, such as demographic changes, ageing populations, and the emergence of new treatments and technologies, further increase the pressure on healthcare providers to reprogramme, renew, and reposition themselves to attract different market segments. In Malaysia specifically, the competition amongst private hospitals is intense, creating the need for hospitals to improve their existing healthcare systems and enhance their service quality for maintaining customer loyalty.

Within the hospital service quality literature, most of the researchers had looked into the link between service quality and patient satisfaction, with the majority of them utilising SERVQUAL instruments. The model refers to service quality as a comparison differentiation between customer expectation and the actual performance of the service received (Parasuraman, Zeithaml, & Berry, 1985) based on five dimensions, which are tangible, reliability, responsiveness, assurance, and empathy. Chahal and Kumari (2010) suggested that patients judge the quality of the healthcare received on three dimensions, which are the physical environment, interaction quality, and outcome quality. This model has also been tested in measuring the healthcare service quality of hospitals in Asian countries (Butt & de Run, 2010; Sohail, 2003). The patient determined quality literature, however, is not only confined to the SERVQUAL model. Various researchers have also developed service quality concepts across countries using distinct variables (Aagja & Garg, 2010; Jabnoun & Chaker, 2003). Dimensions such as personnel quality, infrastructure, administrative process, clinical care process, social responsibility, and compassion to family and friends, as well as the pleasantness of the surrounding environment were amongst the components investigated, and they were found to affect patient satisfaction. Despite the various dimensions added and excluded in the literature, generally, the healthcare quality could be assessed by looking at how well clinicians diagnose and treat problems, their responsiveness, friendliness, and attentiveness, as well as the appeal of the healthcare facility. Yet, in adopting service quality models effectively in the hospital industry, management is required to clearly understand the nature of service quality, and how to implement and adjust it accordingly.

In the context of Muslim medical tourists, the healthcare providers' awareness of Islamic medical ethics and their effort in inculcating halal practices in delivering the medical treatment is pertinent. Illness is considered as socio-culturally constructed (Padela & Curlin, 2013). Following this trait, Islam is, therefore, associated to health through its influence on the Muslim culture. Muslim medical tourists that experience healthcare treatments that are incongruent with their values may encounter cultural conflicts and ethical dilemmas. Hence, Muslim medical tourists may have religiously informed expectations of the healthcare encounter, which, if inadequately assessed or accommodated, will create a poor clinical experience and lower satisfaction. For instance, as Islam commands both sexes to dress modestly as a means to maintain moral social order and to protect a person's honour, Muslim medical tourists may feel discomfort if the hospitals do not provide single occupancy rooms that could protect their privacy. Integrating these elements into the service quality model, it is posited that certain mechanisms, such as the doctors', nurses', and hospitals' halal practices, may influence Muslim medical tourists' satisfaction.

3. Conceptual model and hypotheses development

Fig. 1 proposes a comprehensive model that encompasses how Muslim medical tourists and healthcare providers create and affect health quality. The model identifies 3 factors incorporating doctors', nurses', and hospitals' halal practices to determine Muslim medical tourists' satisfaction of the Islamic medical treatment received. The construct of satisfaction, as in the case of service quality, has largely been interpreted within the expectation-disconfirmation paradigm (Johnston, 1995; Oliver, 1993). According to the paradigm, a disconfirmation between prior expectation and product performance affects customer satisfaction/dissatisfaction, and customer satisfaction is determined based upon a customer's internal determinants and perceived performance (Oliver, 1980). In the Islamic medical tourism context, Muslim medical tourists' expectations regarding the halal practices of the doctors, nurses, and hospitals may influence their satisfaction towards the healthcare service delivered. Apart from these antecedents, the model also suggests that Muslim medical tourists' attitudes towards the Islamic medical care received mediates the relationship between these variables. Attitude refers to the evaluation, in terms of good/bad or the importance/unimportance of the practice of a healthcare encounter (Linder-Pelz, 1982). Based on the conceptual model and literature review, ten hypotheses have been articulated to describe the links between the driving forces behind Muslim medical tourists' satisfaction.

Various researchers have established a relationship between patients' satisfaction and medical personnel behaviour (Ditto, Moore, Hilton, & Kalish, 1995; Tucker & Clegg, 2002). As healthcare services are considered high-credence services, attributed to a high degree of uncertainty and risk, patients place great faith in the physicians' abilities to make treatments (Mudarrî & Fisk, 2007). Patients lack the knowledge and skill to properly judge medical service quality in terms of technical aspects, for instance, the surgeon's skills or diagnostic ability. Hence, the patients' evaluations of the medical services offered by doctors may refer to the interaction between the patients and doctors (Suki, Lian, & Suki, 2011), in which they will look for supportive, friendly, caring, helpful, and attentive doctors and nurses (Gaur, Xu, Quazi, & Nandi, 2011). These interactions facilitate in building a sense of security and confidence amongst patients, leading to higher satisfaction.

Human involvement in service delivery with positive emotional engagement before, during, and after medical intervention is also identified as a primary determinant of patient satisfaction (Bowers, Swan, & Koehler, 1994). In the context of an Islamic healthcare delivery system, the hospitals' ability to employ personnel that could incorporate comprehensive, compassionate and caring values in delivering medical services may result in patient satisfaction (Halligan, 2006). In this respect, Muslim medical tourists may expect doctors and nurses to exhibit moral values that reflect

the embodiment of tender care and kindness towards those who are weak, feeble, and in need of assistance. Some Islamic elements in medicinal procedures may also be anticipated. For instance, the Muslim medical tourists may value the physicians' effort in disclosing and discussing any forbidden ingredients contained in the pharmaceutical goods as work practice (Sadeeqa & Sarriff, 2014). This is pertinent owing to the increased number of new pharmaceutical product choices in the market that may leave the consumers unaware of the halalness of drugs. Frail Muslim medical tourists may also demand nurses to help them in performing ablution and prayers.

Within the healthcare literature, the physical setting in which services are delivered has also been found as an element that influences customer service performance evaluations. Some studies have suggested that the hospital environment and work practice serve as pertinent components as they facilitate in addressing job satisfaction and turnover intentions amongst medical workers, leading to patient satisfaction (Shirey, 2005; Swan, Richardson, & Hutton, 2003; and; Ulrich et al., 2007). The hospital practices of improving the ethical climate amongst nurses, for instance, have been found to improve patients' experiences of medical treatments received. Within the area of Islamic practice, Mohezar, Zailani, and Moghavvemi (2014) reported that some of the Islamic hospitals carry out programmes that cultivate Islamic medical ethics with expectations that such efforts could encourage hospital staff to carry out their duties in a respectable manner, leading to the improved quality of services. Some literature on Islamic medical ethics highlight that the healthcare providers' role in providing religious officers is pertinent in enhancing community health and reducing healthcare disparities in the Muslim society in American hospitals (Abu-Ras, Gheith, & Cournos, 2008; Padela & Curlin, 2013). The physical facilities' attributes, including cleanliness and equipment in good condition may also provide positive clinical experiences. Based on these arguments, it has been postulated that:

H1. Doctors' halal practice is positively related to the Muslim medical tourists' satisfaction.

H2. Nurses' halal practice is positively related to the Muslim medical tourists' satisfaction.

H3. Hospitals' halal practice is positively related to the Muslim medical tourists' satisfaction.

Previous research has identified that the differences in patients' attitudes and beliefs towards healthcare providers depends on the practices performed. In the healthcare industry, patients often develop an attitude towards service quality based on their experiences which are affected by technical attributes (e.g., how well clinicians diagnose and treat problems) and the impression of the staff and service settings (Balcazar et al., 2011). The health workers' and hospitals' practices in delivering medical treatment may alter

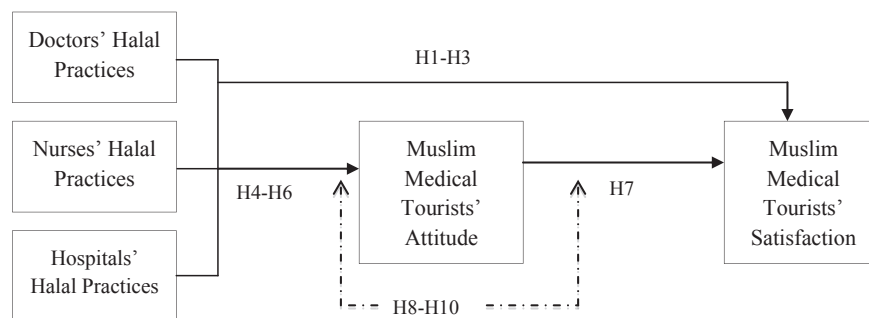


Fig. 1. Proposed theoretical model.

the patients' feelings and expectations. Within the Islamic medical ethics, the practice of hospitals in providing halal food and gender-concordant care, for instance, may instil confidence and the belief of the Muslim patients' in the healthcare providers (Padela & Curlin, 2013; Pennachio, 2005). The treatment received may provide a sense of faith and trust that the hospitals will respond to their needs as expected. The degree of Muslim medical tourists' needs being heard, and communication being kept in an understandable form may alleviate the uncertainty that increases the awareness and sensitivity about what to expect. The failures of the healthcare providers to instil Islamic medical ethics and accommodate Muslim medical tourists' preferences as well as meet their spiritual needs may result in a negative attitude. The policies and philosophies of healthcare providers that reflect the cultural practices relating to visiting, modesty, communication, and spirituality may influence patients' personal attitudes (Halligan, 2006). Following these arguments, it has been postulated that:

H4. *Doctors' halal practice is positively related to the Muslim medical tourists' attitude.*

H5. *Nurses' halal practice is positively related to the Muslim medical tourists' attitude.*

H6. *Hospitals' halal practice is positively related to the Muslim medical tourists' attitude.*

A few studies have demonstrated the role of patients' attitudes in predicting their satisfaction towards the healthcare service delivered. For instance, Makoul, Arntson, and Schofield (1995) suggested that patients that develop a positive attitude towards the involvement of medical students in their care reported a positive clinical experience. Their beliefs about the students' conduct and responsibilities play a role in determining their acceptance and perceptions of those interactions. In another healthcare setting involving the use of electronic medical records (EMRs) during patient-provider interaction, a negative attitude towards the EMR usage was predicted as a cause of patient dissatisfaction (Kushnir et al., 2013). Their study highlighted that patients in the Jewish culture reported a low value of EMR usage as they believe that it could impair communication between the patient and doctors; as, the physicians gaze at the computer screen 25–50 percent of the appointment duration. In the context of the Muslim culture, the experience of healthcare treatment would be improved if the Muslim patient believes that providers are aware of the Islamic medical ethics and have taken the extra mile towards cultural competence by accommodating these values when possible (Padela & Curlin, 2013). A hospital's capacity to identify, understand, and respect the values of a Muslim medical tourist group may create a positive clinical experience. Based on these arguments, it has been postulated that:

H7. *Patients' attitudes towards the Islamic medical treatment practiced by the healthcare providers is positively related to the Muslim medical tourists' satisfaction.*

Patient determined quality literature has inconclusively predicted the direction of satisfaction and quality from the patients' perspective. Whilst quality is positively correlated with satisfaction, the direction and strength of the predictive relationship remains uncertain. With quality viewed as a judgemental concept, the association of the variables observed may lie on the values and attitudes of the patients (Eiriz & Figueiredo, 2005). A few studies in the healthcare quality research (Gill & White, 2009; Tucker & Adams, 2001) reported that patient satisfaction was mediated by a patient's personal beliefs and values about a hospital and his/her previous expectations. In the context of the Muslim culture, the

physicians' practice in disclosing any derivation of non-halal substances to the patients may help forming a positive attitude towards service delivered, enhancing patients' satisfaction. With increased new pharmaceutical product choices in the market and current regulations which do not impose any obligation to the hospital or pharmacy department to label micro packaging of drugs, many Muslims are concerned about the halalness of the drugs, leaving them to rely on the doctors' and pharmacists' advice (Sadeeqa & Sarriff, 2014). A few studies reported that the majority of patients who are aware of the halal medicines perceived that the clinicians and pharmacists should be proactive and not leave the issue to the patients (Hoesli & Smith, 2011; Sattar, Ahmed, Majeed, & Petty, 2004). Based on these arguments, this study postulates that:

H8. *The relationship between doctors' halal practices and Muslim medical tourists' satisfaction is mediated by the Muslim medical tourists' attitudes.*

H9. *The relationship between nurses' halal practices and Muslim medical tourists' satisfaction is mediated by the Muslim medical tourists' attitudes.*

H10. *The relationship between hospitals' halal practices and Muslim medical tourists' satisfaction is mediated by the Muslim medical tourists' attitudes.*

4. Research methodology

4.1. Operationalisation of constructs

The constructs used in this study are measures from the literature which were adapted to the context of this study. The halal practices which are referred to as the medical treatment provided and offered by doctors, nurses and hospitals that had complied with the Sharia' law were measured using 16 items adapted from Sadeeqa and Sarriff (2014). These items measured how well the doctors and nurses integrated the Islamic medical ethics in practicing their professions as well as the extent of the hospitals' efforts in producing a conducive environment for Muslim medical tourists from their perspectives. Ten items from Hawthorne, Sansoni, Hayes, Marosszeky, and Sansoni (2014) were utilised to evaluate the Muslim medical tourists' satisfaction. Based on Bodenlos et al. (2007), seven items measuring the attitudes of Muslim medical tourists were adapted. The respondents were asked to indicate their level of perceptions on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

4.2. Survey administration and sample

This study employed a survey method, using a questionnaire to test the conceptual model and developed hypotheses. A total of 61 hospitals that were involved in medical tourism were drawn from the Malaysian Health Travel Council. Out of these lists, only 17 of them were Islamic friendly hospitals. The majority of the hospitals were located in Selangor, Kuala Lumpur, Penang, and Johor. The sampling frame of this study consisted of medical tourists who had received inpatient services for at least one day from these listed Islamic hospitals and had been discharged. These hospitals were contacted for permission to conduct the survey at their premises. The prospective respondents were chosen randomly. This procedure enabled the researchers to access a sufficient number of prospective participants for this study. By using the hospital setting for recruiting participants, the researchers not only alleviated the problem of accessibility, but this method is also recognised as an

approach that could create a standard situation and a common setting, hence, reducing possible biases arising from the variability of the studied locations. This setting also facilitated in providing access to a heterogeneous population. The prospective respondents were politely approached by the researcher who described the study and sought their approval to be considered as part of the participants. The researcher also emphasised that the data collected would be exclusively used for research purposes, and their participation was anonymous and voluntary. The respondents completed the questionnaire and handed it to the researcher. A total of 400 were distributed with 252 being returned, expressing a return rate of 63.0%. Nine returned questionnaires were only partially completed and were thus not usable. The usable response rate was about 60.8%.

G*Power version 3.1.9.2 was used to measure the power of the 243 samples (Faul, Erdfelder, Buchner, & Lang, 2009). Using G*Power with a statistical significance (α level) of 0.05 yielded a power of 0.999, which was above 0.80 and signified a satisfactory degree of sample power in the present study (Chin, 2001). These results show that the proposed sample size of the present study indicates the requisite power to reject the null hypotheses of the study (Faul et al., 2009). Male respondents comprised 46.1% of the sample and female respondents comprised 53.9%. A total of 98 respondents (40.3%) were between 50 and 64 years old, followed by 71 respondents (29.2%) above 64 years old, 43 respondents (17.7%) between 30 and 49 years old, and 31 respondents (12.8%) below 29 years old. With regards to their nationality, 65.4% of the respondents were from South East Asia, 17.7% were European, 10.3% were from Australia and New Zealand, and 6.6% were from other countries. Around 53.1% of the respondents received medical treatment, followed by cosmetic services (22.6%), surgical services (19.3%), and other types of medical service (5.0%).

5. Analysis and findings

The research followed a two-step approach. First, the measurement model was estimated based on the confirmatory factor analysis. Second, the researchers analysed the structural model and estimated the path coefficients, both for the direct as well as for the mediated effects, applying a partial least square method (PLS) using SmartPLS. By employing this technique, the source of a poor model fit was identified easily (Anderson & Gerbing, 1988).

5.1. Measurement model test

A measurement model, comprising all the constructs of interest was evaluated. Two psychometric tests – validity and reliability, were performed based on the full measurement model generated. As shown in Table 1, all the constructs had composite reliability (CR) values of greater than the threshold point of 0.7 (Hair, Ringle, & Sarstedt, 2013). In addition to the CR, the average variance extracted (AVE) of these constructs achieved the cut-off point, indicating a satisfactory degree of reliability. Additionally, all the factor loadings of the items were above 0.6, demonstrating a good convergent validity (Table 1). The discriminant validity was tested using the Heterotrait-monotrait (HTMT) ratio as suggested by Henseler, Ringle, and Sarstedt (2015). All the HTMT ratios were lower than the most restrictive threshold of 0.85, showing good discriminant validity properties (Table 2). The result of the measurement model indicates that various validity and reliability criteria were satisfied. Therefore, the constructs developed in this measurement model were used to test the structural model and the associated hypotheses.

5.2. Assessment of structural model

Assuming that the measurement model satisfied the psychometric assessment, a structural model was constructed based on the results of the measurement model. The predictive accuracy of the model was evaluated in terms of the portion of the variance explained. The results suggest that the model was capable of explaining 29.5% of the variance in attitude and 63.8% in satisfaction. Besides estimating the magnitude of R^2 , the researchers have recently included the predictive relevance developed by Stone (1974) and Geisser (1975) as an additional model fit assessment. This technique represents the model adequacy to predict the manifest indicators of each latent construct. Stone-Geisser Q^2 (cross-validated redundancy) was computed to examine the predictive relevance using a blindfolding procedure in the PLS. Following the guidelines suggested by Chin (2010), a Q^2 value of greater than zero implies that the model has predictive relevance. In the present study, a value of 0.285 was obtained as an average cross-validated redundancy (for all endogenous variables) which was far greater than zero. In summary, the model exhibited an acceptable fit and high predictive relevance.

Nonparametric bootstrapping was applied (Wetzels, Odekerken-Schroder, & van Oppen, 2009) with 2000 replications to test the structural model. The significance of the direct effects specified by the research model were evaluated (Table 3). The results indicate that the effects of the doctor's *halal* practice ($\beta = 0.167$, $p < 0.05$) and hospital's *halal* practice ($\beta = 0.467$, $p < 0.001$) on attitude were significant and positive. In addition, the effect of the doctor's *halal* practice ($\beta = 0.197$, $p < 0.01$), hospital's *halal* practice ($\beta = 0.553$, $p < 0.001$) and attitude ($\beta = 0.217$, $p < 0.01$) on satisfaction were also significant. In contrast, the effect of the nurse's *halal* practice on attitude ($\beta = -0.030$, $p > 0.05$) and satisfaction ($\beta = 0.010$, $p > 0.05$) were not significant. As such, H1, H2, H5, H6, and H7 were supported whilst H3 and H4 were rejected. In order to test the indirect effects, the researchers performed the bootstrapping procedure as suggested by Hayes (2009). The t value for the indirect effect was obtained by dividing the indirect effect (ab) with the standard error (SE) of the indirect effect. The SE was the standard deviation of the repeated bootstrap estimates of the indirect effect. Table 3 shows that only the indirect effect of the hospital's *halal* practice on satisfaction through attitude was significant. Therefore, H10 was supported; whereas, H8 and H9 were not supported.

6. Discussion

The structural model tested provides some evidence that Muslim medical tourists' satisfaction is dependent on the doctors' role. This is expected as the improvement of healthcare service quality requires a good relationship between the doctors and Muslim medical tourists. It is a well-known fact that the skills and knowledge of a doctor are critical in pain relief and the curing of ill patients, creating an imperative need for hospitals to assure that they have highly qualified staff (Gaur et al., 2011; Suki et al., 2011). Thailand, for instance, has successfully positioned itself as an outstanding medical tourism hub by having over 200 U.S. certified surgeons and 700 internationally-trained and board certified doctors (IJHCQA, 2006). Yet, as Muslim medical tourists, their demand may extend beyond this. The ability of the doctors to inject *halal* practices into their daily tasks leads to the positive attitude of Muslim medical tourists' towards Islamic practices and hence, affectively constitute to their satisfaction. Muslim medical tourists' satisfaction is championed by the doctors' capability in understanding and attuning to the Islamic medical ethics. For instance, a doctor's respect for Muslim medical tourists' modesty by

Table 1
Factor loadings, average variance extracted and composite reliability of the measurement model.

Constructs	Items	Factor loadings	CR	AVE
Doctor Practice (DP)	Doctor informs a Muslim patient/patient family regarding the use of vaccines that are porcine in origin.	0.863	0.924	0.608
	The doctors try to facilitate the preservation of the Muslim patient's faith including the patient's obligation to pray during illness.	0.892		
	Doctors seek clarification from Muslim patients when they are unsure about Islam protocols.	0.840		
	Doctor imposes their own religious/cultural values and practices in handling the body of the deceased.	0.834		
	Doctors always examine a female patient in the presence of another female.	0.747		
	Doctors in this hospital discuss with patients any forbidden/Haram ingredients of drugs.	0.748		
	Doctors in this hospital feel a moral obligation to disclose the exact source of non-Halal ingredients to the patient (e.g., alcohol in syrups/elixirs and gelatine in capsules).	0.654		
	Doctors in this hospital prefer Halal medicines in their practice.	0.610		
Nurse Practice (NP)	Nurses clean body parts that are contaminated by blood, body secretions, urine or feces so that the patient may conduct prayers.	0.745	0.890	0.672
	Nurses in this hospital respect Muslim values and principles.	0.935		
	Nurses attempt to provide Muslims patients with privacy and a quiet environment during prayer.	0.792		
	Nurses in this hospital respect the patients religious beliefs.	0.795		
Hospital Practice (HP)	Hospital provides halal food for Muslims.	0.794	0.844	0.575
	Hospital provides a same sex health care worker when possible.	0.769		
	Transfusion of blood and blood products for recovery or to save life, from a non-Muslim donor to a Muslim recipient is based on the patient/patient family agreements.	0.741		
	Hospital provides sophisticated praying infrastructures (e.g., prayer room, signage, wudhu facilities).	0.726		
Attitude (AT)	I believe that the medical team in this hospital is knowledgeable about Islamic principles in the medical care.	0.712	0.897	0.558
	I believe that the doctors in this hospital are aware of the presence of potentially non-Halal ingredients in medicine.	0.724		
	I believe that the medical team in this hospital is aware of potential Haram risks in the medical care.	0.784		
	The medical team in this hospital care about my Islamic concerns.	0.863		
	I believe I receive good Islamic healthcare in this hospital.	0.808		
	I worry sometimes about having to pay large medical bills for Islamic treatment.	0.644		
	The Islamic medical care I have been receiving is just about perfect.	0.669		
Satisfaction (ST)	Overall, I am satisfied with the medical care I have received from this hospital.	0.885	0.955	0.681
	I am satisfied with the explanation on Halal alternatives.	0.758		
	I am satisfied with the Islamic healthcare practices in this hospital.	0.890		
	I am satisfied because the medical doctor of this hospital is consistently courteous and respectful to me.	0.843		
	I am satisfied with the explanation of the treatment result.	0.862		
	I am satisfied with the Ibadah infrastructures (e.g., prayer room, signage, wudhu facilities) of this hospital.	0.805		
	I am satisfied with the quality and variety of halal food of this hospital.	0.857		
	I am satisfied with the treatment duration in this hospital.	0.813		
	I am satisfied with the nurses' behaviour in this hospital.	0.777		
	I am satisfied with the doctors in this hospital.	0.747		

Note: CR = Composite Reliability, AVE = Average Variance Extracted.

Table 2
Result of the discriminant validity using the HTMT ratio.

	DP	NP	HP	AT	ST
DP					
NP	0.253				
HP	0.369	0.782			
AT	0.316	0.352	0.619		
ST	0.407	0.503	0.832	0.613	

Table 3
Structural model analysis.

Hypothesis	Relationships	Path coefficients	Decision
Direct effects			
H1	DP → AT	0.167*	Supported
H2	DP → ST	0.197**	Supported
H3	NP → AT	-0.030	Not Supported
H4	NP → ST	0.010	Not Supported
H5	HP → AT	0.476***	Supported
H6	HP → ST	0.553***	Supported
H7	AT → ST	0.217**	Supported
Indirect Effects			
H8	DP → AT → ST	0.036	Not Supported
H9	NP → AT → ST	-0.007	Not Supported
H10	HP → AT → ST	0.103**	Supported

Note: ***p < 0.001, **p < 0.01, *p < 0.05.

announcing his arrival upon entering a room or examining the female Muslim medical tourists in the presence of other female medical staff or family members is much valued, as this act will create a comfortable environment for Muslim medical tourists. The quality of the medical treatment received is also influenced by the competency of physicians to discuss with the Muslim medical tourists the non-halal ingredients contained in the prescription, and provide adequate explanations and information.

Studies concerning healthcare delivery have considered the hospital atmosphere as a critical component in determining patient satisfaction (Shirey, 2005; Swan et al., 2003). Consistent with previous research, it was found in this study that hospital halal practices positively affect the attitude of Muslim medical tourists towards Islamic practices and satisfaction. The findings reveal that the hospitals' infrastructures, such as availability of prayer rooms, prayer mats, and copies of the Quran, are also important. Muslim medical tourists believe that prayer is a central part of the healing process and thus, may experience discomfort if they are not provided with such facilities (Padela & Curlin, 2013). Since Islam practices modesty values, the hospitals' procedure in providing gender-concordant care, in which female medical tourists are examined and treated by female medical staff only, is much appreciated by the respondents. Some Islamic compliant hospitals provide single bed occupancy for nursing wards which may result in positive Muslim medical tourists' attitudes and satisfaction as such efforts offer them the maximum privacy and facilitate night

stays.

Previous literature has indicated the importance of the nurses' role in enhancing patients' satisfaction towards healthcare delivery services (Gaur et al., 2011; Suki et al., 2011). Patients look for supportive, friendly, caring, helpful, and attentive nurses (Gaur et al., 2011). Nevertheless, in this study, the nurses' halal practice emerged as an insignificant factor. Specifically, it was concluded that greater Muslim medical tourists' satisfaction and positive attitudes are not related to a nursing practice. The value of Islamic medical ethics might offer some insight into this finding. Whilst the nurses' role in providing the appropriate environment for Muslim medical tourists to do their spiritual practice is valued, family involvement was described as a significant contributor to the emotional, social, and psychological well-being of the Muslim medical tourists. The family members were viewed as the principal decision-makers, including to the extent of the care to be given in an Islamic denomination society (Al-Omari, Al-Qudimat, Hmaidan, & Zaru, 2013; Halligan, 2006). In an earlier study involving the Jordanian culture, Omari (2009) found that Muslim patients might not need caring behaviour from their healthcare providers as the family members and relatives provide support by visiting them regularly. Furthermore, Muslim medical tourists signified that building personal relations with nurses was not as pertinent as knowing their qualifications and competencies.

7. Conclusion and implications

Islamic medical tourism is a fast growing market. Analysing the factors that influence Islamic medical tourists' satisfaction is critical for tapping into the growing Islamic medical tourist market. This study has examined the direct and indirect effect of halal practices on medical tourists' satisfaction through attitude. The results showed that doctors' and hospitals' halal practices had a positive direct effect on consumers' attitudes and the satisfaction of medical services; whereas, the nurses' halal practices had no significant effect. In addition, hospitals' halal practices were the only practices that had an indirect effect on Muslim tourists' satisfaction through attitude.

Healthcare providers need to be aware of Islamic medical ethics and should work towards cultural competence by accommodating these ethics when possible. Improvement of the quality and Muslim medical tourists' satisfaction requires not only a good hospital atmosphere, but also the healthcare providers' ability to employ well-trained physicians as in conventional hospital settings. This present study implies that in the Islamic medical tourism context, accommodating Muslim medical tourists' preferences for halal food, and providing sophisticated praying infrastructures are valued by the respondents. Healthcare providers could further improve the Muslim medical tourists' experiences by allowing gender-concordant care which stems from the Islamic conceptions of modesty. Whilst in some cases, greater challenges may exist in providing physicians based on a gender preference, hospitals could respond to modesty concerns by implementing knock, wait, and enter policies as well as providing more modest Muslim medical tourists' gowns. In addition, the preference of Muslims is for medicine to be made with halal ingredients, and the physicians should inform a Muslim patient or patient's family regarding the use of medicine that have non-halal ingredients. According to the expectation-disconfirmation paradigm (Oliver, 1993), perceived halal practices greater than the expectations by Muslim medical tourists leads to satisfaction; whereas, greater expectation than perceived halal practices leads to dissatisfaction. As such, the lack of healthcare providers' attention to these expectations may compromise the provision of quality service. Failure to provide female doctors for Muslim women when performing intimate

physical examinations, for instance, will inflict personal humiliation, and generate anger and resentment amongst Muslim medical tourists.

The healthcare providers may need to design various in-house training that incorporates Islamic medical ethics to facilitate the personnel in understanding Islam as a way of life and integrating it as part of their work practice. Such training is important to enhance the personnel's skills in communication and would motivate them to provide a good service to Muslim medical tourists. With Islamic medical ethics forming a substantial element in the Muslims' healthcare service delivery, hospitals should also seek personnel with appropriate skills, character, and devotion towards Islam as this could create the right themes and ambiances. Whilst caring has been identified as the essence of the nurses' role in Islamic medical ethics, families may play a role in meeting the Muslim medical tourists' emotional, social, and psychological needs. Hence, the healthcare providers may need to recognise the central importance of the family in taking care of Muslim medical tourists, and the inclusion of their family in the planning of care, perhaps, is essential in the delivery of culturally competent clinical services for the Muslim medical tourists.

This study offers theoretical and practical contributions by demonstrating how Islamic medical ethics could affect Muslim medical tourists' satisfaction of the medical treatment received. In terms of the theoretical contribution, this research offers a theoretical view to improve the knowledge of Islamic medical practices by uncovering the different impacts of doctors', nurses', and hospitals' halal practices on Muslim medical tourists' attitudes and satisfaction. To the best of the researchers' knowledge, this has not been empirically tested before and this study contributes to the very limited literature on Islamic medical tourism. In terms of the practical contribution, the findings of the study can help Malaysian hospitals, doctors, and nurses to better understand their Muslim medical tourists' expectations and deliver care that pays due respect to their beliefs. Since Malaysia has been actively promoting medical tourism products to potential Muslim medical tourists, it is seen as a great opportunity for the healthcare providers to start considering the Islamic traits and features in designing products and services tailored to this market. Complete and advanced facilities along with efficient services that synchronise with the Islamic beliefs and practices are amongst the crucial factors in satisfying Muslim medical tourists. Managers and decision makers at Islamic friendly hospitals must recognise the roles of halal practices and utilise them when developing an efficient way to attract Muslim medical tourists.

Despite that this study provides the opportunity for healthcare providers to reflect on their clinical practice, enabling them to respond more effectively towards Muslim medical tourists' needs, there are some limitations of this research. This study has focused on determining the quality of healthcare services from the perspectives of Muslim medical tourists as patients. To complete the triad, the understanding of the healthcare experiences involving Islamic medical practices needs to be explored from various actors, including nurses, physicians, and healthcare administrators, as each has the capacity to create a positive or negative experience. Friends' and families' perceptions may also represent a potential research area as these groups could become major influencers of Muslim medical tourists' healthcare choices, and they may also become prospective customers in the future. Yet, it is hoped that this paper has succeeded in offering some understanding into this sector, and serve as basic fundamentals on the quality of healthcare services perceived by Muslim medical tourists and how it could contribute to the tourism sector. Insights gleaned from this study could help guide additional research on how both providers and Muslim medical tourists could address the barriers faced in

ensuring quality care for this growing market.

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References

- Aagja, J. P., & Garg, R. (2010). Measuring perceived service quality for public hospitals (PubHosQual) in the Indian context. *International Journal of Pharmaceutical and Healthcare Marketing*, 4(1), 60–83.
- Abu-Ras, W., Gheith, A., & Courmos, F. (2008). The Imam's role in mental health promotion: a study of 22 mosques in New York City's Muslim community. *Journal of Muslim Mental Health*, 3(2), 155–176.
- Al-Omari, A., Al-Qudimat, M., Hmaidan, A. A., & Zaru, L. (2013). Perception and attitude of Jordanian physicians towards complementary and alternative medicine (CAM) use in oncology. *Complementary therapies in clinical practice*, 19(2), 70–76.
- Al-Qaradawi, Y. (2007). *The lawful and the prohibited in Islam*. Kuala Lumpur: Islamic Book Trust.
- Al-Shahri, M. Z. (2002). Culturally sensitive caring for Saudi patients. *Journal of Transcultural Nursing*, 13(2), 133–138.
- Amin, M., & Nasharuddin, S. Z. (2013). Hospital service quality and its effects on patient satisfaction and behavioural intention. *Clinical Governance: An International Journal*, 18(3), 238–254.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological bulletin*, 103(3), 411–423.
- Balcazar, H., Rosenthal, E. L., Brownstein, J. N., Rush, C. H., Matos, S., & Hernandez, L. (2011). Community health workers can be a public health force for change in the United States: three actions for a new paradigm. *American journal of public health*, 101(12), 2199–2203.
- Bloomer, M. J., & Al-Mutair, A. (2013). Ensuring cultural sensitivity for Muslim patients in the Australian ICU: considerations for care. *Australian Critical Care*, 26(4), 193–196.
- Bodenlos, J. S., Grothe, K. B., Whitehead, D., Konkle-Parker, D. J., Jones, G. N., & Brantley, P. J. (2007). Attitudes toward health care providers and appointment attendance in HIV/AIDS patients. *Journal of the Association of Nurses in AIDS Care*, 18(3), 65–73.
- Bowers, M. R., Swan, J. E., & Koehler, W. F. (1994). What attributes determine quality and satisfaction with health care delivery? *Health care management review*, 19(4), 49–55.
- Butt, M. M., & de Run, E. C. (2010). Private healthcare quality: applying a SERVQUAL model. *International journal of health care quality assurance*, 23(7), 658–673.
- Chahal, H., & Kumari, N. (2010). Development of multidimensional scale for healthcare service quality (HCSQ) in Indian context. *Journal of Indian Business Research*, 2(4), 230–255.
- Chin, W. W. (2001). *PLS-graph User's guide version 3.0*. Houston: C.T. Bauer College of Business, University of Houston.
- Chin, W. W. (2010). How to write up and report PLS analyses. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications in marketing and related fields* (pp. 655–690). Berlin: Springer.
- Ditto, P. H., Moore, K. A., Hilton, J. L., & Kalish, J. R. (1995). Beliefs about physicians: their role in health care utilization, satisfaction and compliance. *Basic and Applied Social Psychology*, 17(1), 23–48.
- Eiriz, V., & Figueiredo, J. A. (2005). Quality evaluation in health care services based on customer-provider relationships. *International Journal of Health Care Quality Assurance*, 18(6), 404–412.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160.
- Gaur, S. S., Xu, Y., Quazi, A., & Nandi, S. (2011). Relational impact of service providers' interaction behavior in healthcare. *Managing Service Quality: An International Journal*, 21(1), 67–87.
- Geisser, S. (1975). The redictive sample reuse method with applications. *Journal of the American Statistical Association*, 70(350), 320–328.
- Gill, L., & White, L. (2009). A critical review of patient satisfaction. *Leadership in Health Services*, 22(1), 8–19.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Editorial-partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1–12.
- Halligan, P. (2006). Caring for patients of Islamic denomination: critical care nurses' experiences in Saudi Arabia. *Journal of clinical nursing*, 15(12), 1565–1573.
- Hawthorne, G., Sansoni, J., Hayes, L., Marosszeky, N., & Sansoni, E. (2014). Measuring patient satisfaction with health care treatment using the Short Assessment of Patient Satisfaction measure delivered superior and robust satisfaction estimates. *Journal of clinical epidemiology*, 67(5), 527–537.
- Hayes, A. F. (2009). Beyond Baron and Kenny: statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408–420.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Hoesli, T. M., & Smith, K. M. (2011). Effects of religious and personal beliefs on medication regimen design. *Orthopedics*, 34(4), 292–295.
- IJHCQA. (2006). *Far East and Australasia – Travel and hospitality industry set to tap into Asia's US\$4 billion medical tourism market*. Retrieved from <http://www.emeraldinsight.com/doi/full/10.1108/ijhcqa.2006.06219eab.009>.
- Jabnoun, N., & Chaker, M. (2003). Comparing the quality of private and public hospitals. *Managing Service Quality: An International Journal*, 13(4), 290–299.
- Johnston, R. (1995). The determinants of service quality: satisfiers and dissatisfiers. *International Journal of Service Industry Management*, 6(5), 53–71.
- Kushnir, T., Esterson, A., & Bachner, Y. G. (2013). Attitudes of Jewish and Bedouin responders toward family physicians' use of electronic medical records during the medical encounter. *Patient education and counseling*, 93(3), 373–380.
- Leong, T. (2014). *Malaysia tries to parlay appeal to Muslim visitors into medical tourism push*. Retrieved from <http://www.reuters.com/article/malaysia-medical-idUSL4N0P001P20140729>.
- Linder-Pelz, S. (1982). Toward a theory of patient satisfaction. *Social science & medicine*, 16(5), 577–582.
- Makoul, G., Arntson, P., & Schofield, T. (1995). Health promotion in primary care: physician-patient communication and decision making about prescription medications. *Social science & medicine*, 41(9), 1241–1254.
- Medhekar, A., & Haq, F. (2010). *Marketing Indian medical tourism to Muslim patients in an Islamic way*. Presented at Proceedings of the 1st International Conference on Islamic Marketing and Branding: Expolring Issues and Challenges (2010), Kuala Lumpur, Malaysia.
- Mohezar, S., Zailani, S., & Moghavvemi, S. (2014). *Establishing Islamic medical tourism in Malaysia: Understanding the motivations and challenges* (Presented at The International Conference of Management and Technology in Knowledge, Service, Tourism and Hospitality, Jakarta, Indonesia).
- Mudarri, D., & Fisk, W. J. (2007). Public health and economic impact of dampness and mold. *Indoor air*, 17(3), 226–235.
- Naidu, A. (2009). Factors affecting patient satisfaction and healthcare quality. *International journal of health care quality assurance*, 22(4), 366–381.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460–469.
- Oliver, R. L. (1993). A conceptual model of service quality and service satisfaction: compatible goals, different concepts. *Advances in Service Marketing and Management*, 2(4), 65–85.
- Omari, F. H. (2009). Perceived and unmet needs of adult Jordanian family members of patients in ICUs. *Journal of Nursing Scholarship*, 41(1), 28–34.
- Owusu-Frimpong, N., Nwankwo, S., & Dason, B. (2010). Measuring service quality and patient satisfaction with access to public and private healthcare delivery. *International Journal of Public Sector Management*, 23(3), 203–220.
- Padela, A. I. (2007). Islamic medical ethics: a primer. *Bioethics*, 21(3), 169–178.
- Padela, A. I., & Curlin, F. A. (2013). Religion and disparities: considering the influences of Islam on the health of American Muslims. *Journal of religion and health*, 52(4), 1333–1345.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *the Journal of Marketing*, 49(4), 41–50.
- Pennachio, D. (2005). *Cultural Competence: Caring for your Muslim patients, medical economics*. Retrieved from <http://www.memag.com/menag/content>.
- Potrafke, N. (2012). Islam and democracy. *Public Choice*, 151(1), 185–192.
- Sadeeqa, S., & Sarriif, A. (2014). Comparing KAP regarding Halal pharmaceuticals among general practitioners and hospital doctors. *Journal of Applied Pharmaceutical Science*, 4(10), 092–096.
- Sattar, S. P., Ahmed, M. S., Majeed, F., & Petty, F. (2004). Inert medication ingredients causing nonadherence due to religious beliefs. *The Annals of pharmacotherapy*, 38(4), 621–624.
- Shirey, M. R. (2005). Stress and coping in nurse managers: two decades of research. *Nursing economic*, 24(4), 193–203.
- Sohail, M. S. (2003). Service quality in hospitals: more favourable than you might think. *Managing Service Quality: An International Journal*, 13(3), 197–206.
- Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society*, 36(2), 111–133.
- Suki, N. M., Lian, J. C. C., & Suki, N. M. (2011). Do patients' perceptions exceed their expectations in private healthcare settings? *International journal of health care quality assurance*, 24(1), 42–56.
- Swan, J. E., Richardson, L. D., & Hutton, J. D. (2003). Do appealing hospital rooms increase patient evaluations of physicians, nurses, and hospital services? *Health Care Management Review*, 28(3), 254–264.
- Thomson Reuters. (2014). *State of the global Islamic economy 2014-2015 report*. Retrieved from <http://halalfocus.net/wp-content/uploads/2015/01/SGIE-Report-2014.pdf>.
- Tucker, J. L., & Adams, S. R. (2001). Incorporating patients' assessments of satisfaction and quality: an integrative model of patients' evaluations of their care. *Managing Service Quality: An International Journal*, 11(4), 272–287.
- Tucker, L. A., & Clegg, A. G. (2002). Differences in health care costs and utilization among adults with selected lifestyle-related risk factors. *American Journal of Health Promotion*, 16(4), 225–233.
- Ulrich, C., O'Donnell, P., Taylor, C., Farrar, A., Danis, M., & Grady, C. (2007). Ethical climate, ethics stress, and the job satisfaction of nurses and social workers in the United States. *Social Science & Medicine*, 65(8), 1708–1719.

Wetzels, M., Odekerken-Schroder, G., & van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly*, 33(1), 177–195.

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.



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