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Research Paper

Sustainable Medical Tourism Model - A Case Study of Kerala, India

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Abstract: Medical tourism is a term used to portray a current booming industry which is viewed optimistically by media practitioners, researchers and the health care industry. Along with its enormous scope and potential, the issues and problems that may arise due to the promotion of medical tourism at a destination should be taken seriously and addressed tactfully. These sustainability challenges and dimensions can be acquired from medical tourists. This article establishes a possible relationship between the different components of the medical tourism industry and thereby, proposes a sustainable medical tourism model while incorporating all the variables which directly and indirectly influence destinations both in terms of medical and tourism features.

Keywords: Medical tourism, sustainable medical tourism outcome, hospital service quality, destination factors, medical factors, level of experience.

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Introduction

Medical tourism is related to the modern phenomenon of transnational journeys in search of advanced and cheaper medical care. It is a paradigm shift from the earlier trend of travelling to developed countries for excellent health care. According to Memon, Bajaj, Dadhich & Patel (2014), in a study for FICCI (Federation of Indian Chamber of Commerce and Industry), medical tourists are people from different countries who travel overseas to receive some form of medical aid or treatment. Medical tourism is emerging as a unique and readily identifiable kind of journey that is deliberately linked to direct medical intervention, and the outcomes are probably high and long-term (Connell, 2006). Medical tourism offers patients in dire

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conditions the ability to escape and recuperate (Solomon, 2011). For a significantly lower cost and a shorter waiting period, medical tourists can get treatment that is equivalent to, if not, even superior than what they would receive at home (Horowitz & Rosensweig, 2007; MacReady, 2007).

However, there exists a conceptual dilemma on the definitional aspects of medical tourism. Many authors (Bookman & Bookman, 2007; Connell, 2006; Dawn & Pal, 2011) argued that medical tourism encompasses both medical and tourism aspects. Connell (2006) viewed the nature of medical tourism as a popular mass culture "where people often travel long distances to overseas destinations (India, Thailand, Malaysia) to obtain medical, dental and surgical care while simultaneously being holidaymakers, in a more conventional sense" (p. 1094). Medical tourism gives patients an opportunity to quickly and conveniently get medical services through travel, at reduced rates and better quality than they could in their resident nations, while patients' demands will be different according to the level and degree of treatment and tourism combination and integration (Yu & Ko, 2012). It "is an economic activity that entails trade in services and represents the splicing of at least two sectors: medicine and tourism" (Bookman & Bookman, 2007, p.1).

Despite agreeing with the dovetailing nature of medical travel and tourism, Connell (2013) observed that medical tourists might be viewed as "patient-consumers", which is more of a medical term. An interesting argument that arises is that if patients travel abroad, he/she would be inevitably open to elements of culture, environment, food, heritage, leisure or other numerous facets of the destination's activities (Jagyasi, 2008). Hunter and Green (1995) believed that when "a traveller is visiting (for less than one year) an unknown destination (the host community) other than the one he/she resides in, then that person may be regarded as being a tourist" (p. 2). When people travel across border and outside their usual environment to seek medical service, the travel portion of the trip is called "medical travel," and upon arrival, such a person is called a "medical-tourist" (Jagyasi, 2008, p. 9-10). Their activities include utilisation of medical care; services for the medical tourist, be it direct or indirect hospitality, cultural exposure or sightseeing is called "medical tourism" (Jagyasi, 2008, p. 9-10). Therefore, the fast-growing trend of cross-border travel looking for inexpensive and quality health care services while incorporating an extended holiday on discretion may be the apt definition for medical tourism and those who undertake this type of travel are called medical tourists (MTs).

Literature Review

Medical tourism encompasses primarily, and predominantly biomedical procedures, combined with travel and tourism (Dawn & Pal, 2011) including primary, secondary and tertiary care and may include surgeries, transplants, health check-ups, psychiatry, fertility evaluations, curing lifestyle diseases, dental care, etc. Cosmetic surgery overtakes all other forms of procedures, representing 38% of demand.

Globally, medical tourism is a new niche area, often considered as a prominent portfolio by many in the hospitality and other sectors which are directly and indirectly related. Medical tourism is the new catchphrase of the present globalised world which enhances the revenue portfolio of many direct and indirect sectors of the economy (RNCOS, 2011). Asian countries including Thailand, India and Singapore, have attracted a good number of patients abroad and has become prominent medical tourism destinations generating substantial income from medical services (Bookman &Bookman, 2007; Connell, 2006). Bookman and Bookman (2007) observed that the European, Latin American and Asian economies have expanded and built medical tourism on existing tourism industries and health care systems. In numerous countries, new companies have sprouted to connect patients, hospitals, potential medical tourists and destinations. The names of such companies like 'Surgeon and Safari' (South Africa), and 'Antigua Smiles', reflect the type of services provided such as relating cosmetic dentistry and visiting the Caribbean (Connell, 2006). Over 50 nations recognise medical tourism as an industry (Rad, Som & Zainuddin, 2010).

It has become a business opportunity for related stakeholders more than ever before and businesses compete at every opportunity to secure more medical tourists. The company "Nip 'N' Tuck Travel", functioning in the UK, Thailand, Australia, and New Zealand, focuses on packages for cosmetic surgery and proclaims in its slogan, "Go away on vacation and come home looking years younger" (Nip 'N' Tuck Travel, 2006). Similarly, the company "All about Beauty" in Australia acts as a mediator, organising cosmetic packages including recuperation at a resort catering specifically to post-surgical recoveries, such as "Bodyline Retreat" in Phuket, Thailand (Whittaker, 2008).

The value of the global medical tourism industry was pegged at US$10.5 billion in 2012 and is estimated to grow to US$32.5 billion by 2019, developing at a high CAGR of 17.9% during the forecast period (Transparency Market Research, 2013). Cultural similarities and geographic proximity play a central role in the development of this industry (Transparency Market Research, 2013). For 6 million patients, medical tourism may generate $45 - 95 billion in global GDP (IMTJ, 2013). In 2012 alone, the Asian region made more than US$6.4 billion for the treatment of an estimated 2 billion medical tourists (Menachery, 2015). Mexico and India correspondingly have the highest demand for medical tourism, and almost 76% of patients who have expressed an interest in medical travel are Americans (Medical Tourism Association, 2013). In 2012, an estimated 45% share of the total medical tourists' arrival in Asia was bagged by Thailand with 2.5 million medical tourists, mostly from Western Europe.

India is known for its expertise in cardiac surgeries, Singapore for complex surgical procedures and Thailand for cosmetic treatments (Menachery, 2015). Of the nearly 10 million people who visited Singapore in 2006, (4% or 400,000) were

medical tourists (Voigt et al., 2010). Approximately 89,000 persons accompanied them on their visits (Voigt et al., 2010). In 2010, at least 63,000 citizens of UK journeyed overseas for medical treatment, and no less than 52,000 foreigners travelled to the UK for treatment (Lunt et al., 2014). Outbound travel has been growing tremendously over the last few years. Cost saving drives the demand for medical travel by nearly 80% as medical tourists spend between $7,475 and $15,833 per medical travel trip (Medical Tourism Association, 2013).

Purpose of Study

The medical tourism industry handles human life, which requires utmost care as ignorance, negligence or malpractices will have serious repercussions. In addition, its fast development places immense pressure on the key players of this vulnerable industry. Medical tourism in Kerala is a fast-growing industry that offers ample business opportunities for stakeholders both in the medical and tourism industry but at the same time, it raises some issues as well. The study aims to identify the linkages between and among the various components of the medical tourism industry and to develop an overarching model for sustainable development to exploit the therapeutic and tourism potential of Kerala and address its issues.

Methodology

Today, Kerala tourism is a global brand and a destination with the highest brand recall (Ramesh & Joseph, 2011). In 2013, a survey conducted by BBC World News had rated Kerala as the most popular tourist spot in India among foreign tourists (IBEF, 2015). Further, with a per capita income of about 1% of that of the richest nations, Kerala has attained good health equivalent to western countries in aspects like longevity and standard of living (Pitroda, 2012; Thankappan, 2001). The high-end technology, talent pool and intellectual wealth of Kerala, its English language proficiency, moderate climate and wide variety of natural/cultural attractions have motivated many patients abroad to come to Kerala. The treatment cost in Kerala is 30-70% less, even after including expenses for air travel and accommodation (Destination Kerala, 2015) when compared to the cost in the international market. Today, Kerala is receiving a good number of medical tourists and is planning to become the health tourism hub of India by 2020, earning 15% of the market share in the Indian medical tourism industry (Menachery, 2015). Considering its potential and growth rate of the medical and tourism industry, Kerala was selected for this study. The study was undertaken for a period of eight months from October 2014 to May 2015 using questionnaire survey, and the respondents were medical tourists who primarily sought modern medical treatments in Kerala (both outpatient and

inpatient) with discretionary involvement in leisure activities. The survey includes both accredited and non-accredited hospitals.

Considering the volume of medical tourism, reliable data does not exist as no specific entity has been entrusted with the assessment of this industry and the private/ corporate giants are not able to provide any reliable data. Even if private health service providers' do compile such statistics, this data is considered confidential and not available to public (Helble, 2011). Hence, the non-probability quota sampling method was used to collect data. General medicine, dental care and eye care were identified as three categories (Quotas). A sample size of 300 was considered sufficient to represent a significant population (Saunders, Lewis & Thornhill, 2003). Hence a total of 384 samples were collected from both outpatient and inpatient respondents.

Theories and models

The Kano model can be applied to medical tourism as it provides an opportunity to satisfy all three kinds of needs such as basic needs, performance needs and excitement needs by integrating medical and tourism aspects. Further, Maslow's theory can be adapted to medical tourism to support the conceptual level of definition. Medical tourists who want basic health care such as health checkups, dental care, will have health needs at the lowest level and they will focus primarily on tourism and then treatment. Those with a necessary medical need for surgery, certain diseases and invasive procedures will be at the second level, and they will mainly focus on medical care and other related services. With regard to the tourism element, they are more likely to take a short trip to travel destinations that are suitable with their conditions and their recuperation stage. At the third level, medical tourists need additional medical services such as LASIK, cosmetic surgery, weight loss treatment, and sex reassignment surgery. Eventually, they will consider the conditions of medical services while they arrange for tourism activities during or after receiving medical treatment. At the highest level, the need is optimum health. A medical tourist who is healthy may also wish to maintain good health or aspire for better health. These types of medical tourists seek services like spa, ayurveda, yoga, detoxification and holistic health care treatment. They plan for tourism activities and often use health care services that are located in tourist areas (Kanittinsuttitong, 2015).

Constructs and Measures

Every piece of the medical tourism industry has distinctive components influenced by the destination's medical services, hospitality support, tourism appeal and governmental policies (Cormany, 2008). Kang, Shin and Lee (2014) proposed a medical tour evaluation model, and the major configuring factors are medical factors, tourism factors and facilitating factors. According to Kang et al., (2014), these factors determine the level of trust in service quality which will ultimately lead to the willingness to recommend.

Similarly, Darwazeh (2011) found that a medical tourism facility has some characteristics such as medical services, tourism services, facilitation services and warm hospitality with the right care, that differentiates it from a regular medical facility.

Based on the literature review and perusal of different models, this study developed ten major constructs: Hospital Service Quality, Medical Factors, Tourism Factors, Destination Factors, Patient Centeredness, Physical Integrity, Privileges Received are sustainable medical tourism enablers which are critical in developing higher Levels of Experience, Medical Quality Satisfaction eventually leading to Sustainable Medical Tourism Outcome. The framework implies that tourism and medical aspects will complement each other and will determine the Sustainable Medical Tourism Outcome of the destination. The framework, further, will help to focus on patients' needs and expectations which are inevitable for designing and implementing sustainable medical tourism as in the proposed model (Figure 1).

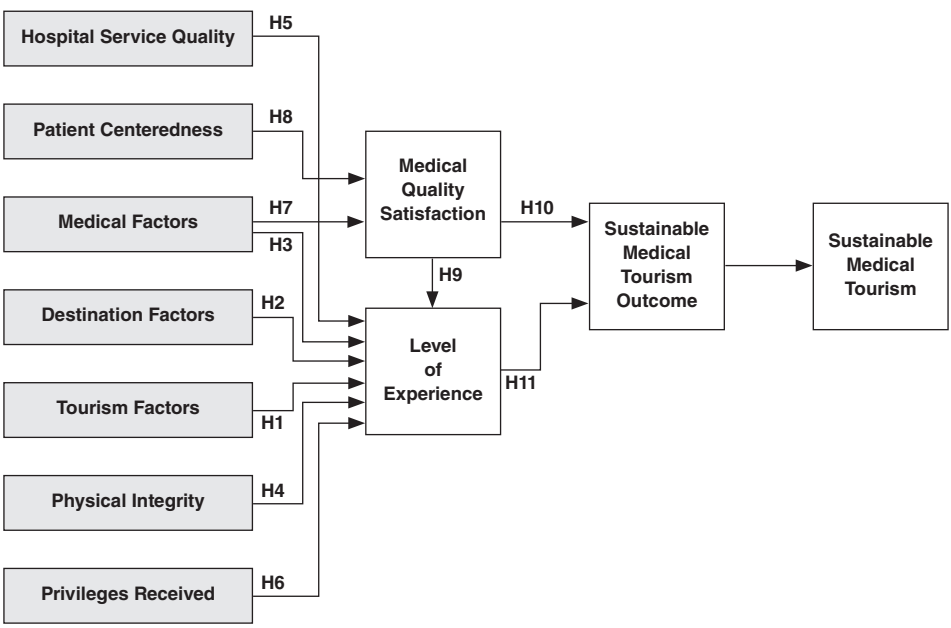

Figure 1 Proposed model

Sustainable tourism development can only be attained through sustainable tourism practices. The literature clearly indicates that sustainable practices lead to sustainability. The sustainable outcome can be measured through satisfaction and experience of tourists (Hugo, 1998). Delivering high-quality service is the key to a "sustainable competitive advantage" (Angelova & Zekiri, 2011, p. 232). Satisfaction is an overall effective response (Oliver, 1980). Sustainable Medical Tourism Outcome

reflects its sustainability. Medical tourists with higher satisfaction levels are likely to be loyal and thereby recommend and revisit the destination. These interconnected dimensions can be considered as indications of sustainable medical tourism.

Tourism Factors

A destination's appeal will be directly affected by the area's ability to provide a pleasant, positive experience for the visitor (Cormany, 2008). Medical tourists must feel good about visiting an area that has attractions and is accessible. Beautiful sites, culture, climate, relaxation alternatives of the region, etc. provide an appeal ("Taking a pulse", 2008). Noe and Uysal (as cited in Banyai, 2012) found that instrumental attributes, represented by those elements used by visitors to attain a certain desired outcome, and expressive attributes derived from engagement in experiences such as sightseeing, fishing or swimming, predict overall satisfaction. Research in the Alpine areas showed that touristic infrastructure is an important determinant in the decision-making process (Schalber & Peters, 2012). Beautiful natural environment and tourism attractions are 2 items included in the 18 cognitive images that will affect customer satisfaction (Bosque & Martin, 2008). In this study, this construct was measured using two nominal variables which are Variety of Tourism Attractions and Attractive Natural Environment.

H1: Level of Tourism Factors influences Level of Experience

Destination Factors

Services, particularly in related hospitals and destinations are critical in making the medical tourists at ease especially in faraway and different cultural settings. Provision of ethnic food and accommodation, basic infrastructural facilities such as good roads, air connectivity to home country and safety and security factors are often considered as primary facilitation factors (Memon et al., 2014). Several medical tourism hospitals incorporate hotel facilities within their complexes such as concierge support, land transport arrangements, expedited hotel-like check-in processes, simplified billing procedures, multi-cuisine restaurants, and own interpreters ("Taking a pulse", 2008). Medical tourists' perception of safety at the destination hugely affects their level of satisfaction. Incidences of crime, harassment, sickness or any act which the visitor perceives to be hostile or dangerous, can ruin a trip. Ensuring good public security is a major factor in promoting a healthy image for a destination (UNWTO, 2004). Taking into account the above facts, this study used five variables such as Infrastructure, Provision of Ethnic Food, Arrangements for Accomplice, Connectivity to Home Country and Safety and Security to measure Destination Factors on a 5-point scale (1- Very Low, 2- Low, 3- Moderate, 4 - High, 5- Very High).

H2: Level of Destination Factors influences Level of Experience

Medical Factors

When choosing a hospital, medical tourists give importance to quality care along with personal care. It would be expected that all of them will make quality health care fundamental to their destination choice (Cormany, 2008; Memon et al., 2014). The main factors they look for in quality care are the level of service quality and cost (Rad et al., 2010). According to Angelopoulou, Kangis and Babis (1998), patients' expectations are based on accurate diagnosis and treatment as well as all other services they receive throughout their stay in the hospital. This construct has four variables such as Quality care, Qualification of the Doctors and Staff, Cheaper Treatment Benefit and Waiting Time for Procedures and was measured in ordinal variables on a 5-point scale (1- Very Low, 2- Low, 3- Moderate, 4 - High, 5- Very High).

H3: Level of Medical Factors influences Level of Experience
H7: Level of Medical Factors influences Medical Quality Satisfaction

Physical Integrity

Physical integrity is a fundamental indicator of a destination and its suitability for tourists is linked to its success as a tourist attraction (UNWTO, 2004). Some travellers may avoid a destination that has a poor reputation for cleanliness. Reaction to filthiness is very subjective and is related to the tourists' place of origin. The perception of cleanliness may figure strongly in the decision on whether to return to a destination or recommend it to others (UNWTO, 2004). Furthermore, noise level may have a direct impact on medical tourists' opinion of the site (and of the whole destination) (UNWTO, 2004). Poor design and construction of roads will lead to substantial traffic problems and congestion which will result in wastage of resources and eventually, lead to dissatisfaction. Considering the above, the Physical Integrity construct was studied using three nominal variables which are Cleanliness and Hygiene, Noise Level and Traffic Congestion.

H4: Level of Physical Integrity Influences Level of Experience

Hospital Service Quality

It is important to measure the perceived service quality of hospitals from medical tourists as it has a direct relationship with satisfaction (Rad et al., 2010) which depends on many factors such as doctors' competence, accreditation, ethical concerns, cost, etc. The primary model used to assess patient satisfaction was SERVQUAL. The developers of SERVQUAL suggested that it can be adapted or supplemented to fit the required characteristics or specific research needs. Lin, Xirasagar and Laditka (2004) used SERVQUAL with related additional questions concerning future visits and demographic information which differed substantially from the original format. Reynoso and Moores (1995) argued for more generic SERVQUAL dimensions and

being flexible in adding other factors which are apt for the particular situation. In this research, the Hospital Service Quality construct was measured using 20 items modified from the original questionnaire developed by Parasuraman, Zeithaml and Berry (1985) based on a 5-point response scale, to suit the context of the study. The technical, functional and corporate image qualities (Cheng, Yang & Chiang, 2003) of hospitals and various indicators proposed by Pai and Chary (2012) and many other researchers (Darwazeh, 2011; Kang et al., 2014; Mosadeghrad, 2012) were included in this study, adapting the SERVQUAL model. Various dimensions of patient satisfaction have been identified, ranging from medical care to interpersonal communication. The five dimensions of the SERVQUAL model are:

1) Tangibles: Physical facilities, equipment and appearance of hospital staff (physical facilities such as construction, standard facilities, nursing rooms, laboratory services, etc that are appealing to patients)
2) Reliability: Ability to deliver accurate and dependable service
3) Responsiveness: Willingness to help patients and provide prompt service
4) Assurance: Knowledge and courtesy of hospital staff and their ability to inspire trust and confidence (including competence, courtesy, credibility and security).
5) Empathy: Caring and individualised attention that the firm provides to its patients (including access, communication, understanding the patient).

The above indicate some of the vital elements required for the destination and also as potential performance measures for progress towards planned goals. Trends generated through these indicators are reported as results.

H5: Level of perceived Hospital Service Quality influences the Level of Experience

Privileges Received

Aldaqal, Alghamdi, AlTurki, Eldeek and Kensarah (2012) stated that patient satisfaction is important to the health care industry as it is associated with direct financial benefits and loyalty of the service provider and provides an opportunity to identify areas of strength and weaknesses thus contributing to service quality improvement. Providing privileges is an effective way to increase patient retention levels and thereby, profits. It should be noted that getting a new patient is tougher than retaining a current patient. Giving privileges is a way of creating loyalty, and satisfied patients will become the best advocates of the destination. In addition, it saves marketing costs substantially as satisfied patients will recommend the destination to others much more efficiently than any promotional campaign. Privileges can be associated with hospitality, personal comforts, patient education, value-added products/service and a feeling of personal care. This construct was studied using a single nominal variable.

H6: Privileges received by medical tourists influences their Level of Experience

Patient Centeredness

Verlinde, De Laender, De Maesschalck, Deveugele, and Willems (2012) pointed out that patient centeredness was complex and may be influenced by a physician's communication style, patient's characteristics, demographic features, patient's communication, empowerment of patients, and trust. Patterson and Cicic (1995) argued that high customization and interpersonal skills are crucial. Cooper et al., (2012) stressed that knowledge-based service industries like medical tourism must meet the fundamentals of patient centeredness through rapport and patient satisfaction. When patients are comfortable with hospital employees, then, patients will be more inclined to communicate efficiently, and this will indirectly lead to patient compliance and speed up the recovery process (Yeoh, Othman & Ahmad, 2013). In this study, this construct included three nominal variables such as Answering the Questions of Medical Tourists, Communication of Diagnostic Information and Consultation Time.

H8: Level of Patient Centeredness influences Medical Quality Satisfaction

Sustainable Medical Tourism Outcome

Satisfaction level is one of the key aspects of tourism research because it is dominant in any travel destination and activity and often has a big effect on the sustainability of the destination or service (Banyai, 2012). The satisfaction factor is derived from a combination of many factors such as service quality, supporting infrastructure and legislative matters as well as influenced by many other determinants. "Each destination may have different features, and therefore, tourists satisfied with one destination may differ from those satisfied with other destinations" (Andriotis, Agiomirgianakis & Mihiotis, 2008, p.223). According to Bosque & Martin (2008), there are 18 cognitive images that will affect customer satisfaction in a tourist destination: (1) variety of fauna and flora (may differ based on destination type), (2) beautiful landscape, (3) beautiful natural park, (4) pleasant weather, (5) attractive beaches, (6) hospitable people, (7) opportunity for adventure, (8) peaceful place, (9) place to rest, (10) cultural attractions, (11) interesting cultural activities, (12) nice to learn about local custom, (13) rich and varied gastronomy, (14) easy accessibility, (15) shopping facilities, (16) quality accommodation, (17) good value for money, and (18) safe place.

Patient Satisfaction

There are many studies on the various dimensions of patient satisfaction in the international and Indian context (Banyai, 2012; Cheng et al., 2003; Delgoshaei, Ravaghi, & Abolhassani, 2012; Grewal, Das, & Kishore, 2012; Lin et al., 2004; Parasuraman et al., 1985; Powell, 2001; Kavitha, 2012; Saxena, 2009; Solayappan,

Jayakrishnan, & Velmani, 2011; Verlinde et al., 2012). Linder-Pelz (1982) defined patient satisfaction as "an individual's positive evaluation of distinct dimensions of health care" (p. 14). "Patient satisfaction is the cognitive assessment of service received by patients in comparison with the patients' subjective standard, from past experiences or ideas that have been communicated to the patients" (Yeoh et al., 2013, p. 2). Patient's health status and severity of illness, patient ratings on hospitals' technical competence and physicians' interpersonal skills, patient age, gender and education, etc. are all good predictors of patient satisfaction and patient recommendation of a hospital (Cheng et al., 2003). The relationship between health care providers and patients (i.e. interpersonal skill) has been found to be the greatest influential factor for patient satisfaction (Hall & Dornan and Cleary & McNeil, as cited in Cheng et al., 2003). Linder-Pelz (1982) identified 10 elements that can be used to determine patient satisfaction: 1. accessibility/convenience; 2. availability of resources; 3. continuity of care; 4. efficacy/outcomes of care; 5. finances; 6. humaneness; 7. information gathering; 8. information giving; 9. pleasantness of surroundings; 10. quality/competence. A well-designed patient satisfaction survey will incorporate these elements as they are related to the overall patient experience (Powell, 2001).

In line with previous studies, the Medical Quality Satisfaction construct was measured in a nominal scale using three variables, namely, Satisfaction with the Treatment Received, Recommendation of Hospital and Intention to Revisit the Hospital. This research used the definition of Sustainable Medical Tourism Outcome as higher levels of satisfaction and meaningful experience delivered to medical tourists by ensuring high quality care, tourism attractions and supporting services, which will eventually guarantee its long-term sustainability in the global market. Three nominal variables, Overall Satisfaction, Recommendation of Kerala MT and Intention to Revisit Kerala, were used to measure the Sustainable Medical Tourism Outcome construct.

Level of Experience

Ritchie and Hudson (2009) highlighted that it is important to explore the precise nature and different kinds of tourism experience. Panjakakornsak (2008) found that patient satisfaction reflects the level of experience. When people's expectations are met or exceeded, satisfaction is the result. An excellent patient and consumer experience is a must for sustaining any destination. As such for this research, the Level of Experience of medical tourists was measured using the ordinal scale at three levels (3=Better than Expected, 2= Met Expectations and 1= Worse than Expected).

H9: Medical Quality Satisfaction influences Level of Experience.
H10: Medical Quality Satisfaction enhances Sustainable Medical Tourism Outcome.
H11: Level of Experience enhances Sustainable Medical Tourism Outcome.

Measurement Items

Table 1. Measurement items

Constructs	Measurement Items (variables)	Researcher(s)
Medical Factors	Quality Care	Smith & Forgione, 2007; Heung et al., 2010; Ye et al., 2011; Kang et al., 2012.
	Cheaper Treatment	Jotikasthira, 2010; Ministry of Tourism, 2011; Kang et al., 2012; Pollard, 2012; Hasin et al., 2001; Cormany & Baloglu, 2011
	Qualification of doctors and staff	Smith & Forgione, 2007; Connell, 2006, Kang et. al.,2012; Heung et. al., 2010; Ye et. al., 2011.
	Waiting time-procedures	Heung et al., 2010; Ministry of Tourism, 2011; Grewal et al., 2012.
Hospital Service Quality		Cheng et al, 2003; Gronroos, 1994; Heung et al., 2010; Lam, 1997; Lunt & Carrera,2010; Mosadeghrad, 2012; Pai & Chary, 2012; Parasuraman et al., 1994;Saxena, 2009; Rad et al, 2010.
Destination Factors	Infrastructure	Kang et al., 2012; Pollard, 2012.
	Ethnic food	Ministry of Tourism, 2011; Pollard, 2012; Tomes & Ng,1995; Kim & Prideaux, 2005; Bosque & Martin, 2008.
	Arrangements – Accomplice	Cormany & Baloglu, 2011; Ministry of Tourism, 2011; Connell, 2006; Kang et. al.,2012.
	Connectivity	Ministry of Tourism, 2011; Pollard, 2012.
	Safety and Security	Bosque & Martin, 2008; Grewal, 2012; Ministry of Tourism, 2011; Jotikasthira, 2010; Sirakaya, Jamal & Choi, 1997; Pollard, 2012.
Privileges Received		Aldaqal, et al.,2012.
Tourism Factors	Variety of Tourist Attractions	Connell, 2006; Kim & Prideaux, 2005; Dwyer & Kim, 2003; Bosque & Martin, 2008;Kang et al.,2012.
	Attractive natural Environment	Bosque & Martin, 2008; Cormany & Baloglu, 2011; Pollard, 2012; Lunt et. al., 2010.

Table 1 (con't)

Physical Integrity	Traffic Congestion	Bosque & Martin, 2008; Dwyer & Kim, 2003; UNWTO, 2004.
	Noise Level	Jotikasthira, 2010; Tomes & Ng, 1995.
	Hygiene/ cleanliness	Kang et al., 2012, Ministry of Tourism, 2011; Hasin et al. 2001; Tomes & Ng, 1995.
Patient Centeredness	Communication of Diagnostic information	Patterson & Cicic, 1995; Verlinde et al., 2012; Cooper et al., 2012; Grewal, 2012; Tomes & Ng,1995.
	Answering questions	Patterson & Cicic, 1995; Verlinde et al., 2012; Grewal, 2012.
	Consultation Time	Grewal, 2012; Kaspar, 2015; Pollard, 2012; Yeoh et al; 2013; Tomes & Ng,1995.
Medical Quality Satisfaction	Overall Medical Satisfaction	Ferguson, Paulin, & Bergeron, 2010, Grewal, 2012; UNWTO, 2004; Lertwannawit & Gulid, 2011.
	Recommendation of the Hospital	Angelova & Zekiri, 2011; Banyai, 2012; Oppermann, 1998; Oppermann, 2000; UNWTO, 2004.
	Intention to Revisit Hospital	Angelova & Zekiri, 2011; UNWTO, 2004
Level of Experience		Angelova & Zekiri, 2011; Ziemba, 2015; UNWTO, 2004; Panjakakornsak, 2008; Todd, 2015; Lunt et al., 2010.
Sustainable Medical Tourism Outcome	Overall Satisfaction	Ferguson et al., 2010; Grewal, 2012; UNWTO, 2004
	Intention to Revisit Kerala	Angelova & Zekiri, 2011; Banyai, 2012; UNWTO, 2004
	Recommendation of Kerala MT	Angelova & Zekiri, 2011; Oppermann, 1998; Oppermann, 2000; UNWTO, 2004

Results and Discussion

A test on structural relationships was conducted using AMOS to assess the data-model fit and the hypothesised relationships between theoretical constructs. All measures of fit for the structural model indicate sound fit statistics. The overall test, Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Index (TLI) were used to analyse the model fit.

Table 2. Measurement Model Fit Indices

Fit Indices	Value
Chi Square Statistics	1008.717
Degree of Freedom	361
CMIN/DF	2.794
P. Value	Significant (P < .001)
RMSEA	0.068
CFI	0.938
TLI	0.921

Note: $p < 0.01$

Table 2 shows that the proposed measurement model is consistent with the data. Here, it has a Chi-square value of 1008.71, with 361 degrees of freedom and p-value of less than 0.001, which is significant. CMIN/DF is 2.79, which is within the necessary limits of 2 to 5. The lower value supports this model very well. The value of RMSEA and the absolute fit index is 0.068. This value is within the guideline of less than 0.08 for a model of this complexity and size. Thus, the RMSEA value supports this model very well. The CFI value of 0.938 is also within the required limit of 0.90. The TLI value is 0.921, which is also within the recommended guidelines of 0.90. Hence, the Confirmatory Factor Analysis (CFA) results suggest that the hypothesised model provides acceptable fit for the data. Based on the result of the path analysis, we conclude that the hypothesised model fits reasonably well in the collected data and the hypothesis about direct and indirect results is significantly supported (p <001). The measures provide a first indication of how well the proposed theory fits the data. The empirical findings, therefore, support that the constructs such as Medical Factors, Tourism Factors, Destination Factors, Patient Centeredness, Physical Integrity, Hospital Service Quality and Privileges Received are valid in the context of Sustainable Medical Tourism Outcome. The results suggest that the model is viable.

As presented in Figure 2, Medical Factors, Patient Centeredness, Destination Factors, Tourism Factors, Physical Integrity, Hospital Service Quality and Medical Quality Satisfaction have a direct effect on Level of Experience. Medical Factors and Patient-Centeredness have an immediate impact on Medical Quality Satisfaction. Mediating constructs, such as Level of Experience and Medical Quality Satisfaction, have an immediate effect on Sustainable Medical Tourism Outcome.

Consistent with previous findings (Mosadeghrad, 2014; Smith & Forgione, 2007), this study suggest that Medical Factors influence Level of Experience. Previous studies also indicate that service quality has a significant positive influence on patient trust

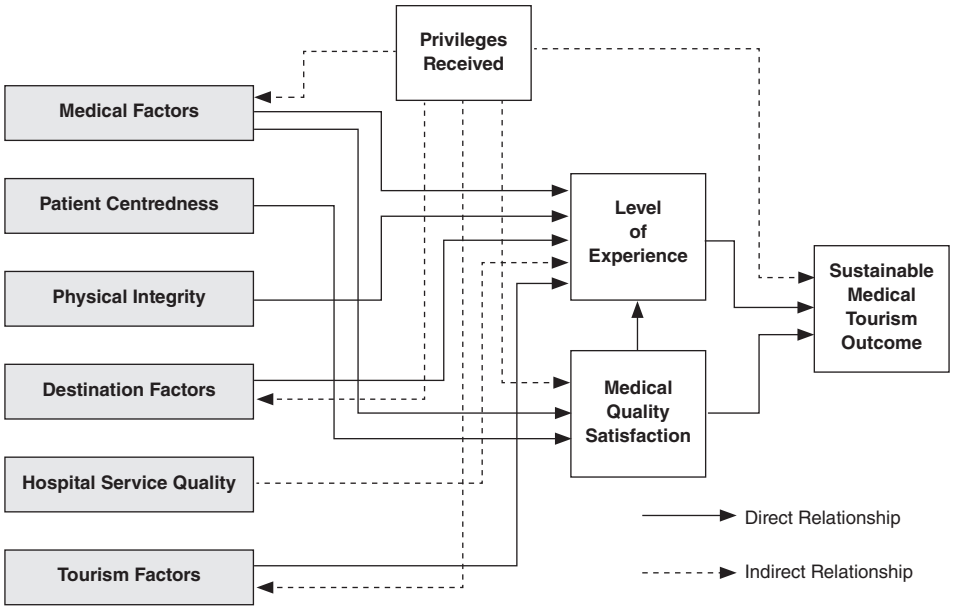

Figure 2. Sustainable Medical Tourism Model

(Chang, Chen & Lan, 2013) and satisfaction with the provider (Kassim & Abdullah, 2008). It is important to pay more attention to health care service quality which can create true, competitive advantages over regional competitors in order to develop this industry (Rad et al., 2010). Patient Centeredness also influences Medical Quality Satisfaction which concurs with previous empirical study findings (Mosadeghrad, 2014; Yeoh et al., 2013). Patients lack the necessary expertise and skills to evaluate whether the delivered medical service was performed correctly or was even necessary (Newcomer, 1997) and hence, proper communication and adequate time allocation for clearing any doubt is inevitable for quality care. The study indicates that Medical Quality Satisfaction influences Level of Experience and this is consistent with Panjakajornsak's findings (2008). Studies have shown that travel experiences influence destination image formation and revisit intention (Prathap, 2014). The current study also proves that Level of Experience enhances Sustainable Medical Tourism Outcome. Satisfaction denotes the intent to purchase again and the high profitability that the destination or service will be recommended to others (Choi & Chu, 2001; Kozak, 2001). Although the results show that Privileges Received has no direct effect on Level of Experience, the indirect effect is noticeable. As presented in Figure 2, Privileges Received correlates with Tourism Factors, Medical Factors, and Destination Factors, Medical Quality Satisfaction and Sustainable Medical Tourism Outcomes.

The model that evolved from this study looks slightly complex as it has many direct and indirect relationships. This is because medical tourism involves both detailed and

dynamic complexity as it comprises of several elements, including travel and related operations, health care and related operations, associations and government bodies, and more importantly, medical tourists. In being consistent with the system theories (Beeton, Horneman & Hardy, 1997; Leiper, 1981, 1990; Liu, 1994; Mill & Morrison, 1985), the medical tourism industry requires a systemic approach to destination development and management. Also, medical tourism can be directly affected by changes in the internal and external environments such as human, sociocultural, economic, political, legal, technological and physical aspects (Leiper, 1990). The medical tourism system is, therefore, a system within other systems, which affect its activities, and in turn, are affected by its presence (Liu, 1994). A medical tourism destination is the result of the amalgamation of all its parts, and therefore, its development necessitates all these elements to operate in harmony, providing a value-added integrated system (Liu, 1994). Hence, tourism and other destination aspects should also be considered vital in any destination where medical tourists are accompanied by others who are mere tourists. In concurring with the arguments of Katz & Kahn (1978), medical tourism is a social system, based on humans, with their attitudes, perceptions, beliefs, motivations, habits, and expectations. These are particularly pertinent as it involves patient preferences and a range of stakeholders, from tourism operators to regulators and the host community (Macchiavelli, 2001; Murphy, 1983).

The developed model only partially accepts the framework of Hart & Milstein (2003) as their structure contains only the overarching dimensions of efficiency and accountability, reputation, innovation, and growth aspects while pays no attention to fundamental components such as destination factors and management efforts. Further, the study also confirms the model "significant seven" developed by Pollard (2012) as it found that geographical and cultural proximity, cost, infrastructure, and destination features (climate, environment, and tourism attractions, etc.) influence choices of medical tourism destinations.

Implications of the Study

This research is a pioneering and novel diagnostic tool which identifies many issues, concerns and challenges of medical tourism. The outcome of this study will assist stakeholders of the industry including Kerala's medical tourism facilitators, health care providers and government entities in promoting the state as an international medical tourism destination. It will also help the relevant authorities in their policy making. In addition, it will also help to analyse the productivity and efficiency of managerial actions to make medical tourism a sustainable activity for enhanced functional efficiency, destination competitiveness and quality improvement. By doing so, the medical tourism product can achieve high standards, and this destination will have an extended sustainable development choice. This model can be applied to any other destination by adjusting the relevant variables.

Conclusion

The overarching framework implies that Kerala medical tourism is on a sustainable path. However, the providers are obliged to adopt a professional and hospitable approach which calls for the effectiveness and efficacy of health service outcomes while considering patients' concerns and interests (Ettinger, 1998). The diamond theory propounded by Porter (1990) argues that four national attributes, that is, factor conditions, demand conditions, related and supporting industries and sound strategies determine the competitive advantage of a nation. The role of the government in medical tourism, as in "Porters Diamond Model" is to develop the "diamond," acting as "catalyst and challenge" to encourage – or even push – hospitals to raise their objectives and move to higher levels of performance. An integrated approach from both the tourism and medical sectors is essential for the sustainable development of this industry. Sustainable management practices that maximise benefits and minimise threats while simultaneously permitting growth should be encouraged. It will enable the industry to remain competitive in the global market with high standards of quality care, medical regulations, interorganizational interaction between stakeholders, leisure experience, etc.

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