

A Study of Physical Environment and Medical Service Quality on Customer Satisfaction of Domestic Medical Tourism for Foreigners

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Abstract

Since the amendment of the Medical Law in 2009, the number of foreign patients in major university hospitals has increased significantly. This is a result of the efforts of university hospitals to attract foreign patients with superior technology and price competitiveness as part of the policy of attracting foreign patients and allowing them to mediate.

This study examined the effect of physical environment and medical service quality on customer satisfaction in foreign medical tourism. The quality of medical service also has a positive effect on customer satisfaction. As a result of analysis, three factors of physical environment were social factors, environmental factors, and design factors. The influences on the customer satisfaction were in the order of peripheral factors, design factors, and social factors. The dimensions of service quality's influence on customer satisfaction were correspondence, reliability, tangibility, assurance, empathy.

These results will provide a broader understanding of customer satisfaction in terms of physical environment and service quality. From a customer's perspective, the customer's social factors and responsiveness to the employees could be found to be closely related to the formation of the customer's satisfaction.

Keywords: *Medical Tourism, Physical Environment, Medical Service Quality, Customer Satisfaction*

1. Introduction

As personal income per capita has recently increased and life expectancy has increased, interest in health has been growing higher than ever before. This is a phenomenon that appears evenly in domestic as well as foreign countries. Due to the changes in the medical environment and the increased interest of customers, there is increasing competition for medical services. In addition to enhancing the quality of care, services such as night reservation service for the employees are being developed day by day, with the reservation system in which the client carries out the treatment or surgery at a convenient¹time. These medical services are expanding to medical activities not only for Koreans but also for foreigners. The Seoul Medical Tourism Help Desk was opened in 2016 to provide convenience for foreign patients. Major services include providing information

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on Seoul medical institutions to foreign patients visiting Korea for medical tourism, providing general tourist information, airport pick-up service, and interpretation service. Medical tourism attracts attention as a future growth engine industry, and medical tourism is being cultivated with much interest in each country.

Assessment of health care quality is influenced by various other service factors in addition to direct care. Customers are influenced by the physical environment of the hospital as well as the satisfaction assessment and ongoing visitation decisions, as influenced by the physical environment of the general service. Since medical tourism service quality can be regarded as a characteristic of medical service and tourism service, customers can perceive perceived quality and form attitude. Therefore, it is necessary to provide advance information of medical tourism and smooth communication between hospital, doctor, employee and agency. It can be said that this is a precondition that affects satisfaction. The research on medical tourism-related research shows that most of the medical tourism preference properties [1], medical tourism marketing [2], studies are mainly composed, and the effect of physical environment and service quality on customer satisfaction is not yet studied. It is true. In particular, there is no survey of satisfaction with foreigners.

The purpose of this study is to examine the relationship between physical environment factors and customer satisfaction, and to examine the effects of physical environment and service quality on customer satisfaction in university hospitals. These findings may provide implications for a strategy to achieve quality of care and customer satisfaction in an increasingly diversified healthcare environment and, in turn, securing repeat inquiries.

2. Literature review

2.1. Concept of medical tourism

Korea Tourism Organization defines medical tourism as a new type of tourism that combines medical services, leisure activities, and cultural activities. Medical tourism is a comprehensive and broad concept that includes visits to other places and traveling, which is a combination of medical, wellness and health care.

In this paper [3], Medical tourism is defined as traveling to destinations for treatment, such as surgery or other professional treatment. They said that one of the purposes of travel activities from home is to promote their health condition in the broad sense of solving psychological and physical stress in medical tourism. Considering these facts, medical tourism is a combination of tourism with medical activities at the present time. It is not only for patients to participate in medical treatment, recreation and tourism activities, but also to travel for medical treatment in countries with medical technology and price competitiveness.

2.2. Hospital physical environment

Baker et al. (1988) classified physical environment as peripheral, design, and social factors [4]. Bitner (1992) defines the physical environment of a service as an object and physical factor that can be controlled by a company, expressing it as a service scape [5]. Until recently, it has been classified as physical service quality or tangibility through research on the service quality of hospitals. However, there have not been many studies on the factors constituting the physical environment as an independent concept.

2.3. Medical service quality

Georgette (1997) distinguishes the quality of health care services between customers and service providers. From the customer's point of view, it is based on the part of the customer's self-awareness. For the service provider, the accuracy of diagnosis, which includes many technical parts, and the skill of medical technology are explained. Donabedian (1988) defined three dimensions of health care quality. First, in terms of service providers, it was said that medical providers' ability to provide medical technology. Second, the patient's feelings about the medical service provided by the service user were judged according to the patient's request or expectation. Third, the definition of medical service quality is defined as providing and administering medical services to benefit many people [6]. Swan (1985) tested the quality of patients' perceived health care services, their satisfaction, and their relative intentions. The results of this study suggest that the quality of medical services perceived by the patients affects their satisfaction and their satisfaction leads to reuse. In particular, the quality of medical services perceived by patients has been shown to directly or indirectly affect re-intention [7].

2.4. Customer satisfaction

Oliver (1993) argues that customer satisfaction is influenced by the characteristics of providers and healthcare services, and that customers have a unique attitude toward each of these characteristics. When the concept of customer satisfaction is dimensioned, mutual etiquette, technical quality, / Convenience, economics, efficacy / outcome, sustainability, usability, and physical environment[8].

3. Research design

The purpose of this study is to investigate whether the physical environment influences on the quality of service and customer satisfaction, and whether the quality of service affects customer satisfaction. The research model is as follows.

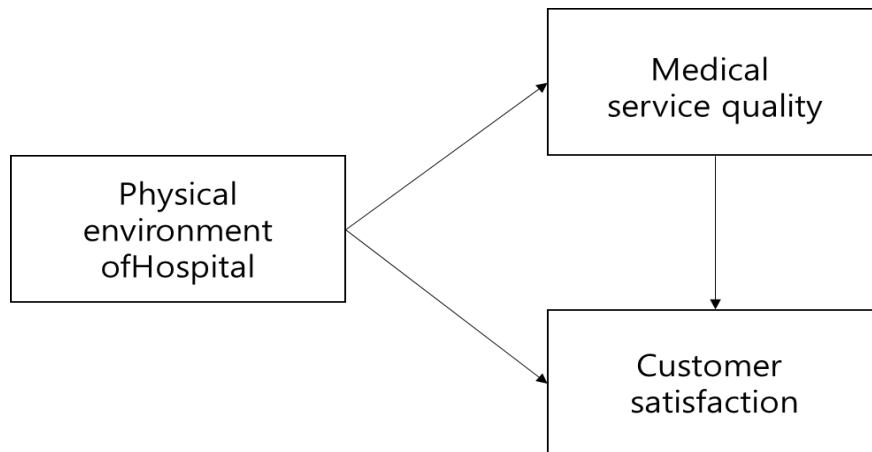


Figure 1. Research model

3.1. Relationship between physical environment and perceived service quality and customer satisfaction in university hospital

The physical environment has been classified into various factors such as music, color, dizziness and cleanliness, lighting, congestion, and smell in many previous studies [9]. Baker et al. (1994) classified the physical environment as an ambient factor, a design factor, and a social factor [10]. In this paper [11], it was confirmed that the physical environment, which was selected as a parameter of the clinical room environment, the cleanliness of the hospital, the indoor temperature, and the design and decoration, positively affected the quality of medical service. This proves that customer loyalty is enhanced by improving customer satisfaction. The importance of marketing strategy for physical environment that can give positive emotional response to customers by providing unique interior and interesting attractions inside and outside the hospital.

In this study, hypotheses 1 and 2 were set up based on the above-mentioned previous research as follows

<Hypothesis 1> The physical environment of the hospital will have a positive effect on the customer's perceived service quality.

<Hypothesis 2> The physical environment of hospitals will have a positive effect on customer satisfaction.

3.2. Relationship between Perceived Service Quality and Customer Satisfaction

Taylor and Baker (1994) argue that excellent service quality is one of the various strategies to enhance customer satisfaction in an empirical study of service quality and customer satisfaction. The higher the service quality, the higher the customer satisfaction and the higher the service quality is the leading factor of customer satisfaction [12]

<Hypothesis 3> Perceived service quality has a positive (+) effect on customer satisfaction.

4. Results

4.1. Analysis method and characteristics of study subjects

The subjects of this survey were those who visited the university hospitals in Seoul for two months from October to November, 2016 A questionnaire survey was conducted on 162 patients using internal medicine, pediatrics, orthopedics, urology, ophthalmology and plastic surgery. And 155 copies were used for the analysis except for 7 fraudulent questionnaires. In addition to the items that measure each concept, we also added questions for demographic analysis such as occupation, income, sex, frequency and experience of hospital visits.

Table 1. Demographic characteristics of the sample

	division	frequency	percent(%)	Remarks
gender	male	23	14.8	missing:81
	female	50	32.3	
age	Under 20	4	2.6	missing: 80
	20 ~ Under 30	48	31.0	
	30 ~ Under 40	9	5.8	
	40 ~ under 50	10	6.4	
	50 or more	4	2.6	
Education	high school graduation	12	7.7	missing: 81
	College graduation	59	38.1	

	More than graduate school student	2	13	
	Etc	1	.6	
job	student	48	31.0	missing: 80
	salary	6	39	
	Official	3	19	
	self-employment	8	52	
	Profession	2	13	
	housewife	7	45	
	Etc	1	.6	
hospital visit Number of times	Once a week	3	19	missing: 84
	Once in two weeks	4	26	
	Once a month	9	58	
	once in two months	33	21.3	
	Once in two months or more	22	14.2	

4.2. Validity and Reliability of Metrics

Factor analysis confirms the validity of each variable. The factor loadings of the concepts derived from literature studies were all above a certain standard (0.4). Principal component analysis (PC) was used for factor analysis and Varimax method was used for factor rotation. In this study, internal consistency was considered to evaluate reliability. The results of the reliability analysis showed that the Cronbach alpha of the variables were all above .700 and the reliability was good.

4.3. Hypothesis Verification

First, the effect of the physical environment on service quality shows that all of the surrounding factors, design factors, and social factors are influential at significance level of .01. Social factors have the greatest influence on the physical environment, followed by peripheral factors, and design factors have the smallest influence. This shows that, when considering the special environment of the hospital, it recognizes the importance of more important factors such as medical staff matters. Next, it is shown that the factors directly affecting the mood and condition of the patient or caregiver such as temperature or noise in the hospital are important for the evaluation of the service quality of the hospital. Design related factors showed the least influence.

The results of the second hypothesis on the relationship between the physical environment of hospitals and customer satisfaction are as follows. First, the three factors that make up the physical environment of the hospital are also affecting the satisfaction level of .01. Second, physical environment factors that have the biggest influence on customer satisfaction are peripheral factors. This may be due to noise or temperature, which is directly influenced by patients or caregivers in the field. Secondly, design factors and social factors are the least influential factors.

The results of the third hypothesis to analyze the relationship between hospital service quality and customer satisfaction are as follows. First, all factors related to service quality were found to have an impact on customer satisfaction at the significance level of .01. Second, the magnitude of influence of each factor of service quality on customer satisfaction was correspondence, reliability, tangibility, assurance, empathy order. It is very important to design the various procedures related to the provision of medical services so that patients and caregivers feel convenient when using hospitals in providing

medical services to foreign patients and caregivers in hospitals. The next importantly evaluated reliability is the reflection of the characteristics of health care services that directly affect the patient's life and health. Considering the fact that the evaluation of the most important type of sickness hospital facilities is made next, the precise diagnosis and interpretation is considered important for medical services. The influence of empathy was the least because it is a part of the health service that is somewhat distant from the essential part.

5. Conclusion and discussion

Hospital physical environment had a significant impact on hospital service quality at a significant level of .01. The size of influence was social factors, peripheral factors, and design factors. These physical influences also have a significant impact on customer satisfaction at .01. The size of influence is in the order of peripheral factors, design factors, and social factors. Each factor of hospital service quality for customer satisfaction also exerts all the influence at a meaningful level of .01. The magnitude of influence is correspondence, reliability, tangibility, assurance, empathy. The implications of this study are as follows.

The results of the analysis of the relationship between the physical environment and the service quality of the hospital suggest the following points. Patients and caregivers are more aware of the importance of more critical factors, such as medical staff, when evaluating hospitals' quality of service considering the special environment of hospitals. Therefore, in order to raise the quality of service quality of hospitals, the qualities and attitudes of doctors and employees who interact with patients and caregivers should be higher than any other factors. This means that communication with patients and caregivers should be a premise. Next, temperature and noise in the hospital are important factors because they are factors that directly affect the mood or condition of the patient or caregiver. Hospital executives should carefully check to what extent the patient or caregiver feels the optimum temperature, what level of noise they will not feel uncomfortable, and what measures can be taken to minimize noise.

In the analysis of the relationship between the physical environment of the hospital and the customer satisfaction, the peripheral factors are suggested as the most important because it is the factor that the patient or caregivers directly experience the noise and the temperature.

According to the results of the analysis of the relationship between hospital medical service quality and customer satisfaction, correspondence was the most important. This suggests that it is very important to design the various procedures related to the provision of medical services so that patients and caregivers feel comfortable and convenient when communicating with the patients when providing medical services to patients and caregivers in hospitals. The next importantly evaluated reliability is the reflection of the characteristics of health care services that directly affect the patient's life and health. Considering that the third most important type of tangibility is assessed by judging whether or not the hospital facilities are up-to-date, accurate diagnosis and interpretation is important for medical services. Therefore, in order to improve customer satisfaction, patients or caregivers should pay more attention to designing a process that can make them feel treated while receiving care from excellent medical staff and staff while using the hospital.

The next priority should be to consider the introduction of modern facilities and facilities. However, it should be noted that the interpretation of these results may be a

result of the fact that there is not a large difference between facilities and facilities in recent years. In other words, if the facilities and facilities of all hospitals were satisfactory from the viewpoint of the patient or the caregiver, the importance of the facilities and facilities may be relatively recognized. Therefore, a conservative approach is needed to interpret the results of the research. Empathy was the least influential factor in customer satisfaction, which is the result of cultural differences felt by foreigners. Because the consideration and kindness of the staff may be interpreted differently by the other according to the language difference or cultural heterogeneity. In order to overcome this, it is necessary not only English education for communication but also continuous education about understanding culture and etiquette of each country.

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