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Ranking the Effective Factors in Attracting Health Tourists in Tehran: Application of Multi-criteria decision-making model

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ABSTRACT

Health tourism is rapidly emerging as a symbol of international trade in health care. The present study was aimed to identify and prioritize the effective factors in attracting health tourists in Tehran province by multi-criteria decision-making model. The present study is a descriptive research which was carried out in a cross-sectional method in 2016 in two stages. In the first stage, the factors affecting the attraction of health tourism were identified with reviewing the studies. And in the second stage, the identified effective factors were ranked, which was carried out using the Analytic Hierarchy Process. In order to collect the required data, a paired comparison questionnaire was employed. The reliability of questionnaire was confirmed according to the inconsistency rate which was 0.02. Expert Choice 11.0 was employed to analyze and weight the factors. After the factors were weighted, they were prioritized based on their assigned weights. The results of the present study showed that all of the participants believed that quality with a weight of 0.223, patient-centered areas with a weight of 0.106, and appropriate time with a weight of 0.100 were ranked first to third. According to the results of the present study, it can be concluded that quality of the delivered services is the most important criteria in absorbing health tourists in the province and even in the country.

Key words: Prioritizing, Health tourism, Multi-criteria decision-making, AHP, Iran.

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1. INTRODUCTION

Tourism is one of the most dynamic and the fastest developing industry in the world. United Nations has recognized this industry as one of the key tools of economic development, employment, and a source to gain higher income (1). In recent decades, health tourism has had an amazing effect on economic progress, job creation, and prevention of currency leakage (2). Health tourism has been suggested as an opportunity and has developed rapidly, and presently it has been industrialized in which people travel long distances in order to obtain medical, dentistry, and surgical services during their holiday (3). There are numerous aims for health tourism and why people do it: Some do not have access to medical services in their country, some other cannot wait for medical services in their national system, some medical services are not available in all countries, and some choose healing in foreign countries (4). Low quality of health services in the origin country is one of the main causes for traveling to other countries in order to receive healthcare services (5). Studies showed that persons travel to receive four types of healthcare services: brilliant health care, inexpensive health care, quality health care, and essential health care (6). That the delivered services are provided by impressive medical centers gives a respectable feeling to the international patients (7). Palvia said that the four aspects of costs, accreditation, quality of care, and medical education are effective in choosing the international medical center by the patient (8). In certain studies, accreditation has been offered as the assurance element for the quality of healthcare services (9). The results of the study carried out by Sharifabadi indicated that the most important factors in health tourism development model include hospital personnel's being up-to-date and the relevance of the doctors' specialty with their duties, which

should paid close attention in the first place (10). Altin et al (2010) studied the demand factors and decision dimensions of health tourism (11). Researchers have proposed a model for the facilitating factors at a macro level, tendencies before decision making, and the role of different organizations involved with the experience of tourism according to the beneficiaries who affect the travel decision. In her study, Akbarshahi (2015) concluded that the most important factor in attracting health tourists in Qazvin was appropriate intersectoral relationship among governmental organizations at a provincial level (12). Moreover, in their study, Delgoshaei et al. (2012) introduced quality as the most significant factor (from the perspective of both the service providers and the health tourists) in attracting health tourists in Tehran (13). According to what mentioned above and based on the fact that there are about 940 active hospitals in Iran (14), some of which deliver very high quality services at provincial and international levels, the present study was carried out in order to identify and prioritize the effective factors in attracting health tourists in Tehran province by multi-criteria decision-making model.

2. MATERIALS AND METHODS

The present study is a descriptive research which was carried out in a cross-sectional method in 2016 in two stages. In the first stage, the factors affecting the attraction of health tourism were identified. And in the second stage, the identified effective factors were ranked, which was carried out using the Analytic Hierarchy Process (AHP). It consisted of reviewing the studies and holding a meeting for the experts during which the researcher searched the domestic and foreign databases and tried to extract evidence based on the search comprehensive approach and identified effective factors in attracting health tourism in Iran and the world. Thirteen studies which had focused on the theoretical or empirical factors related to absorption of foreign tourists, including both primary and secondary studies (in Persian and English) conducted and published over 1998-2015, were included in the study. Afterwards, by a purposeful sampling method, the perspective of the experts and the key informants was utilized in order to obtain more effective and important factors in absorbing health tourists in Tehran province. In so doing, 5 most active experts of health tourism who were residing Tehran province and were quite familiar with the mentioned issues both theoretically and practically were chosen in the expert panels. The study inclusion criteria included holding at least master's degree in relevant areas, having a minimum of 4 years of experience in the field of tourism, and finally being interested in participate in the study. During that meeting, by announcing their comments and reaching a common view and examining effective factors in attraction of health tourists extracted in reviewing stage, the experts identified the factors affecting the absorption of health tourists according to the characteristics of Tehran province from among the proposed factors. Finally and following the consensus of the panel members, 12 out of a list of 25 factors extracted in the stage of reviewing the studies were identified to be significant in absorbing health tourists in Tehran province. Those 12 factors were selected for weighting. The results of this stage led to designing a paired comparison questionnaire in the second stage. In the second stage, multi-criteria decision-making approach was employed using the Analytic Hierarchy Process (AHP). The specified criteria (effective factors) were weighted through the Analytic Hierarchy Process which is one of the methods of multi-criteria decision-making approach. The study environment in this stage included universities of Medical sciences in Tehran, Governor General of Tehran Province, National Tourism Organization, and private and public hospitals affiliated with University of Medical Sciences. In this stage, purposeful sampling was employed. The study inclusions included experts with a minimum of 3-year experience in the field of health tourism, individual interest in participating in the study, and also factors like access and informed cooperation. In this stage, 35 questionnaires were distributed among the field experts and specialists, and in the end 30 questionnaires were returned to the researcher and were analyzed. In order to collect the required data, a paired comparison questionnaire was employed. The content of the questionnaire consisted of factors affecting the absorption of health tourists in Tehran province. The face validity if the questionnaire was confirmed by the experts and professionals of health tourism using the Analytic Hierarchy Process. Its reliability was confirmed according to the inconsistency rate which was 0.02 in this questionnaire. Based on the result of the comparisons which can include quite more important, much more important, more important, slightly more important, or the same, numbers 9, 7, 5, 3, and 1 were assigned. Expert Choice 11.0 was employed to analyze and weight the factors. After the factors were weighted, they were prioritized based on their assigned weights.

3. RESULTS AND DISCUSSION

The mean age and work experience of the participants in the Analytic Hierarchy Process stage were 42.48±7.04 and 17.33±8.23 years, respectively. Out of the 30 participants of the study, 18 (60%) were men. Seven participants held a PhD, 19 a professional doctorate's and master's degrees, and 4 bachelor's degree. The participants' field of study was determined in this stage; 17 had studied different branches management, 4 medicine, 6 nursing, and 3 health policymaking (Table 1).

Table 1. The respondents' demographic information

Item		Frequency	Parentage (%)
Gender	Male	18	60
	Female	12	40
Education	License	4	13.3
	M.Sc & GP	19	63.4
	Ph.D	7	23.3
Major	Management (4 field)	17	56.67
	Health Policy	3	10
	Nursing	6	20
	physician	4	13.33

The results of the present study showed that all of the participants believed that quality with a weight of 0.223, patient-centered areas with a weight of 0.106, and appropriate time with a weight of 0.100 were ranked first to third (Table 2). Moreover, inconsistency rate for this group of factors was 0.02, which is below 0.1 and shows that there was good consistence among the participants' answers in paired comparisons (Diagram 1).

Table 2. Ranking the effective factors in absorbing health tourists in Tehran province according to the experts under investigation

Important factors in absorbing health tourists	Tourism Organization	Faculty members	Hospital teams	Ministry of Health	Total	Rank
Quality	0.181	0.186	0.256	0.105	0.223	1
Low cost of services	0.029	0.124	0.088	0.089	0.076	6
Appropriate time (waiting time)	0.071	0.11	0.098	0.136	0.1	3
Recreational areas	0.025	0.044	0.033	0.154	0.027	11
The specialist's reputation	0.09	0.076	0.1	0.045	0.097	4
Accommodations for companions	0.079	0.043	0.055	0.125	0.06	8
Basic infrastructures	0.032	0.066	0.038	0.042	0.041	10
Availability of hospitals with international accreditation	0.103	0.118	0.065	0.114	0.077	5
Appropriate communication infrastructures	0.107	0.061	0.042	0.047	0.054	9
Tangibles	0.08	0.043	0.079	0.097	0.077	5
Patient-centered areas	0.102	0.073	0.104	0.021	0.106	2
Liability insurance coverage	0.1	0.057	0.042	0.024	0.062	7
Inconsistency rate	---	---	---	---	0.02	---

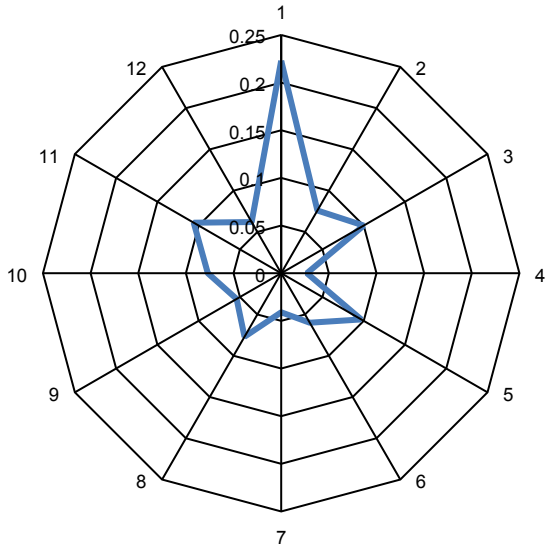

Diagram 1. Ranking the effective factors in absorbing health tourists in Tehran province according to the experts under investigation

Table 3 presents the ranking of the important factors in tourism according to the 4 expert groups participating in the study along with the total result of weighting the factors. As can be observed, quality factor was totally ranked first in most groups. Availability of recreational areas, basic infrastructures, and appropriate communication infrastructures were placed in final ranks.

Table 3. Comparing the rank of effective factors in absorbing health tourists in Tehran province according to all experts according to their organizational affiliation

Important factors in absorbing health tourists	Rank				
	Tourism Organization	Faculty members	Hospital teams	Ministry of Health	Total
Quality	1	1	1	5	1
Low cost of services	11	2	5	7	6
Appropriate time (waiting time)	9	4	4	2	3
Recreational areas	12	10	11	1	11
The specialist's reputation	6	5	3	9	4
Accommodations for companions	8	11	8	3	8
Basic infrastructures	10	7	10	10	10
Availability of hospitals with international accreditation	3	3	7	4	5
Appropriate communication infrastructures	2	8	9	8	9
Tangibles	7	11	6	6	5
Patient-centered areas	4	6	2	12	2
Liability insurance coverage	5	9	9	11	7

According to the experts, the most important identified factor in the present study, which had the highest weight, was the quality of the services. In a study carried out in Qazvin by Akbarshahi (2015), the most important factor in absorbing health tourists in Qazvin was reported as the intersectoral relationship among governmental agencies at the provincial level, which is not in line with the results of the present study (12). In their study, Delgoshaeei et al (2012) introduced the factor of quality as the most significant factor (from the perspective of both service providers and health tourists) in absorbing health tourists in Tehran, which is in agreement with the findings of the present study (13). Research indicates that health patients are highly worried about the quality of the delivered services in different countries and are looking for services whose quality and safety are internationally guaranteed. As a result and in order to fight this worry, international accreditation agencies provide assurance and accreditation processes of quality and safety in global health services (15). Moreover, quality of services is one of the necessities of being competitive in health tourism market just like other free markets. There is no doubt that such tendency toward competitiveness encourages the medical centers to obtain international accreditation (16). The participants referred to patient-centeredness in delivering services in different areas (including access to treatment, patient and family right, taking care of the patients, prescription management, and educating patients and families) as another factor which was ranked as the second most important factor in attracting health tourists. International institutions also considered this factor as an important criterion in evaluating hospitals in admitting health tourists (17, 18). In the study conducted by Akbarshahi (2015), the second most important factor in attracting health tourists was introduced as low cost of the services (12) which was ranked as the sixth most important factor in the present study. The second factor in the study of Delgoshaeei et al (2012) was availability of hospitals with international accreditation such as JCI in the view of the service providers, and clarity in pricing plans in the health tourists' view (13). Studies have clarified this point that continuation of treating the patients is one of the priorities highlighted by health tourists (19). Through JCI international standards, the patient can make sure that the his/her treatment process will be followed up after s/he is released and returns to his/her home country and that the hospital will be responsible for him/her. This issue refers to the necessity of availability of after-sales service in hospitals (20). One of the major needs of the patients is to receive enough and clear information (21). Health tourists who refer to the hospitals of developing countries in order to receive medical services have expectations with regard to their preferences according to their native culture, which should be taken into consideration while educating them (22). The third most important factor in the present study was appropriate waiting time which was referred to as an important factor in absorbing health tourists. In the study carried out by Delgoshaeei et al (2012), the third factor according to the service providers was acceptance of foreign health insurance, and according to the health tourists was availability of hospitals with international accreditation such as JCI. It is necessary to note that in the study of Delgoshaeei et al (2012) the factor of waiting time was ranked 7th and 10th according to the service providers and the health tourists, respectively (13). The patients' health travel incentive is different. American tourists are looking for receiving medical services for one fourth and even one tenth of the cost in their country. Canadian and English patients go on health trips because of long waiting lists for receiving medical services (23). In countries like England, the health system is socialized, and long waiting lists and lack of human resources have led to an increase in the count of health tourists who travel to countries such as India (3). In the present study, the specialists' reputation

was ranked as the fourth factor, and the factor of availability of hospitals with international accreditation was ranked fifth. In the study conducted by Delgoshaeei et al (2012), availability of hospitals with international accreditation such as JCI was the second factor in the service providers' view and the third factor in the health tourists' opinion (13). Statistics suggest that medical centers in developed countries are desperately seeking international accreditation in delivering health services (16). Having access to quality and safe medical care for international patients who have endangered their lives cannot be neglected, because if poor treatment is provided, permanent health problems or even death can be resulted. Therefore, a patient prefers to refer to hospitals where medical care is provided by expert and experienced doctors and surgeons and in a complex and technologically delicate environment (24). In the present study, low cost of services was ranked as the sixth most important factor. In some studies, this factor is referred to as an important and effective factor in absorbing health tourists. In the study conducted by Akbarshahi (2015), cost was the second factor in attracting health tourists, which was not in agreement with the results of the present study (12). In the investigation of Delgoshaeei et al (2012), cost was the 6th most important factor in the service providers' view and the 9th most important factor in the health tourists' opinion, which is to some extent in line with the results of the present study (13). High costs of medical care in most developed countries cause people to look for cheaper treatments in other countries which are economically less developed countries. For instance, due to high costs of receiving advanced medical services in their home country, Americans refer to Thailand to receive medical services for low prices (3). American tourists are usually looking for receiving medical services for cost one fourth or even one tenth of that of their country (23). Due to the advantages of health tourism including low cost of services, appropriate facilities, and qualified doctors, our country tends to make use of the opportunities existing in the international market of medical services (25). According to its advantages in health tourism including low costs, high quality of medical services, qualified doctors, and having abundant natural attractions, Iran can make use of health tourism advantage (26). Limited number of studied experts which may limit generalization of our results to all provinces is one of limitations of this study. Another limitation of the study of non-participation of some organizations related to health tourism (such as the municipality of Tehran) was filled in the questionnaire.

4. CONCLUSION

According to the results of the present study, it can be concluded that quality of the delivered services is the most important criteria in absorbing health tourists in the province and even in the country; therefore, it should be paid special attention and made plans for Paying attention to patient-centered standards, which were ranked as the second most important factor in absorbing health tourists, is also related to the quality of the delivered services. Low waiting time to receive medical services was also an important factor that can help attract health tourists. Like low costs, the reputation of the specialists in Tehran is also a factor that affects attracting health tourists, which can be empowered through efficient advertisement in order to familiarize the citizens of other countries with such capabilities in our country.

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AUTHORS CONTRIBUTION

All the authors had role in designing the study. The first author had role in conducting the data analysis and interpretation of data. All the authors contributed to the data acquisition and write the preliminary draft of the manuscript.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

REFERENCES

1. Izadi M, Saadat SH, Ayoubian A, Dehaghi ZH, Karbasi MR, Jalali AR. Health tourism in Iran; identifying obstacles for development of this industry. International Journal of Travel Medicine and Global Health. 2014;1(2):89-94.
2. Chou SY, Kiser AI, Rodriguez EL. An expectation confirmation perspective of medical tourism. Journal of service science research. 2012;4(2):299-318.
3. Connell J. Medical tourism: Sea, sun, sand and… surgery. Tourism management. 2006;27(6):1093-100.
4. Smith R, Álvarez MM, Chanda R. Medical tourism: a review of the literature and analysis of a role for bi-lateral trade. Health Policy. 2011;103(2):276-82.
5. Pan T-J, Chen W-C. Chinese medical tourists–Their perceptions of Taiwan. Tourism Management. 2014;44:108-12.
6. Yap J. Medical tourism and Singapore. International Hospital Federation Reference Book. 2007:25-6.
7. Darwazeh D. Medical Tourism: Establishing a Sustainable Medical Facility. 2011.
8. Palvia S. Global outsourcing of IT and IT enabled services: A relationship framework and a two stage model for selecting a vendor. Managing global information technology: Strategies and challenges. 2007:433-58.
9. Sack C, Scherag A, Lütkes P, Günther W, Jöckel K-H, Holtmann G. Is there an association between hospital accreditation and patient satisfaction with hospital care? A survey of 37 000 patients treated by 73 hospitals. International Journal for Quality in Health Care. 2011;23(3):278-83.
10. Morovati Sharifabadi A, Asadian Ardakani F. A model for health tourism development using fuzzy TOPSIS and interpretive structural modeling in Yazd province. Journal of Health Administration. 2014;17(55):73-88.
11. Altin MM, Singal M, Kara D. Consumer decision components for medical tourism: a stakeholder approach. 2011.
12. Sharifabadi AM, Ardakani FA. Appling VIKOR Fuzzy Method to Rank Media in terms of their Attention to Various Fields of Tourism. Global Media Journal: Persian Edition. 2014;9(1).
13. Delgoshaei B, Ravaghi H, Abolhassani N. Importance–Performance analysis of medical tourism in Tehran province from medical tourists and medical services providers' perspective. Journal of Hospital. 2012;11(1):63-72.
14. Vali L, Tabatabaee SS, Kalhor R, Amini S, Kiaei MZ. Analysis of Productivity Improvement Act for Clinical Staff Working in the Health System: A Qualitative Study. Global journal of health science. 2016;8(2):106.

15. Tabrizi J, Gharibi F. Systematic survey of accreditation models for designing a national model. Scientific Journal of Kurdistan University of Medical Sciences. 2011;16(3):95-109.
16. Lagiewski R, Myers W. Medical tourism: Perspectives and applications for destination development. 2008.
17. KESHAVARZ A, KESHAVARZ MN, AFROZI M, KAKEMAM E, KHODAYARI ZR, KALHOR R. ATTRACTING MEDICAL TOURISTS BY QAZVIN'S HOSPITALS IN: JOINT COMMISSION INTERNATIONAL APPROACH.
18. Khodayari R, Tourani S, Qaderi A, Salehi M, Jafari H. Capabilities assessing of teaching hospitals in Iran University of medical sciences in attracting medical tourists according to JCI patient-oriented standards. Journal of Hospital. 2011;9(3):51-6.
19. Jerome M. Refining the medical tourism market and delivery system. 2007.
20. Gray HH, Poland SC. Medical tourism: crossing borders to access health care. Kennedy Institute of Ethics Journal. 2008;18(2):193-201.
21. Sultani A, Hadavi M, Heydari S, Shahabinezhad M. Barriers to Patient Education Based on the Viewpoints of Nurses and Nurse Managers in Hospitals of Rafsanjan University of Medical Sciences, 2008. Journal of Rafsanjan University of Medical Sciences. 2013;12(4):309-18.
22. Kazemi Z. Study of effective factors for attracting medical tourist in Iran. Research paper requirements for the MS degree, Lulea University of Technology, Netherlands. 2007.
23. Ayoubian A, Tourani S, Dehaghi ZH. Medical tourism attraction of Tehran hospitals. International Journal of Travel Medicine and Global Health. 2014;1(2):95-8.
24. Mai TV, editor Systems thinking approach as a unique tool for sustainable tourism development: A case study in the Cat Ba Biosphere Reserve of Vietnam. Proceedings of the 54th Annual Meeting of the ISSS-2010, Waterloo, Canada; 2010.
25. Garcia-Altes A. The development of health tourism services. Annals of tourism research. 2005;32(1):262-6.
26. Izadi M, Ayoobian A, Nasiri T, Joneidi N, Fazel M, Hosseinpourfard M. Situation of health tourism in Iran opportunity or threat. Journal Mil Med. 2012;14(2):69-75.