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Healthcare provision for medical tourism: A comparative review

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Abstract:

Providing quality services, using modern technologies, having effective marketing, and providing services at an international level have led to the globalization of hospital services. This study aimed to identify the components of health services in developing countries that provide services to international patients. A comparative review was conducted by searching in PubMed, Scopus, Web of Science, Google Scholar, Google, and the websites of the World Medical Tourism Organization, the World Bank, and the Ministry of Health of the selected countries from 2000 to 2022. Iran, Turkey, Jordan, Costa Rica, the UAE, and Singapore were selected. The data were collected and analyzed using a comparative table. Different strategies were used to develop the medical tourism industry among the studied countries, but the main challenges in this field included the inappropriateness of the quality of the services provided or the provision of services that did not meet the needs of patients, the lack of expert human resource, not using medical facilitation companies, communication problems with patients, insufficient government support for medical tourism, and strict laws regarding business. The development of activities in the medical tourism industry requires planning in various dimensions. It seems that developing the medical marketing and activities of facilitator companies to facilitate patient admission, monitoring the quality of services provided, improving interdepartmental coordination, and considering a single trustee for this industry will improve the medical tourism status in Iran.

Keywords:

Comparative studies, developing countries, hospitals, medical services, medical tourism

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Introduction

Providing health care is the core and main element of the health system, which improves patients' health and well-being. Quality in the health system is defined as providing safe, timely, effective, efficient, fair, and patient-centered care.^[1] The five dimensions of service quality include tangible dimensions (conditions and atmosphere of the service delivery environment, including facilities, equipment, employees, and communication channels), reliability dimension (ability to perform the service reliably), responsiveness dimension (willingness to cooperate and help the customer), assurance dimension (competence and ability of employees to instill a sense of trust and

confidence in the customer), and empathy dimension (special treatment with each customer according to their mood, so that the customers are satisfied with the respect and understanding on the part of the organization).

Providing quality services, using facilities economically, using modern and advanced technologies, effective marketing, and providing services at the international level have led to the globalization of hospital services.^[2] Medical tourism is a topic that has seen a significant global boom in recent years,^[3] and this industry provides opportunities for hospitals to use their potential in providing services to patients in other countries.^[4]

Medical tourism is an organized trip made by a person from their living environment to

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another place to improve and achieve health. This type of tourism includes traveling to improve health.^[5] The reasons for choosing a country as a tourist destination are its general conditions, cultural factors, medical tourism costs, and medical services and facilities.^[6-8] Lianto *et al.*,^[9] in a study conducted on the factors affecting medical tourism in Singapore, stated that five factors of atmosphere and precision of medical services, the competence of the staff, price of the services, facilities, satisfaction of patients, and attractions and entertainment for travelers, are the reasons for the attractiveness of medical tourism in Singapore.

Medical tourists from developed countries often travel to Asian countries because of the high costs in their own country, the strength of the national currency, and the long wait for services. This has caused Asian countries to have a lot of competition to attract these tourists.^[10] Gholami *et al.*^[11] stated that there are many limitations in attracting international patients. To achieve a suitable position in the medical tourism industry, it is necessary to rely on the capabilities of cultural and tourism attractions and create advanced equipment and methods to provide the possibility of creating foreign exchange income and employment. According to another study, the quality of services provided to patients is the most important criterion for attracting medical tourists.^[12]

Based on the mentioned points and with the investigations that were conducted, knowing the medical tourism service systems in developing and successful countries can be effective for medical policymakers in the direction of better exploitation of this industry. Therefore, according to the fact that no comparative study has been performed on the health system and the type of medical and non-medical services provided to medical tourists in other countries, this study was designed as a guide for providing medical tourism services in Iran.

Materials and Methods

This research was conducted in a comparative review method in 2022 and was part of a Ph.D. dissertation supported by the Iran University of Medical Sciences (grant No: IR.IUMS.REC.1399.484).

The data were collected using the following search strategies: (((("Health Tourism"[Title/Abstract]) OR ("Surgical Tourism"[Title/Abstract]) OR ("Medical Tourists"[Title/Abstract]) OR ("medical tourism"[Title/Abstract]) AND ((((((Iran[Title/Abstract]) OR (Turkey[Title/Abstract]) OR (Costa Rica[Title/Abstract]) OR (United Arab Emirates[Title/Abstract]) OR (Singapore[Title/Abstract]) OR (Jordan[Title/Abstract])) in the databases of Web of Science, PubMed Scopus, Google Scholar, and Google, as well as the World

Bank, WTO, and WHO sites. The searched documents were from 2000 to 2022.

Inclusion criteria

- 1) The selection of countries from all parts of the world (one country for each continent) that are part of the developing countries in the category of development with a high human development index (HDI) and have organized activities in the field of medical tourism
- 2) All related studies and reports published in Persian and English between 2000 and 2022.
- 3) Being Muslim and close to Iran.
- 4) The availability of the required data in the selected countries.

Exclusion criteria

Reports and articles that were inconsistent with the objectives of the study and were also published in languages other than Persian and English were excluded from the study, as shown in Figure 1.

Based on these criteria, the following were selected: Jordan (Iran's neighboring country that is Muslim and has similarities to Iran); Singapore (Asia-Pacific since it is the world's oldest country in the field of medical tourism) from Asia, Costa Rica from America, and Turkey from Europe. No country from the African continent was selected due to the lack of an active

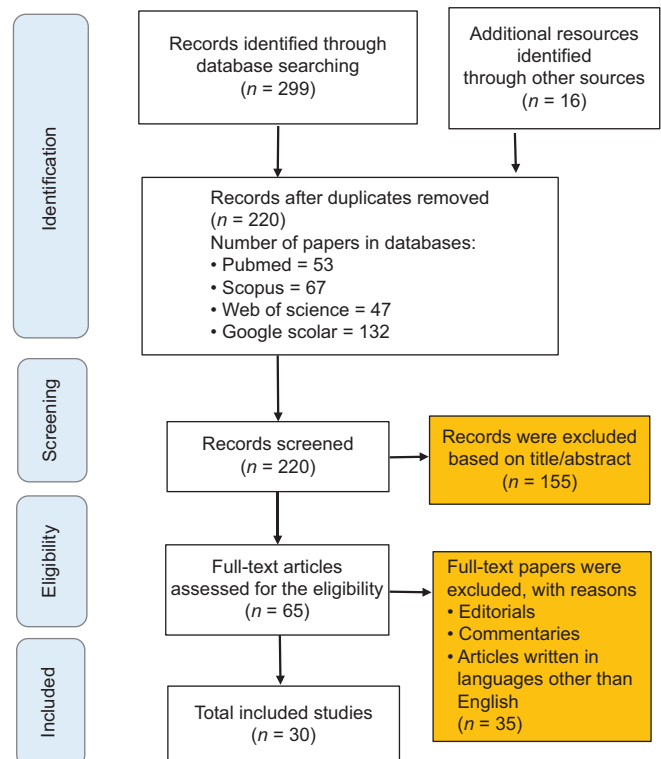


Figure 1: Diagram of the review process (PRISMA)

country in health tourism and from the Pacific Ocean due to the mismatch of the HDI. Despite its higher human development index (0.86) compared to other selected countries, the United Arab Emirates was chosen because of its active role in the medical tourism industry and its neighborhood with Iran.^[13]

A data collection form was used to collect the data related to the selected countries. Based on the literature review, knowledge, and experience of the experts, the dimensions and components of providing services to international patients in the health system of the selected countries were identified, and a data extraction form was designed. The data extracted from the studies were classified according to the components of the analysis and were then organized into comparative tables, and a comparative table was completed for the six selected countries.

Results

The effects of the study were categorized into four tables with titles of general characteristics, specific information related to medical tourism, information on medical service delivery systems, and challenges and strategies for the development of medical tourism in the studied countries.

General characteristics of the selected countries

According to Table 1, Turkey and Iran with a population of approximately 85 million people have the largest population, and Costa Rica and Singapore, with five million people, have the smallest population. Among the studied countries, the highest per capita health costs were in Singapore (2 thousand dollars) and the lowest were in Jordan US \$334). Health-related development goals in Singapore had the highest score (84.9), and the lowest score (61) was in the UAE.

Specific tourism information in selected countries

As the information in Table 2 shows, the UAE has the highest rank in the medical tourism industry (third rank), and Iran has the lowest rank among the 46 countries (41st rank). In addition, the highest income earned from tourism in the UAE was 29 billion dollars,

while it was one billion dollars for Jordan—the lowest. Among the studied countries, Turkey has the highest number of medical tourists with 660 thousand, and Costa Rica has the lowest number of medical tourists with 19 thousand. Regarding the ranking of the quality of medical services, the UAE has the highest quality with a rank of 20, and Iran has the lowest quality with a rank of 78.

Information on medical tourism service delivery systems

According to the findings in Table 3, the ratio of beds per thousand populations is the highest in Turkey (2.9) and the lowest in Costa Rica (1.1). In addition, regarding the distribution of specialized manpower, the ratio of doctors per thousand people is the lowest in Iran (1.6) and the highest in Costa Rica (2.9).

The ratio of nurses per thousand people is the highest in Singapore (6.2) and the lowest in Iran (2.1). Among the studied countries, Turkey has the largest number of hospitals with international accreditation certificates, with 34 licensed hospitals, while Iran has no hospitals with international accreditation certificates.

Challenges and strategies for the development of medical tourism

Turkey: Turkey’s medical tourism is managed by the Ministry of Culture and Tourism, which has developed strategies such as supporting private hospitals to increase the attraction of patients, responding to the non-medical needs of patients and their companions, and training specialists in providing medical services. During the treatment process, many facilitating companies operate in the country and conduct online patient admissions and online consultations are done before entering the country by issuing an electronic medical visa for the referral of patients. Facilitating companies are with medical tourists for the entire treatment duration and provide welfare and medical services for international patients. The most important services offered to medical tourists in this country include organ transplantation, *in vitro* fertilization, and surgical services such as cardiology, orthopedics, and weight loss. Patients’ challenges include

Table 1: General characteristics of the studied countries

Country	Continent	Population* (million)	Currency	Official language	GDP per capita (dollars)*	Health expenditure per capita (dollars)**	HDI***	SDG ² -related to health
Turkey	Europe	85	Lear	Turkish	9.586	396	0.82	66
Emirates	Asia	9	Dirham	Arabic	36.284 (2020)	1842	0.89	61
Costa Rica	America	5	Colon	Spanish	12.508	921	0.81	63
Jordan	Asia	10	Dinar	Arabic	4.405	334	0.72	72
Singapore	Asia	5	Singapore dollar	Chinese, Malay, and English	72.794	2632	0.93	84.9
Iran	Asia	85	Rials	Persian	2.756 (2020)	470	0.78	62

*2021, **2019. ¹Human development index, ²Sustainable Development Goals^[14,15]

Table 2: Information related to medical tourism in the compared countries

Country	Number of tourists*	Number of tourists*	Total tourism income* (dollars)	Medical tourism income (annually)	Global ranking in the quality of medical services based on LPI ¹	World ranking in the medical tourism industry (based on 46 countries)
Turkey	15.971.000	662.087	13 billion	2 billion	65	27
Emirates	8.084.000	350.118	24 billion	3.29 billion	20	3
Costa Rica	1.146.500	19.769	1.4 billion	40 billion	50	7
Jordan	1.240.000	220.000	1.7 billion	1 billion	43	36
Singapore	2.742.000	500.000	20 billion	3.5 billion	24	15
Iran	1.550.000	200.000	5 billion	1.2 billion	78	41

*2020, **2019. ¹Logistics performance index^[16-18]

Table 3: General profile of medical service delivery systems in selected countries

Country	Number of hospitals	Number of public hospitals	Number of JCI ¹ hospitals	Hospital Beds (per 1,000 people)*	Physicians (per 1,000 people)*	Nurses (per 1,000 people)**
Turkey	1.518	879	34	2,9 (2018)	2018) 1,8)	3
Emirates	104	71	20	1,4 (2017)	2,5	5,7
Costa Rica	30	15	3	1,1 (2019)	2,9 (2019)	3,4
Jordan	115	48	7	1,5 (2017)	2,3	3,3 (2017)
Singapore	28	17	21	2,5 (2017)	2,3	6,2) 2016)
Iran	954	763	0	1,6 (2017)	1,6	2,1

*2017, **2018. ¹Joint Commission International^[15,19,20]

transportation to Turkey, incompatibility of their food interests with the nutritional services provided in the hospital, and communication with the medical team.

UAE: The supervision of medical tourism in this country is the responsibility of the Ministry of Health and Prevention. Strategies such as the use of advanced medical technologies and equipment, medical tourism training for doctors and other medical staff on a dedicated basis, and government support for medical tourism in this country have been implemented to attract more international patients. The process of providing services is such that before receiving medical services, patients must have an online consultation, and the first comprehensive medical tourism portal in the world to provide all health services, travel, and visas has been prepared for patients, as well as travel insurance package for the treatment staff for complications and medical errors.

Services such as heart surgery, lung, nephrology, urology, skin, and hair are provided to medical tourists in this country, and there are challenges, such as the lack of proper transportation infrastructure, lack of strategic management for this industry, lack of cooperation between medical tourism stakeholders and physicians, and unfavorable weather in summer.

Costa Rica: Tourism management in this country is the responsibility of the Ministry of Competition, and tourism development strategies include teaching tourism topics to the treatment team, the existence of facilitation companies that work as a team, and the professional service provider team in the provider centers.

The process of providing services to tourists it is in a way that makes it possible to communicate with doctors online before the trip, which has created trust between the patient and doctor during the online consultation, creating a treatment plan according to the patient’s problems. Patients education during the treatment process is carried out on a special basis, and home care packages are also considered for patients. Among other measures taken in this country are recovery centers after discharge with the aim of reducing hospitalization of patients and follow-up after treatment, such as water therapy, yoga, or other rehabilitation services. Here, a doctor is present in these centers 24 hours a day. The challenges that exist in this industry include providing services that do not meet the needs of customers as well as the problem of communicating with patients and providing medical services that do not meet international standards. In addition, services such as dentistry, weight loss, and coronary artery surgery are provided to tourists in this country.

Jordan: The Ministry of Tourism is in the stewardship of providing medical tourism services in this country. Developing activities such as strengthening ground transportation structures, health marketing, allocating funds, and training human resources have caused the medical tourism industry to develop.

The process of providing medical services in this country is that the patient can call a doctor before providing medical services, and then the treatment costs and plans are fully explained to the patient. After several online consultation sessions, patients will receive accurate treatment costs, admission timing, and

Table 4: Main characteristics of the medical tourism industry in selected countries^[14,16,50-57]

Country	Stewardship	Medical brand	Description of providing services to medical tourists	Medical tourism development strategy	Main challenges
Turkey	Turkish Ministry of Culture and Tourism	Stem cells therapy Organ transplantation <i>In vitro</i> fertilization Oncology	Free online consultations and admission via the website Electronic visas for tourists Providing welfare services along with medical services by facilitating companies Follow up after treatment by phone and email	International accreditation (JCI) Fast response in providing services Responsiveness Supporting private hospitals	Communication challenges Transportation Gaps in customer service such as nutrition
Emirates	Ministry of Health and Prevention	Heart surgery Lung Nephrology and urology Skin and hair	Launching the first comprehensive medical tourism portal in the world to provide all health, travel, and visa services Providing medical tourism insurance packages for medical complications and errors Conducting online consultations before traveling to the country and online admission	International accreditation (JCI) Human resource development in the field of medical tourism Government support for medical tourism and its infrastructure	Lack of medical tourism facilitators No ads People's lack of trust in the medical system Lack of proper transportation infrastructure Bad weather conditions in summer
Costa Rica	Ministry of Competition	Dentistry services Sleeve surgery Coronary artery surgery	Communication with the doctor before traveling to the destination country Stay in comprehensive recovery centers after discharge Complete consultations	Human resource development in the field of medical tourism Professional facilitation companies Professional service team	Communication problems other than English Failure to comply with international standards
Jordan	Ministry of Tourism	Plastic Surgery Orthopedics Organ transplant Cancer treatment Dentistry service	Direct communication with the doctor before the trip Providing comfort facilities to patients near the hospital and follow-up a treatment Medical facilitation companies with a dual role	Development of ground transportation structures Marketing in health and allocating funds to it Human resource development in the field of medical tourism	Strict administrative rules in business Communication problems Lack of nursing staff
Singapore	Ministry of Health	Plastic surgery Sleeve surgery Heart diseases Cancer treatment Dentistry service	Online admission of patients Setting up international patient service centers Contracts with hospitals in other countries for follow-up after treatment Covering health expenses with an international health insurance plan	New and advanced technologies Development of marketing-branding of health services Human resource development in the field of medical tourism Accreditation of doctors in Singapore	High cost of medical and welfare services Long travel time for countries like Canada and the USA Hot and humid weather
Iran	Ministry of Health and Ministry of Tourism	Oncology Cardiovascular Urology Ophthalmology Dentistry service	Accepting patients directly/ through facilitating companies Providing medical services in public and private centers	Cheap service Professional treatment staff Advanced medical equipment	Communication challenge Brokers Patient transportation problems Non-standard service prices Not having a single trustee for medical tourism

treatment [Table 4]. Comfortable facilities are provided for patients and their companions in hotels near the hospital, and the facilitating companies in this country are responsible for the dual role of educating patients and providing welfare services, as well as providing price quotes, arranging the transfer of medical documents, coordinating video conference calls between patients and surgeons, collecting payments (not all facilitators do this), arranging travel logistics services such as passports,

flights, accommodation, and transportation, providing the main point of contact while the patient is in the hospital, and following up with patients after returning home. The challenges that exist in this field include a lack of nursing staff, communication problems with international patients, and strict administrative rules in business. Services, such as organ transplantation, cancer treatment, dentistry, and plastic surgery, are offered to tourists.

Singapore: The Ministry of Health, stewardships of the medical tourism industry in this country, and activities such as the accreditation of doctors are carried out by the Singapore Medical Council, the Nursing Board, the Dental Board, the Board, and the Laboratory Board. Other development activities include the development of marketing and branding of health services, participation of the private and public sectors in providing services for tourists, and the use of new, advanced, technologies for complex treatments.

The process of providing medical services in this country involves international patient service centers, which work like medical travel agencies and are specifically designed for medical tourists to provide information and assistance to international patients and connect with hospitals. International Patient Service Centers (IPSCs) provide hospital prices and coordinate appointments with healthcare professionals. In addition, to follow up after treatment in this country, officials have signed contracts with hospitals in other countries and have established new treatment centers in countries such as Malaysia and Indonesia. Dental services, plastic surgery, sleeve surgery, and cancer treatment are among the most important services provided to tourists. In addition, this country faces challenges in providing medical services to tourists, such as long travel times high costs of welfare services for tourists, and the country's hot and humid climate.

Iran: The Ministry of Health and the Ministry of Cultural Heritage are responsible for providing tourism services. Activities such as the establishment of international patients in hospitals, the use of advanced equipment, the existence of skilled medical staff, and the provision of cheap services are taken into account to provide services for tourists. There is no systematic process for providing treatment to international patients in this country. The most important services offered to tourists in this country include cancer treatment, cardiovascular surgeries, ophthalmology, and dentistry, which have many problems such as the inability to communicate with medical tourists and the existence of brokers that cause tourists to lack trust, transportation problems, failure to provide integrated and coherent amenities, and lack of a single trustee for this industry.

Discussion

This study was conducted to identify the dimensions of health systems and ways of providing services to international patients among developing countries. The results showed that all the studied countries except Iran had a standardized method for providing services to medical tourists and helping medical facilitators to attract patients. The method of providing services in

Turkey, Jordan, Costa Rica, and Singapore is direct communication between the doctor and the patient, which must be established online before the patient enters the country. This creates trust between medical tourists and their acceptance that is done through medical facilitation companies. In the UAE, the first comprehensive medical tourism portal has been launched, which aims to facilitate the entry of patients into the country and guide them during the treatment process.^[21-23]

Cooperation with medical facilitation companies is an opportunity that different countries have used to develop medical tourism. This is one of the basic parts of the cycle of providing services to medical tourists whose role is to establish communication between medical service providers and patients and make the necessary arrangements. One group of facilitators makes travel arrangements and provides personalized travel packages to patients, while the other group provides consulting services including information about laws, regulations, and translation services.^[24,25] The benefits of using the company in countries such as Jordan and Costa Rica include minimizing language and cultural barriers, translating medical information to international patients, finding the best international hospital for medical tourists, and facilitating travel services such as obtaining visas and accommodation,^[26-28] all of which are among the challenges of Iran and the UAE due to the lack of medical facilitation companies,^[16,29] in line with one of the principal factors in the development of tourism in South Korea is the presence of an institution affiliated with the Ministry of Health and Welfare for the development of medical tourism activities and the general health system in the country. This institution provides tourists with services and hospital staff through training courses.^[30]

In addition, in the studied countries, except Iran, services are provided in hospitals with international accreditation certificates, which is one of the main challenges of medical tourism development in Iran since no hospital in Iran has an international accreditation certificate.^[31] Most countries that provide medical tourism services, such as Turkey, Thailand, Malaysia, and India, have several internationally recognized medical centers.^[19]

Regarding the ranking of the quality of medical services, the UAE and Singapore have a high rank in service quality, and according to the results of various studies, one of the factors affecting the quality of services is the ratio of human resources providing the services, in which the ratio of doctors and nurses per 1,000 population is ranked high compared to other studied countries.^[32] Service quality, satisfaction, and trust of service recipients are among the main factors for customers buying and

using services.^[33] Another factor affecting service quality is the use of advanced medical equipment. In Singapore, services with sophisticated and up-to-date technologies are provided by foreign doctors who are fluent in the patients' dominant language.^[34]

Various strategies for the development of medical tourism have been implemented in most countries, including Thailand and Singapore, which have had extensive marketing in the field of introducing medical services. Thailand and India have provided a 90-day stay for medical tourists in obtaining visas for international patients. It uses the participation of the private sector in providing services to medical tourists, such as in Turkey.^[17,35] The results of different studies have shown that multidimensional marketing for the introduction of hospitals, excellent quality of services provided, inexpensive services, professional doctors, presence of welfare services, international accreditation, political status in the country, and the image of the country in the international media are the important aspects of tourism development.^[21,36-39]

In the countries of Iran, India, and Thailand, unlike Singapore, healthcare services are offered cheaply to medical tourists.^[16,40] India has widely used traditional medicine and herbal treatment services for medical tourists, and the field of tourism has considered special training for the treatment team, such as the UAE and Costa Rica.^[41]

Other factors that differ among the studied countries are the supervision of medical tourism, which in different countries is under the supervision of the Ministry of Health or the Ministry of Tourism. In Iran, only two ministries (the Ministry of Health and Ministry of Cultural Heritage) are responsible for supervising tourism. This has caused problems in the field of accountability regarding matters related to medical tourism. One of the reasons for the lack of development of facilitating companies in Iran is that it is not clear which ministry controls them and which organization they should be accountable to.^[42,43]

According to the results of the above study, communicating in the patient's dominant language is one of the other challenges that exist in Turkey, Iran, and Costa Rica. This challenge has been solved by the activities of medical tourism companies and entrusting them with this responsibility.^[44,45] In line with that, Gagne *et al.*^[46] in South Korea showed that one of the main problems for patients was their inability to communicate in English with medical staff, which caused dissatisfaction.

Mosadeghrad *et al.*, contrary to the above study, concluded that proper advertising, patients' former experience of traveling to Iran, and the presence of

experienced staff were among the reasons for choosing Iran as a medical tourism destination. The common language among medical tourists is another reason for choosing this country as a tourist destination.^[47]

Other challenges that exist in the studied countries are responding to the non-medical needs of patients owing to the diversity of international patients from different countries, lack of sufficient recognition, and unfamiliarity with their culture, which is seen in Turkey, Costa Rica, and Iran.^[48,49]

Limitation(s)

It was the first comparative study to focus on Iran from among countries in providing medical services to medical tourists. One limitation includes the lack of access to up-to-date information (2022) in the field of medical tourism from reliable sites such as the World Bank and World Tourism Organization, which, due to the lack of information provided by the countries, compares the statistics in some of the indicators related to 2019. It is suggested that more accurate comparison of the state of medical tourism be made after the index information is updated.

Conclusion

The growth and development of the activities of the tourism industry require multifaceted planning in the country, which is suggested due to the lack of a single trustee and the lack of government support for the medical tourism industry; therefore, appropriate measures should be taken in this regard. To expand the provision of international services, medical marketing activities should be developed. Considering that none of Iran's hospitals has an international accreditation license, the necessary activity for obtaining this license and monitoring the quality of services should be provided.

Considering the problems of the process in providing welfare services for medical tourists, the license and activities of medical tourism companies should be facilitated so that the mentioned companies can provide welfare and non-medical services to patients along with hospitals.

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Conflicts of interest

There are no conflicts of interest.

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