

An elaboration of obstacles and perspectives of medical tourism development taking the approach of integrated service provision (Case study: Isfahan Province, Iran)

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Abstract

Aim. The intention of the present research has been to examine and evaluate the barriers and limitations to the development of medical tourism in Isfahan as one of Iran's tourism destinations by taking the approach of service integration.

Materials and Methods. This *exploratory* research was conducted using mixed qualitative and quantitative methodology. Data analysis by the qualitative method was done using MAXQDA-18 software, while by the quantitative method a combination of SWOT strategic planning technique and multi-criteria decision making was used

Results. Multiple weaknesses and challenges were classified by using a framework of indexes developed on different dimensions including: quality of medical services and facilities; access to medical and tourism information; infrastructures and regulations; communications and marketing; environmental factors; treatment procedures and passive defense and international barriers. Meanwhile, the role of each of these dimensions and sub-indexes in impeding medical tourism development in the region was evaluated by examining the association between the various dimensions contributing to medical tourism development in Isfahan.

Conclusions. To remove the barriers identified, several strategies are proposed. including the provision of health-based integrated services (medical, treatment and wellness), development of shared products by the sectors involved in this domain, compilation of a comprehensive plan for health tourism development, preparation of a coherent and well-organized scientific plan given the policies of resilient economy, realistic and practical attention to the branding issues, the usage of up-to-date methods of modern marketing plan for the health companies and facilitators, removal of the legal barriers to the medical tourism development and compilation of new supportive, supervisory and advertising policies.

Key Words

Medical tourism, service integration, destination competitiveness, evaluation of barriers, compilation of perspectives.

Анализ ограничений и перспектив развития медицинского туризма на основе подхода интегрированного предоставления услуг (на примере провинции Исфахан, Иран)

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Резюме

Цель. Изучение и оценка барьеров и ограничений для развития медицинского туризма в Исфахане, как одного из туристических направлений Ирана, использующего подход интегрированного предоставления услуг, является целью настоящего исследования.

Материал и методы. Экспериментальное исследование было проведено с использованием качественного и количественного смешанного метода. Анализ данных в качественном методе проводился с использованием программного обеспечения MAXQDA-18, в то время как в количественном методе использовалась комбинация метода стратегического планирования SWOT и многокритериального принятия решений.

Результаты. Многочисленные недостатки и проблемы были классифицированы с использованием системы индексов, разработанных по различным параметрам, включая качество медицинских услуг и учреждений, доступ к медицинской и туристической информации, инфраструктуру и правила, коммуникации и маркетинг, факторы окружающей среды, процедуры лечения, обеспечение медицинской безопасности и международные барьеры. Между тем, роль каждого из этих измерений и подиндексов в препятствии развитию медицинского туризма в регионе была оценена путем изучения связи между различными измерениями, способствующими развитию медицинского туризма в Исфахане.

Выводы. Для устранения выявленных барьеров было предложено несколько стратегий, включая предоставление комплексных медицинских услуг (медицинских, лечебных и оздоровительных), разработку совместных продуктов секторами, участвующими в этой области, составление комплексного плана развития оздоровительного туризма, подготовку согласованного и организованного в научном плане с учетом политики устойчивой экономики, реалистичного и практического внимания к вопросам брендинга, использования современных методов маркетингового плана для медицинских компаний и фасилитаторов, устранения правовых барьеров для развития медицинского туризма и составления новой политики поддержки, надзора и рекламы.

Ключевые слова

Медицинский туризм, интеграция услуг, конкурентоспособность назначения, оценка барьеров, обобщение перспектив.

INTRODUCTION

As a significant strategic industry in the world, medical tourism has a different market with its own peculiar characteristics. The scope of this market may cover a wide range of services from the main services of health-care to a combination of tourism-related complementary activities, services and infrastructures, recreation and leisure and purchase. Henceforth, it can be argued that the main theme of health tourism development is to ensure the sustainable development of the national economy and integrated cooperation in the recreation and tourism domains.

Medical tourism development plays a significant role in improving the economy and healthcare quality in a destination country [1]. Through linking modern medical services with tourism, this industry has enormous economic value and promotes tourism and trade. Based on estimations, by 2022, the Asian market will reach a revenue of over \$14 billion [2]. Among the most popular medical tourism hubs in Asia, Thailand, Singapore, Malaysia, India and the Philippines have occupied higher rankings [3].

There are numerous factors that have played a crucial part in driving countries towards the economic benefits expected to be obtained from medical tourism. By offering certain benefits such as lower medical costs, high quality medical services, shorter wait times and tourism packages designed as a combination of recreation and tourism, a number of major Asian countries have succeeded in being recognized as principal medical tourism destinations and hubs [4]. Accordingly, they have made considerable investments in establishing a “patient oriented service system” and in a “marketing promotion system” [5] and in achieving a “guaranteed quality in the international market” [6].

Furthermore, there seems to be competition between many nations as medical tourism destinations in moving towards the development of appropriate infrastructures, improvement of medical tourism [7] and elimination of existing obstacles and limitations. Based on a comprehensive approach, the integration of varied strategies relating to medical tourism development with governmental policies and pioneer management methods will result in successful outcomes in various segments of tourism, medical care and other economic sectors [8]. In sum, the adoption of medical tourism strategies by medical centres are mainly targeted at cost advantage factors that are realisable through competitive pricing, differentiation through innovation, a focus on medical intensive care and supportive governmental rules and regulations [9].

Over fifty percent of medical tourists are women who seek medical services mainly associated with cosmetic or fertility medical profiles [10]. It is noteworthy that Iran enjoys cutting-edge capabilities in servicing global medical travels in the cosmetics, reproduction and dentistry sectors [11]. Additionally, because it has shared religious, cultural and ethnic ties with neighboring countries, Iran (especially Isfahan Province) has a promising opportunity to be introduced as a medical tourism destination in the region and especially for fertility treatments. Hence, policy making and re-setting of goals related to this issue should be put on the agenda to see what and how competitive advantages are presented by competitors.

Furthermore, by virtue of its distinctive role in Iran's tourism economy system, as well as its crucial part in

introducing authentic Iranian-Islamic culture and attracting a large number of tourists, Isfahan province enjoys a particular potential for medical tourism development. Other advantages of Isfahan province contributing to this capability are as follows:

- favourable climatic conditions, rich civilization and cultural background,
- attractiveness resulting from registered historic monuments and buildings with national and international functions (i.e. 1730 and 4 national and world heritage sites, respectively) and handicrafts production centers,
- particular spatial location as a result of being situated at the geographical centre of Iran and connectivity with other provinces,
- appropriate status of inpatient services in Isfahan province (fig. 1) and being known as the pole for referrals from the west and central parts of Iran for the use of the healthcare services of this province and considerable demand from the neighboring provinces including Kohgiluyeh and Boyer-Ahmad, Chaharmahal and Bakhtiari, Lorestan and Khuzestan [12],
- availability of advanced medical and treatment centres such as Shahid Motahari Hospital with specialty and super-specialty services and the availability of other medical centres such as Sadoughi Hospital, Shahid Chamran Heart Specialty Centre, Sadra Eye Centre, fertility and infertility clinics, dialysis and orthopedic centres etc.,
- having more than 6,000 hospital beds in 53 hospitals (i.e. 38 public and 15 private and charity hospitals),
- high inflow rate of competent manpower from the neighboring provinces and the plan designed for attracting 1 million foreign tourists based on 6th Five-Year Development Plan until Iran's Vision 2025.

Recently, some factors like the atmosphere of competitive marketing governing the region and lack of a distinguished plan and strategy for marketing and advertising targeted to attracting foreign patients from neighboring countries in Isfahan have influenced the growth rate of foreign patient inflow to Isfahan. As a result, this province is facing a complicated situation. To put it clearly, although it enjoys numerous positive factors of high quality, it has witnessed a drop in ranking in the attraction rate of foreign patients from 4 in 2015-2016 to 21 in 2020 [13]. Upon approval of the necessity of taking action for medical tourism development by the national authorities, the status of health tourism in Isfahan needs to be revised in terms of effective factors that might positively contribute to guiding this province towards finding a way for re-engagement in this promising competition arena. Accordingly, the main objective of this study was to examine and elaborate the factors affecting the current trend of Isfahan's medical tourism that act as obstacles to medical tourism development in this province. To do so, a set of indexes were compiled in order to identify and satisfy the requirements of medical tourism development in Isfahan taking an integrated approach in the form of obstacles to competitiveness. By elucidating the barriers to medical tourism, the findings of this study will add to the existing literature and can be generalized for comparison with those nations that are in a similar position. Furthermore, the conclusions of the study might be taken into account by the respective authorities in their move towards removing current shortcomings.

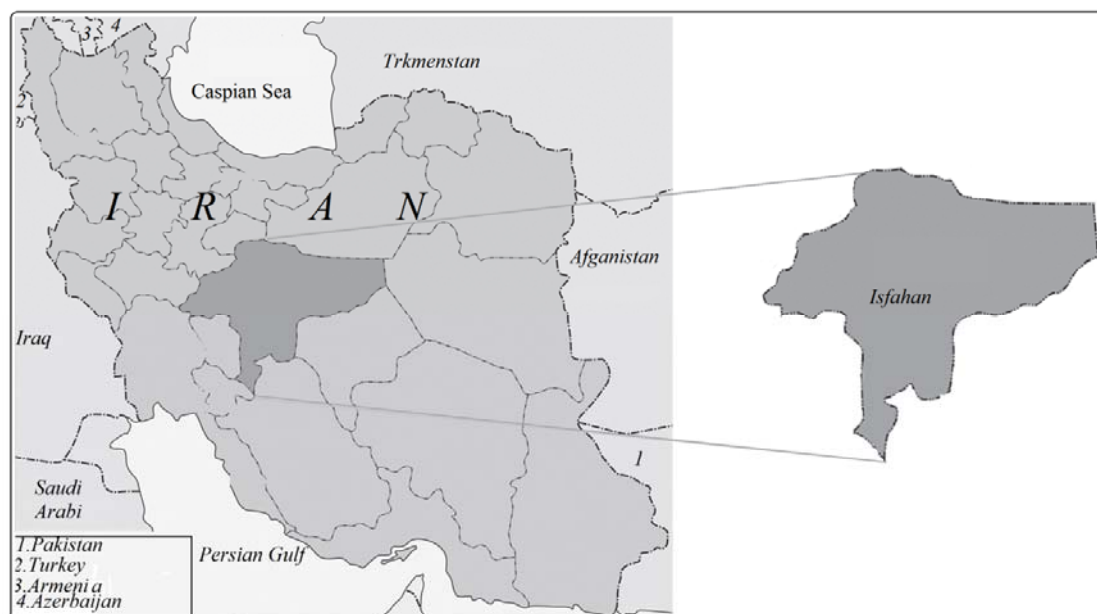


Figure 1. Geographical location of Isfahan Province in Iran

Рисунок 1. Географическое положение провинции Исфахан в Иране

MATERIALS AND METHODS

To collect the initial data required by the authors and to identify the factors and variables affecting medical tourism development, a qualitative research methodology through content analysis was used. Data analysis was done using MAXQDA-18 software [14]. In the next phase, an expert panel was applied to extract new indexes or eliminate weak indexes. In this way, a framework of indexes taking the medical tourism development approach was compiled so as to identify the obstacles and the perspectives of medical tourism development in Isfahan considered from various

dimensions and in different combinations. Through combining SWOT technique and multi-criteria decision making (MCDM) technique, the main obstacles and their relevant sub-indexes were evaluated and prioritized. In the last phase, the interrelationships between the main factors were identified by using the fuzzy DEMATEL technique. Comprising 8 categories in terms of various dimensions, the following conceptual model represents a comprehensive picture of requirements of and barriers to medical tourism development in Isfahan (fig. 2).



Figure 2. Conceptual model – barriers to medical tourism development in Isfahan in line with health village expansion

Рисунок 2. Концептуальная модель. Барьеры для развития медицинского туризма в Исфахане

в связи с расширением системы деревень здоровья

RESULTS & DISCUSSION

Data were collected through an extensive literature review to formulate a framework of indexes and by using interviews and questionnaires. Since the expert panel was aware of the framework and the current status of medical tourism in Isfahan, their comments were interpreted and considered as valid and demonstrating potential obstacles to development.

In the evaluation of Isfahan, the barriers affecting medical tourism were identified (fig. 3) and classified into 8 categories, 12 indexes and 46 sub-indexes. Some of the identified categories were consistent with reported in previous studies. However, in the present study, for the first time the challenges of passive defense, sub-indexes related

to access to medical and tourism information, economic barriers, barriers related to treatment procedures, factors of the environmental position and quality of tourism services and some classifications of these factors were explored.

- First category: Quality of medical & tourism services and facilities;
- Second category: Infrastructures and regulations;
- Third category: Communications & marketing;
- Fourth category: Access to information;
- Fifth category: Treatment procedures;
- Sixth category: Environmental factors;
- Seventh category: Passive defense;
- Eighth category: International factors.

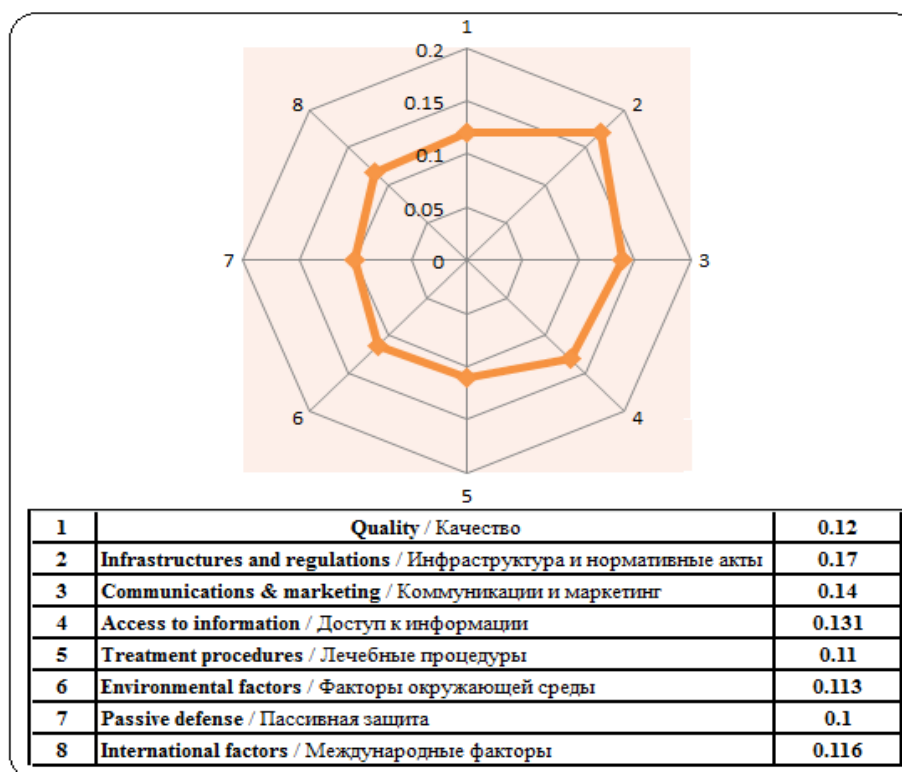


Figure 3. Categorization and prioritization of eight barriers to Isfahan's medical tourism

Рисунок 3. Классификация и расстановка приоритетов восьми барьеров на пути медицинского туризма в Исфахане

This framework has been developed based on documentary analysis methodology and questionnaires and has been completed by merging the themes and categories derived from interviews. Relationships among the 13 main indexes have been represented in accordance with the experts' judgment and fuzzy DEMATEL technique. Based on the status quo, all the main indexes directly impacting the development of medical tourism in Isfahan have been displayed by dark-colored arrows. However, dotted arrows show the intra- or cross-relationships among the factors.

Based on the data collected and evaluation conducted, a framework of the problems and obstacles which are assumed to play a part in the development of medical tourism in Isfahan has been developed. Comparatively, the barriers to Isfahan's tourism identified in this research show some similarity to studies conducted in Korea, Hong Kong and India, especially in terms of policies-related factors [5; 15; 16] and those conducted in some cities of Iran such as Yazd and Ardabil (in terms of regulations and policymaking-related factors) [17; 18]. The research on resource-based view and Porter's theory of competitive

advantage has introduced governmental rules and regulations as one of the strategies to be adopted by the medical centres for medical tourism development [9].

The main barrier to medical tourism development in Isfahan is related to the infrastructures and regulations field that include the sub-indexes of infrastructure facilities, especially facilitators of health tourism, as well as the sub-index of policy making and regulations related to management and advertising policies, new laws required, laws related to medical errors, regulations related to health insurance, regulations related to facilitation of the entry and exit of the patients and inefficient laws concerning price transparency of health and tourism services (tab. 1; fig. 4). Accordingly, a sufficient and qualified number of medical travel facilitators can increase the attractiveness of a destination through their initiatives [19]. One of the main challenges of Isfahan is the weak activity of health tourism facilitator companies in the target markets. As a result, foreign patients might experience some challenges due to the brokers and intermediaries unfortunately causing dissatisfaction or might be attracted by other regions in the

field. Further, the role of the government in terms of policymaking and reconfiguration of regulations is crystal-clear and can intensify the influence of other factors negatively or positively. In this regard, Turner (2011) and Bookman & Bookman (2007) have realised that both

government and efficient infrastructure are important for the success of the medical tourism industry and that there should be a reliable system for implementing price standardisation and provision of greater transparency [20].

Table 1. Barriers related to infrastructures and regulations

Таблица 1. Барьеры, связанные с инфраструктурой и нормативными актами

Index / Индекс	Sub-index / Подиндекс
Service, Infrastructure & Installations facilities Сервис, инфраструктура и строительные сооружения	I.1 Lack of electronic payment facilities for foreign patients <i>Отсутствие средств электронной оплаты для иностранных пациентов</i>
	I.2 Inactivity of tourism facilitators and agencies licensed by the Ministry of Health & Tourism in tourist origin countries for marketing in neighbouring countries and directing tourists <i>Бездействие туристических посредников и агентств, лицензированных Министерством здравоохранения и туризма в странах происхождения туристов для маркетинга в соседних странах и направления туристов</i>
	I.3 Lack of patient hotels and accommodation centres for medical tourists in Isfahan <i>Отсутствие гостиниц для пациентов и центров размещения медицинских туристов в Исфахане</i>
	I.4 Limited number of internal and international flights for transfer of medical tourists <i>Ограниченное количество внутренних и международных рейсов для перевозки медицинских туристов</i>
	I.5 Lack of permanent and specialized exhibitions in the field of health tourism <i>Отсутствие постоянной и специализированной выставки в области оздоровительного туризма</i>
Regulations Нормативные документы	R.1 Weakness of laws governing medical errors and lack of a system for responding to dissatisfied medical tourists as well as certain restrictions on patient rights <i>Слабость законов, регулирующих врачебные ошибки, и отсутствие системы реагирования на недовольных медицинских туристов, а также некоторые ограничения прав пациентов</i>
	R.2 Lack of required and new laws due to the novelty of health tourism <i>Отсутствие необходимых и новых законов из-за новизны оздоровительного туризма</i>
	R.3 Inefficient insurance laws such as non-coverage of insurance for post-treatment care and non-fulfillment of financial obligations of some insurance organisations and the existence of domestic inefficient insurances <i>Неэффективные законы о страховании, такие как отсутствие страховки на послеоперационный уход и невыполнение финансовых обязательств некоторыми страховыми организациями, а также существование неэффективных национальных страховых компаний</i>
	R.4 Misuse of underground networks and weakness of treatment laws in this domain <i>Злоупотребление подпольными сетями и слабость законов об обращении в этой области</i>
	R.5 Not having a treatment services standard tariff for foreign patients, as well as not monitoring proper implementation of existing medical tariffs and having inefficient rules on pricing transparency for health care and tourism services <i>Отсутствие стандартного тарифа на услуги лечения для иностранных пациентов, а также отсутствие контроля за надлежащим исполнением существующих медицинских тарифов и неэффективные правила прозрачности цен на медицинские и туристические услуги</i>
Policy making Разработка политики	P.1 Weakness of management policies and lack of macro-management, lack of comprehensive and systematic plan and system for health tourism development <i>Слабость управленческой политики и отсутствие макроуправления, отсутствие всеобъемлющего и систематического плана и системы развития оздоровительного туризма</i>
	P.2 Weakness of supervisory policies and processes <i>Слабость надзорной политики и процессов</i>
	P.3 Lack of implementation of resilient economic policies, weak understanding and weakness of studies on this type of management due to the lack of trust in local capabilities as a result of international sanctions <i>Недостаточная реализация устойчивой экономической политики, слабое понимание и слабость исследований по этому типу управления из-за отсутствия доверия к местным возможностям в результате международных санкций</i>
	P.4 Recent economic crisis and high risk of investment by the private sector related to foreign currency exchange rate fluctuations <i>Недавний экономический кризис и высокий риск инвестиций со стороны частного сектора, учитывая колебания обменного курса иностранной валюты</i>

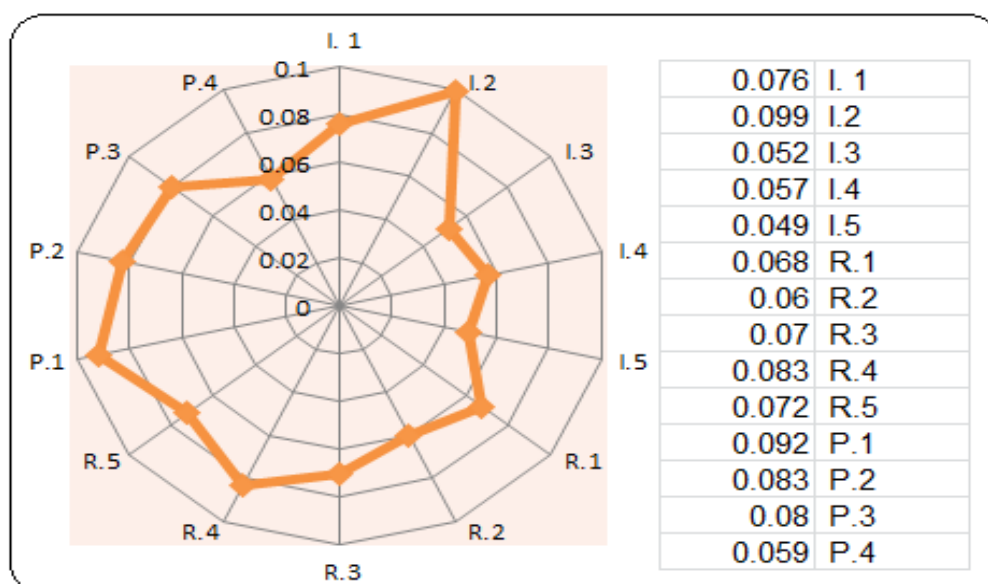


Figure 4. Prioritization of obstacles to Isfahan's medical tourism – infrastructures & regulations

Рисунок 4. Определение приоритетов препятствий для медицинского туризма в Исфахане. Инфраструктура и правила

In the present era, to gain a larger market share, acquire more customers and revenue and increase the efficiency and effectiveness of the medical tourism-related centers, it is necessary to engage in health tourism marketing [21]. As communication, marketing and advertising programmes/campaigns constituted the second factor identified in this research, it is essential for Isfahan to incorporate medical tourism into its tourism marketing strategies. Lack of a unique brand can be deemed as an initial obstacle facing Isfahan compared with its competitors (fig. 5). Although Isfahan has started medical tourism promotion by providing infertility treatment services, it does not appear satisfactory enough to attract foreign patients. One underlying reason is that foreign patients can find similar quality in certain other countries and even in other tourist cities in Iran. Hence, when debating advertising, special attention should be paid to advertising, brand positioning, pricing models and marketing channels [22]. The results of this study on barriers relating to marketing – as one of the important factors contributing to medical tourism – are in line with those obtained in case studies conducted, particularly in Iran [17; 23]. In the same vein, in the exploratory study by Alsharif et al (2010) on the motives of four countries (India, China, UAE, Jordan) and barriers to medical tourism, the identified factors relating to advertising and communications (language) index are similar to those reported in this research [24].

As far as the communications field is concerned, the most important obstacle experienced by Isfahan is the lack of coordination among institutions associated with medical tourism (tab. 2; fig. 5). In one research, service providers' ability to build healthy relationships with the suppliers of subsidiary industries (for example, medical facilitators and embassies) has been considered as vital the survival of medical tourism [25]. In addition, the abilities of the physicians themselves is the main factor in the transfer of positive communication skills and cultural competency to foreign patients [26] that seems to be influential in advertising policies. Therefore, in order to provide services in accordance with international standards, medical tourism destination countries need personnel who can speak foreign languages and effectively and sensitively interact with patients [27].

The expansion of the global internet network and the ease of informing prospective patients about the medical services of different countries [28] has led to the development of the medical tourism industry worldwide. The third obstacle to the development of medical tourism in Isfahan is access to medical and tourism information (tab. 3; fig. 6). Information systems have great power in the development of the medical tourism industry. Consequently, by using them, it is possible to realise this development as well as international and regional competition [29] and facilitate the process of developing customised service. Thus, information accessibility and retrieval for medical care provided abroad is one of the components of the decision-making process for medical tourism [30]. Some of the results of this research in this field are consistent with Saeedbakhsh et al.'s (2020) study [31].

Modern medical centres with international standards, advanced equipment and high quality medical services can significantly influence the attraction of medical tourists. Consequently, they act as a very important factor in the selection of medical tourism destinations. Today, the evaluation and improvement of service quality is known as one of the main tasks of management in the services sector [32]. The fourth barrier to Isfahan's medical tourism is related to the quality of medical services and facilities as one of the most important factors effective in medical tourism development. Some of these factors include ageing medical, clinical and hospital infrastructures in Isfahan and weak services especially in the hoteling of therapeutic centres, lack of development of non-governmental and private therapeutic centers of international quality level for attracting the medical tourists, lack of attention to human resource development and shortage of skilled manpower in the medical tourism industry and weakness of accreditation and use of international quality assurance standards to build customer trust (tab. 4; fig. 7). Lunt et al. have stressed that clients should be aware of the medical tourism potential for valid evidence of the quality of self-care and safety [33] and improve their medical tourism experience by using modern medical technology in order to increase their market share [34].

Table 2. Barriers related to communications and marketing**Таблица 2.** Барьеры, связанные с коммуникациями и маркетингом

Index / Индекс	Sub-index / Подиндекс
Language & Communications Язык и коммуникации	C.1 Lack of cooperation between embassies and medical centres in the execution of letters of understanding for cooperation on patient exchange from target tourism countries and weak connections between the medical tourism industry and overseas media for awareness-raising of the capabilities of medical tourism <i>Отсутствие сотрудничества между посольствами и медицинскими центрами с целью составления письма о взаимопонимании для сотрудничества по обмену пациентами из целевых туристических стран и слабая связь между индустрией медицинского туризма и зарубежными СМИ для демонстрации возможностей медицинского туризма</i>
	C.2 Lack of coordination among institutions and departments associated with medical tourism due to the lack of an inter-departmental agency to fulfill the functions of trustee, policymaker, organizer and supervisor in the field of medical tourism <i>Отсутствие координации между учреждениями и департаментами, связанными с медицинским туризмом, из-за отсутствия межведомственного агентства, которое выступало бы в качестве доверенного лица, разработчика политики, организатора и супервайзера в области медицинского туризма</i>
	C.3 Weak language-specific skills, specially weak communication (informing) and training of physicians required to strengthen the appropriate relationships between physicians and patients <i>Слабые языковые навыки, особенно слабая коммуникация (информирование) и подготовка врачей с целью укрепления соответствующих связей между врачом и пациентом</i>
Advertising & Marketing Реклама и маркетинг	M.1 Inattention to fertility services as a competitive treatment brand <i>Невнимание к услугам по лечению бесплодия как к конкурентному бренду лечения</i>
	M.2 Lack of health tourism package <i>Отсутствие пакета услуг по оздоровительному туризму</i>
	M.3 Lack of encouragement of local health tourists to use internet and modern technology facilities <i>Недостаточное поощрение местных оздоровительных туристов к использованию Интернета и современных технических средств</i>
	M.4 Lack of issuance of medical visas and inattention to this issue in Iran <i>Отсутствие выдачи медицинской визы и невнимание к этому вопросу в Иране</i>
	M.5 Lack of well-organised plans for information/communication, advertising and marketing, lack of overseas advertising system, insufficient and weak promotion of medical tourism through Internet and information technology and lack of appropriate structure for this kind of advertising for trust building and attracting foreign tourists in the region <i>Отсутствие хорошо организованных планов информирования/коммуникации, рекламы и маркетинга, отсутствие системы зарубежной рекламы, недостаточное и слабое продвижение медицинского туризма через Интернет и информационные технологии, отсутствие соответствующей структуры для такого рода рекламы для укрепления доверия и привлечения иностранных туристов в регион</i>

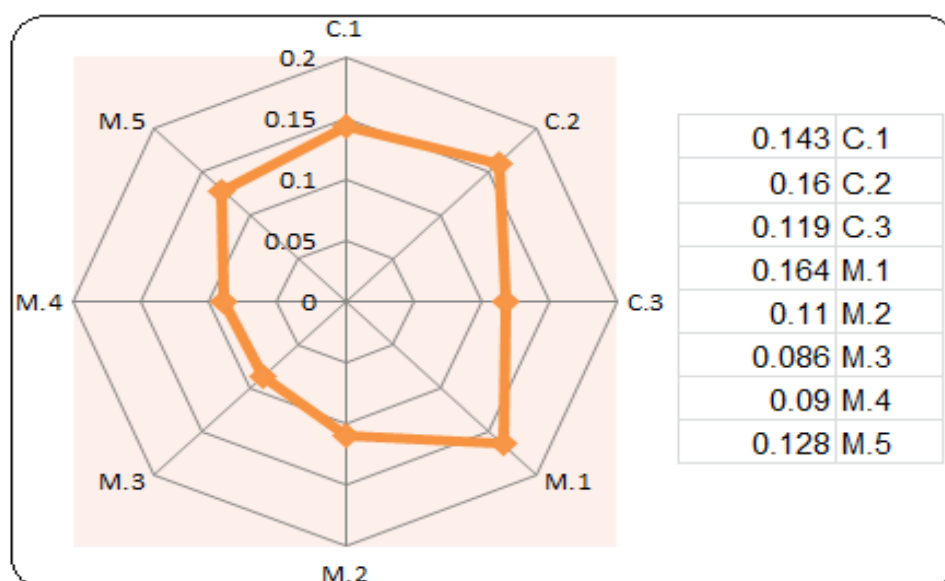
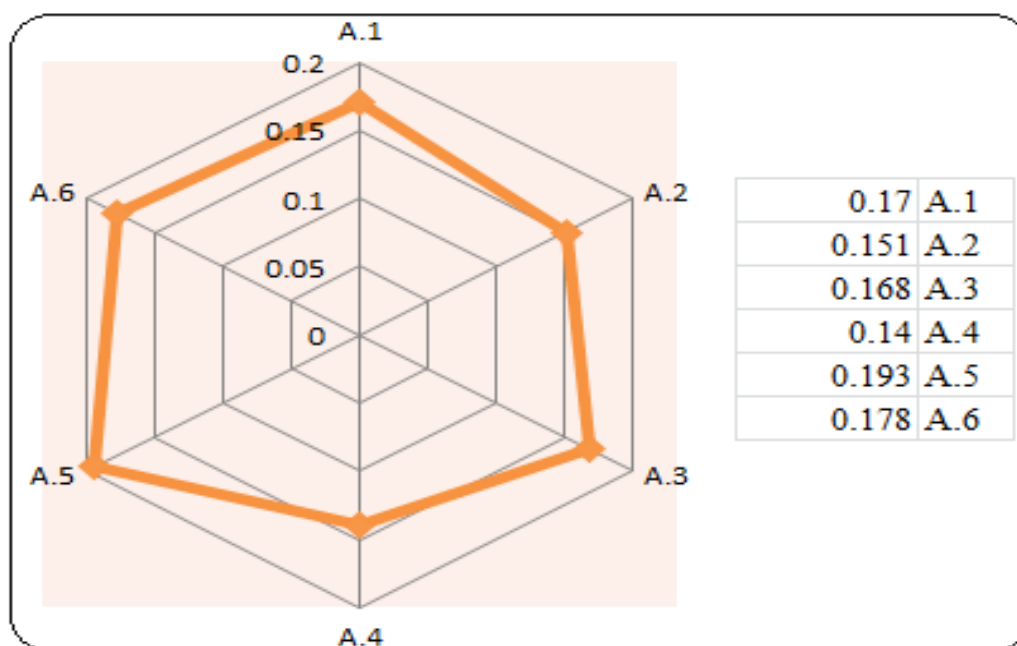
**Figure 5.** Prioritization of barriers to Isfahan's medical tourism – communications and marketing**Рисунок 5.** Определение приоритетов барьеров на пути медицинского туризма в Исфахане. Коммуникации и маркетинг

Table 3. Barriers related to access to information**Таблица 3.** Барьеры, связанные с доступом к информации

Index / Индекс	Sub-index / Подиндекс
Access to Medical & Tourism Information Доступ к медицинской и туристической информации	A.1 Lack of patient access to information on costs, medical equipment and standards related to hospitals and medical centres through the websites of hospitals and medical centres <i>Отсутствие доступа пациентов к информации о затратах, медицинском оборудовании и стандартах, связанных с больницами и медицинскими центрами, через веб-сайты некоторых больниц и медицинских центров</i>
	A.2 Lack of sufficient access to information on physicians, specialists and nursing staff of hospitals and medical centres <i>Отсутствие достаточного доступа к информации о врачах, специалистах и сестринском персонале больниц и медицинских центров</i>
	A.3 Lack of access to follow-up treatment and post-discharge care <i>Отсутствие доступа к последующему лечению и уходу после выписки</i>
	A.4 Lack of access to information on tourism infrastructures, services and attractions and Isfahan's comfortable climate on the websites of hospitals and medical centres active in the medical tourism domain <i>Отсутствие доступа к информации о туристической инфраструктуре, услугах и достопримечательностях, а также о комфортном туристическом климате Исфахана на веб-сайтах больниц и медицинских центров, работающих в сфере медицинского туризма</i>
	A.5 Lack of integrated tourism information system for the electronic tracking of patients from time of arrival in the country to treatment stages and exit <i>Отсутствие интегрированной туристической информационной системы для электронного отслеживания пациентов с момента прибытия в страну до этапов лечения и выезда</i>
	A.6 Impossibility of recording patients' experiences so as to respond to different sections involved in this domain and attract customers' attention and build trust <i>Невозможность записи впечатлений пациентов таким образом, чтобы реагировать на различные разделы, связанные с этой областью, привлекать внимание клиентов и укреплять доверие</i>

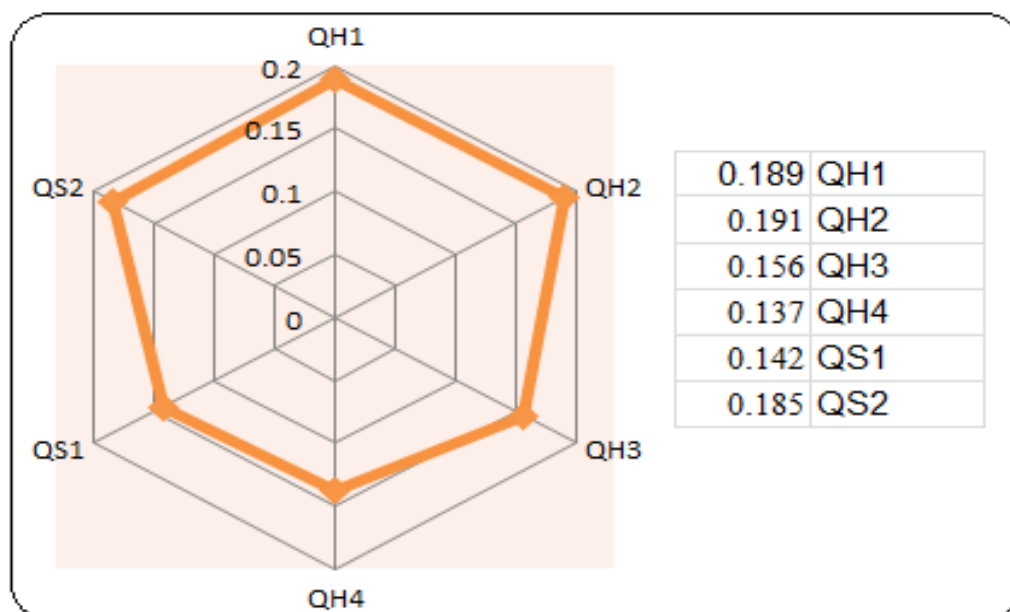
**Figure 6.** Prioritization of barriers to Isfahan's medical tourism - access to information**Рисунок 6.** Определение приоритетов барьеров на пути медицинского туризма в Исфахане. Доступ к информации

In this study, in addition to internal barriers, the impact of international factors especially emerging processes in the region and intense competition and investment in the field of medical tourism has been identified as the fifth barrier to Isfahan's medical tourism development (tab. 5; fig. 8). Many countries in the region, such as Jordan, Turkey and UAE, are making efforts to promote their medical tourism [35]. Beyond the region, factors such as a distorted image of Iran in the international community and lack of sufficient

resources to deal with negative publicity, as well as international sanctions, have been enumerated. Although it was expected that, upon the approval of the "Joint Comprehensive Plan of Action", sanctions on Iran would be lifted and global engagement and cooperation would be resumed, in actuality nothing special has happened. As far as international barriers are concerned, the results of this study were found to be consistent with studies by Hosseini & Taghvai (2020) and Momeni et al. (2018) [36; 37].

Table 4. Barriers related to quality of medical and tourism services and facilities**Таблица 4.** Барьеры, связанные с качеством медицинских и туристических услуг и объектов

Index / Индекс	Sub-index / Подиндекс	
Quality & Facilities of Hospitals and Medical Centers Качество и оснащение больниц и медицинских центров	QH1	Ageing medical, clinical and hospital infrastructures in Isfahan and weak services, especially in the field of the hoteling of medical centres <i>Старая медицинская, клиническая и больничная инфраструктура в Исфахане и слабое обслуживание, особенно в области размещения медицинских центров</i>
	QH2	Lack of development of private and non-governmental medical centres of international quality to attract health tourists <i>Недостаточное развитие частных и негосударственных медицинских центров международного качества для привлечения оздоровительных туристов</i>
	QH3	Lack of receipt of international formal permits such as JIC and quality standards (ISO, ESQA, NCQA) <i>Отсутствие получения международных официальных разрешений, таких как JIC и стандарты качества (ISO, ESQA, NCQA)</i>
	QH4	Lack of international insurance coverage for foreign patients due to barriers to transfer of insurance from source countries <i>Отсутствие международного страхового покрытия для иностранных пациентов из-за барьеров на пути передачи страховки из стран происхождения</i>
Service quality of physician and skilled human resource Качество обслуживания врача и квалифицированный персонал	QS1	Lack of international certification for some physicians, specialists and nursing staff <i>Отсутствие международного сертификата у некоторых врачей, специалистов и сестринского персонала</i>
	QS2	Inattention to human resources development and skilled human resources in the medical tourism industry <i>Невнимание к развитию человеческих ресурсов и слабость квалифицированных кадров в индустрии медицинского туризма</i>

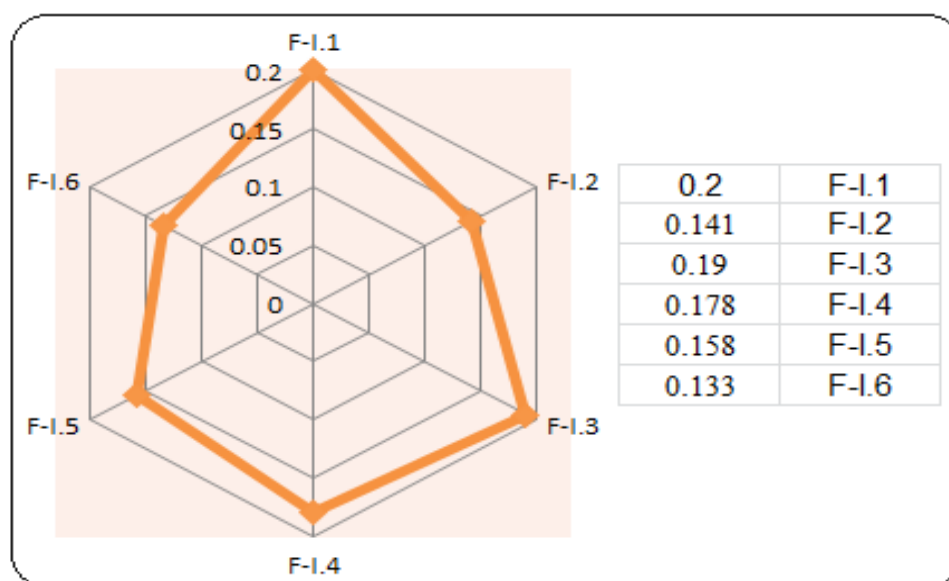
**Figure 7.** Prioritization of barriers to Isfahan's medical tourism – quality**Рисунок 7.** Расстановка приоритетов барьеров на пути медицинского туризма в Исфахане. Качество

It can be claimed that any debate of development without paying due attention to the concept of environmental sustainability is considered as incomplete. In this study, environmental factors related to medical tourism development included the index of Isfahan's environmental position - especially the problem of air pollution caused by economic and industrial activities and problems caused by pollution of water and soil and other environmental problems in the central area of the province and Isfahan metropolis (tab. 6). In this regard, an assessment of the environmental conditions of Isfahan city in terms of air pollution has revealed that, compared to other pollutants, the amount of sulphur dioxide and carbon monoxide has

had a greater impact on the environmental instability of Isfahan [38]. In addition, continuing drought conditions and reduced water resources and problems related to waste disposal are other obstacles mentioned in this area. Ulaş and Anadol (2016) identified and analysed the macro- and micro-level environmental factors involved in the medical tourism market [39]. The link between air pollution and the development of health tourism on the one hand and the emergence of an epidemic on the other, has necessitated a new concept of health, tourism and welfare in relation to the environment aimed at providing a healthy environment for medical tourists [40].

Table 5. International barriers related to medical tourism development**Таблица 5.** Международные барьеры, связанные с развитием медицинского туризма

Index / Индекс	Sub-index / Подиндекс
International Factors Международные факторы	F-I.1 Strengthening infrastructure and intense competition in the field of medical tourism and the emergence of relatively strong competitors between the countries in the region <i>Укрепление инфраструктуры и острая конкуренция в сфере медицинского туризма, а также появление относительно сильных конкурентов между странами региона</i>
	F-I.2 High variability of medical tourism services in Asian countries active in the medical tourism field <i>Широкий спектр услуг медицинского туризма в азиатских странах, активно работающих в сфере медицинского туризма</i>
	F-I.3 Investment by some competitor countries such as India in the region's medical tourism field <i>Инвестиции некоторых стран-конкурентов, таких как Индия, в сферу медицинского туризма в регионе</i>
	F-I.4 Negative propaganda of foreign media and presentation of a distorted image of Iran in the international community and lack of resources to counter this negative discourse <i>Негативная пропаганда иностранных СМИ и представление искаженного образа Ирана международному сообществу, а также нехватка ресурсов для противодействия этому негативному дискурсу</i>
	F-I.5 International sanctions <i>Международные санкции</i>
	F-I.6 Political instability in some neighboring countries and expansion of terrorism <i>Политическая нестабильность в некоторых соседних странах и распространение терроризма</i>

**Figure 8.** Prioritization of barriers to Isfahan's medical tourism – international factors**Рисунок 8.** Определение приоритетов барьеров на пути медицинского туризма в Исфахане. Международные факторы**Table 6.** Barriers related to environmental factors**Таблица 6.** Барьеры, связанные с факторами окружающей среды

Index / Индекс	Sub-index / Подиндекс	Weight Вес
Environmental Condition	E.1 Air pollution problems due to economic and industrial activities and problems resulting from water and soil pollution and other environmental problems in the central region of the province and Isfahan metropolis <i>Проблемы загрязнения воздуха в результате экономической и промышленной деятельности, а также проблемы, возникающие в результате загрязнения воды и почвы и других экологических проблем в центральном регионе провинции и мегаполисе Исфахан</i>	0.54
	E.2 Problems relating to waste disposal <i>Проблемы, связанные с утилизацией отходов</i>	0.2
	E.3 Continued drought condition and decreased water resources <i>Продолжающаяся засуха и сокращение водных ресурсов</i>	0.26

The barriers relating to treatment procedures in this study include two indexes of natural treatment and complementary medicine. The most important barrier of Isfahan in this field is the lack of a well-developed and detailed programme of traditional-Islamic medicine and natural treatments (tab. 7). In this respect, one of the factors determining the success of a country as a medical tourism destination is that of sites specifically designed and constructed as recreational medical spa complexes [41]. Besides highlighting and categorising various natural treatments (e.g. different types of water therapy, mud

therapy, sludge therapy, salt therapy, mountain climate, sunlight therapy) and traditional treatments (plant therapy, leech therapy, aromatherapy, massage therapy, acupuncture) involved in medical tourism development, a study has discussed theories supporting these treatments - theories such as taking a holistic approach to patient care (comprehensive philosophy), humorisme (blood, phlegm, soda and bile) in Iranian-Islamic medicine and indigenous theories and experiences of different cultures, the theory of adaptation in Chinese culture, *Ying-Yang's* balance theory [42].

Table 7. Barriers related to passive defense

Таблица 7. Барьеры, связанные с пассивной защитой

Index Индекс	Sub-index Подиндекс	Weight Вес
Passive Defense Пассивная защита	D.1 Inattention to provision of clinical and consulting services to patients and support of their companions <i>Невнимание к предоставлению клинических и консультационных услуг пациентам и поддержке их компаньонов</i>	0.37
	D.2 Medical needs of local people, shortage of physical space, crowdedness of medical centres due to the presence of medical tourists especially for local tourists <i>Медицинские потребности местного населения, нехватка физического пространства, переполненность медицинских центров из-за присутствия медицинских туристов, особенно местных туристов</i>	0.4
	D.3 Possibility of contagious diseases transmission, lack of well-equipped and modern paraclinical centers near the nation's borders for performing medical examinations on entry and guiding higher-order tourists to provincial centres <i>Возможность передачи инфекционных заболеваний, отсутствие хорошо оборудованных и современных параклинических центров вблизи границ для проведения первичных медицинских осмотров и направления туристов более высокого уровня в центры провинций</i>	0.23

Passive defense can become a part of national objectives and, consequently, regional objectives. Due to its effect on the degree of tourists' perceived risk, this index is of significant importance in the health tourism development [43]. As for passive defense, the possibility of contagious disease transmission and unanswered medical needs of indigenous people as a result of crowded medical centres due to the presence of medical tourists have been mentioned as the most important obstacles facing Isfahan's medical tourism. The results of this research in some cases such as the possibility of transmitting infectious diseases is consistent with those reported by Momeni et al. (2018) [36]. Based on studies, medical tourism contributes to the outbreak of such diseases.

CONCLUSION

Taking the results and discussion sections of this study into account, it becomes clear that Isfahan can be regarded as a good potential focus for medical tourism and medical infrastructure, as well as possessing cultural competence which gives it a competitive advantage amongst medical tourism destinations in Iran. However, the ranking of Isfahan in attracting foreign patients has sharply dropped (from 14 in 2015-2016 to 21 in 2020). To realise the objectives of *Iran's Vision Plan 2025* and compete in attracting the tourists from neighboring provinces and target countries by observing sustainability principles, Isfahan is facing multiple obstacles and restrictions. Thus, through developing a framework of indexes, this study has

tried to identify the most important barriers (in various combinations) that can hinder the provision of comprehensive and high quality services which lead to positive customer orientation, visitor wellness, time-saving and ensuring received services in the form of health villages.

Thereafter, considering the indexes identified and objectives of the national *Vision Plan*, the best and most efficient strategies and policies have been proposed towards supporting medical tourism. As a result, planning, adopting proper policies and executing the empowered management can meet a range of superior services (medical tourism) required by the neighboring provinces (in the west and centre of the country) and in the countries of the region. Moreover, the results of this research can help us to propose a general pattern to identify and analyse international obstacles to the offering of superior services to health tourists.

Accordingly, to remove the above-mentioned barriers, the following strategies are presented:

- Commissioning an integrated system for the provision of health-based services (medicine, treatment and wellness) with facilities for making online appointments and pre- and post- treatment medical consultations;
- Electronic tracking of patients and the manner of services provision from the moment of health tourist arrival to treatment stages and departure from the country and the managing and monitoring of the quality of services provided;

- Establishing new banking technologies and electronic payment facilities for foreign patients;
- Envisaging the possibility of recording patients' experience and accountability of different departments involved in this field for customer satisfaction, trust building and tourists attraction from target markets;
- Increasing communication and training of physicians and strengthening of appropriate relationships between physicians and patients;
- Integration of organisational systems and departments related to the health tourism domain and the creation or upgrading of the application of web-based systems in organisations and departments involved in this field for cooperation and coordination of relevant institutions;
- Creation of integrated medical and tourism databanks in Isfahan for informing and extensive and modern advertising via social media and internet networks;
- Developing a specific well-organized marketing programme and model for health tourism-related companies and facilitators and increasing competitive advantages through innovative services;
- Paying realistic and practical attention to branding, marketing promotion and modern marketing techniques;
- Developing tools for electronic services delivery and research and development activities in this field in the form of distant medical service provision through the use of global marketing strategies, using information and communication technology applications and destinations competitiveness;
- The necessity of developing a comprehensive plan for health tourism development and having an integrated scientific programme regarding resilient economic policies and the province's capabilities in this area in order to focus on and integrate international high quality activities and services for the treatment, recovery and convalescence periods in the form of establishment of health villages in areas with a pleasant climate near Isfahan based on environmental considerations (distant from centres of urban pollutions and making it a necessity to conduct environmental impact assessment studies and planning and controlling the potential pollutant sources of these programmes and waste comprehensive management), sustainability and passive defense through policy making and reconfiguration of the objectives and the modification of the attitude governing this field based on services integration approach;
- Developing and upgrading infrastructures required for the tourism domain (residential centres, transportation, reception, spaces and roads) and strengthening the medical infrastructure at the international standard level;
- Developing a wide range of medical services for foreign citizens in medical institutions by encouraging and strengthening private sector investors in the medical tourism market;
- Removing the legal restrictions of medical tourism development by passing required and new laws due to the novelty of health tourism, such as building special hospitals with special services for clients as a result of having experienced and well-known experts at the international level and service provision experiences in this field;
- Codifying the development's regulations and strategies of complementary insurance and providing enough information in this area, particularly for post-treatment care and removing barriers to international insurance transfer;

– Last and not least - developing new management and supportive regulatory policies for advertising activities in the medical tourism, such as reducing taxes on the import of medical equipment, providing necessary facilities and ensuring adequate government protection to enter and invest in the private sector and attract local and foreign investors and institutions active in the business of medical tourism.

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AUTHOR CONTRIBUTIONS

Somayeh S. Hosseini defined the idea of the study, built the logic of the study, participated in field research, compiled cartographic material, structured the results of the study and participated in the production of the graphic material of the article. Massoud Taghvaei formulated the problem, defined research methods, participated in field research, and structured the text of the article in the logic of research, selected bibliographic sources. Zagir V. Ataev performed an analysis of the existing experience and formulated the conclusions of the study. All authors are equally participated in the writing of the manuscript and are responsible for plagiarism, self-plagiarism and other ethical transgressions.

КРИТЕРИИ АВТОРСТВА

Сомайех С. Хоссейни определил идею исследования, выстроил логику исследования, участвовал в полевых исследованиях, составил картографический материал, структурировал результаты исследования, участвовал в изготовлении графического материала статьи. Масуд Тагвайи сформулировал проблему, определил методы исследования, участвовал в полевых исследованиях, структурировал текст статьи в логике исследования, подбирал библиографические источники. Загир В. Атаев выполнил анализ имеющегося опыта, сформулировал выводы исследования. Все авторы в равной степени участвовали в написании рукописи и несут ответственность при обнаружении плагиата, самоплагиата или других неэтических проблем.

NO CONFLICT OF INTEREST DECLARATION

The authors declare no conflict of interest.

КОНФЛИКТ ИНТЕРЕСОВ

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