



# International Standards for Medical Tourism: A Systematic Review of Iranian Hospitals' Status

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## Abstract

**Introduction:** The awareness of the current compliance of Joint commission international standards is a prerequisite for their upgrading. The purpose of this study was to provide a systematic review of the evaluation of Iranian hospitals in accordance with International Joint Commission standard.

**Methods:** The present systematic review was conducted in 2019. Data were gathered by searching the Google Scholar, Scopus, PubMed, and Web of science databases. Search keywords were “medical tourism”, “health tourism”, “joint commission international”, “JCI”, “Hospital”, “medical center” and “Iran”. The search protocol was limited to 2009-2019.

**Results:** The findings showed that the average compliance of patient-based standards was about 68.89% and the average adherence to organization-based standards was about 69.05%. Also, the most compliance with patient-based standards was related to “Anesthesia and Surgical Care”, while the least adherence to them belonged to the area of “Patient and Family Rights”.

**Conclusion:** According to the results of the study, Iran's medical tourism standards are not universally desirable; authorities are recommended to focus on continual improvement of their reliability and removal of their weaknesses. In this regard, strategies such as developing a comprehensive and mandatory national qualification program and evaluating its periodic performance in this field are suggested

**Keywords:** Medical tourism, Joint commission international, Hospital, Iran.

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## Introduction

As human society has evolved over the centuries and tourism has grown increasingly popular, medical tourism has been expanded as a branch of health tourism that has a significant impact on the income generation in various countries. Health tourism is a type of tourism in which a person travels to a place other than his or her place of residence for the purpose of maintaining physical and mental health and is divided into three categories: medical, therapeutic and health tourism (1). The World Tourism Organization (WTO) predicts that revenue from health tourism will reach more than \$2 trillion by 2020. According to reports in 2015, about 0.5% of the world's medical tourism income belongs to Iran (1, 2).

In the past decades, several Asian countries including Malaysia, Thailand, Singapore and India have entered the industry. In this way, India has earned about one percent of its GDP in 2010 from health tourism (3). Health tourism has been booming

in recent years for reasons such as globalization and freedom to trade in health services, facilitating international travel, changing exchange rates in the economy (the main attraction of developing Asian countries as medical tourism destinations), ease of access to health care services, and especially the low cost of health care in destination countries and many other reasons (4).

In order to meet the growing demand for accreditation of hospitals abroad, the Joint International Commission (JCI) has been launched to validate voluntary hospitals around the world (5). The commission has developed two standard groups, patient-based and organization-based, which includes the requirements of participation in global accreditation for hospitals. The standards of this commission are used as the most complete and most transparent standards of accreditation in the world with the aim of improving the quality of services in a systematic way to evaluate the effectiveness and

efficiency of hospitals (6).

The Islamic republic of Iran has also enacted a law as the “terms and conditions of medical centers” in order to create and upgrade the medical tourist infrastructure (7). There are some other effective factors including economic conditions, political space, existing infrastructure, quality and cost of service which are important in attracting health tourists. In particular, the quality of health care represents the most desirable health outcomes and guarantees effective, efficient and cost-effective service delivery (8, 9). On the other hand, we know that attracting health tourists is highly dependent on the quality of service provided and, therefore, on the recruitment of experienced and skilled physicians and staff. Hence, hospitals’ shift towards branding can be helpful in achieving this goal (10, 11). Due to the boom of medical tourism around the world, various studies have been conducted in this field.

According to Barghouthi et al. (2018) in Palestine, patient’s satisfaction in relation to international accreditation standards is more related to demographic characteristic and patient prospects (12). The study of Alghatani et al. (2017) in Saudi Arabia indicated that international accreditation has a positive impact on the process and implementation of change in the hospitals and improving health care provision (13). Xu Fang et al. (2016) in their study in China have reported that obtaining international accreditation certificate significantly reduces the proportion of drug-related errors to the number of patients discharged (14). In study by Badei et al. (2016), establishment of special medical tourism hospitals and public sector support for the private sector are identified as strategies for medical tourism development (15). According to Farzianpour’s study (2014), the most important outcome of patient evaluation according to international standards is the recognition of the patient’s medical and nursing needs (16).

Medical tourism must be practiced as one of the ways to earn money and increase GDP. In this regard, the hospitals must provide sufficient quality and high level standards. Receiving a certificate from international joint commission (JCI) by hospitals is one of the determinants of attracting health tourism. However, the prerequisites for the realizing and upgrading of these international standards are the awareness of their current compliance with JCI standards in Iran’s hospitals; adherence to these standards should be reviewed before being evaluated by the international commission to identify the strengths and weaknesses and provide strategies to

focus on strengths and eliminate the weaknesses. Therefore, the purpose of this study was providing a systematic review of the results of Iranian hospitals evaluation in accordance with international joint commission (JCI) standards.

## Materials and Methods

The present systematic review was conducted in 2019, aiming to identify the dimensions (both Organization-based and Patient-based Approach) of Medical Tourism’s international standards status in Iranian medical centers based on the preferred reporting items of the joint commission international.

### Research Questions and Conceptual Framework

The Joint Commission International (JCI) has been set up to validate volunteer hospitals on medical tourism accreditation. There are two approaches for assessing health tourism potential of hospitals: Organization-based and Patient-based. The aim in this study was evaluation of health tourism in Iranian hospitals based on these two approaches that were extracted from Joint commission international accreditation standards book, sixth edition.

The research questions include:

Q1) What is the percentage of compliance with JCI standards regarding the patient-centered dimension in hospitals?

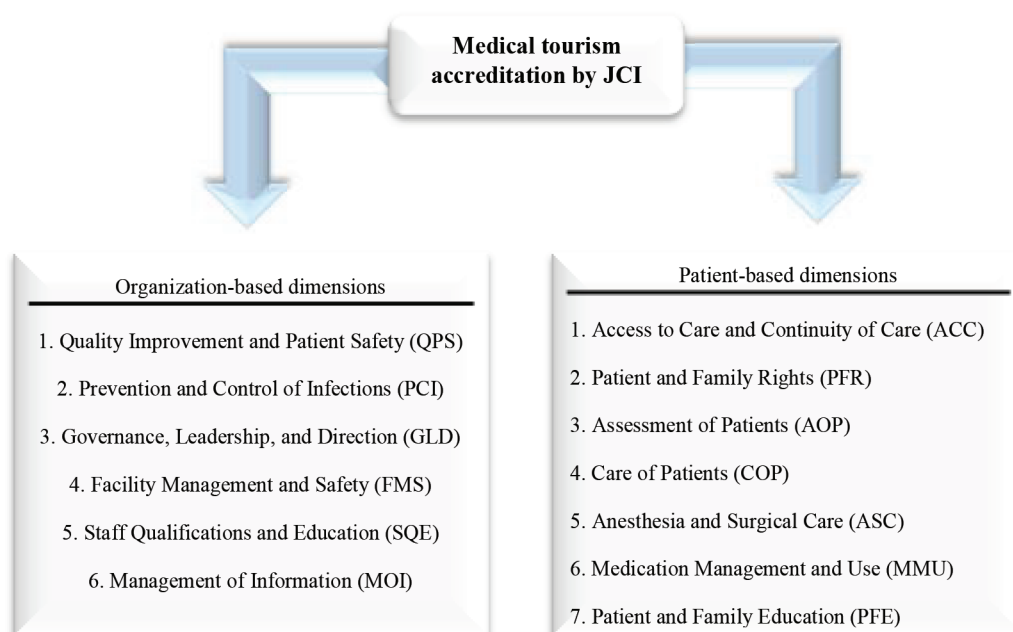
Q2) What is the percentage of compliance with JCI standards regarding the organization-based dimension in hospitals?

Q3) Which hospitals have the highest compliance with JCI standards dimensions?

Patient-based approach includes seven dimensions and organization-based approach includes six dimensions. The dimensions examined in this study were searched in the following conceptual framework using valid keywords in the hospitals (Figure 1). Also, in scoring the tools, first, the degree of fulfillment of each standard was determined according to a spectrum consisting of 5 scales from fully adhered to unobserved. Thus, if a standard is completely met, score 4, if it is often 3, partly 2, rarely 1, and never zero. Then, the sum of the scores of each standard was calculated and the total score of that standard was determined. Due to the varying number of questions in each standard, its compliance with specific percentages is compared with other standards (17).

### Search Strategy

Data were gathered by searching the Google Scholar, Scopus, PubMed, and Web of science,



**Figure 1:** Joint Commission International accreditation standards

Magiran, SID, Irandoc databases up to January 2019. To identify more articles, hand search of some credible key journals was also performed. Search keywords were “medical tourism”, “health tourism”, “joint commission international”, “JCI”, “Hospital”, “medical center”, and “Iran”. The Boolean operators AND, OR, and NOT were used to combine or limit the search results. The search protocol was limited to 2009-2019.

#### *Inclusion and Exclusion Criteria*

For selection of articles related to the research area, the inclusion criteria were (1) studies done in the field of medical tourism accreditation by JCI approaches in Iran’s hospitals during the last 10 years, (2) studies with different methods, and (3) only Persian and English studies. The exclusion criteria were articles the full text of which was not easily accessible.

#### *Study Selection*

The articles were searched with the keywords: “medical tourism”, “health tourism”, “joint commission international”, “JCI”, “Hospital”, “medical center”, and “Iran”. in their titles and abstracts were selected. Then, duplicate publications were identified and removed. Then, the inclusion and exclusion criteria were applied. Finally, a list of titles of all the searched articles in the databases was prepared. The list of selected studies was screened to determine the most relevant ones, and the irrelevant articles were removed. Evaluating and the creening

titles and abstracts as well as finding and removing the duplicate records were all done using resource management software (EndNote X6).

#### *Quality Assessment and Data Extraction*

Two reviewers independently assessed the quality of articles by STROBE (Strengthening the Reporting of Studies in Epidemiology Observational) checklist. The checklist contained 22 items related to the abstract, introduction, method, results and discussion. In the evaluation process, studies that were less than fifty percent matched with the checklist were excluded. After evaluating the quality and data extraction, 11 articles were selected. The required data including author/publication year, setting, score of Organization-based and Patient-based dimensions, and the total score of medical tourism accreditation were extracted in the table.

#### *Results*

A total of 395 studies were found through database searching; of them, 96 articles were deleted due to duplication. After screening the title and abstract, 281 articles were removed, and then 7 were removed by full-text review. Finally, 11 studies were completely in line with the study objectives (Figure 2). Finally, 9 cases of patient-centered standards (Table 1) and 8 cases of organization-based standards studies (Table 2) were extracted and reported.

Table 1 presents the results regarding compliance with the patient-based dimension of Joint Commission

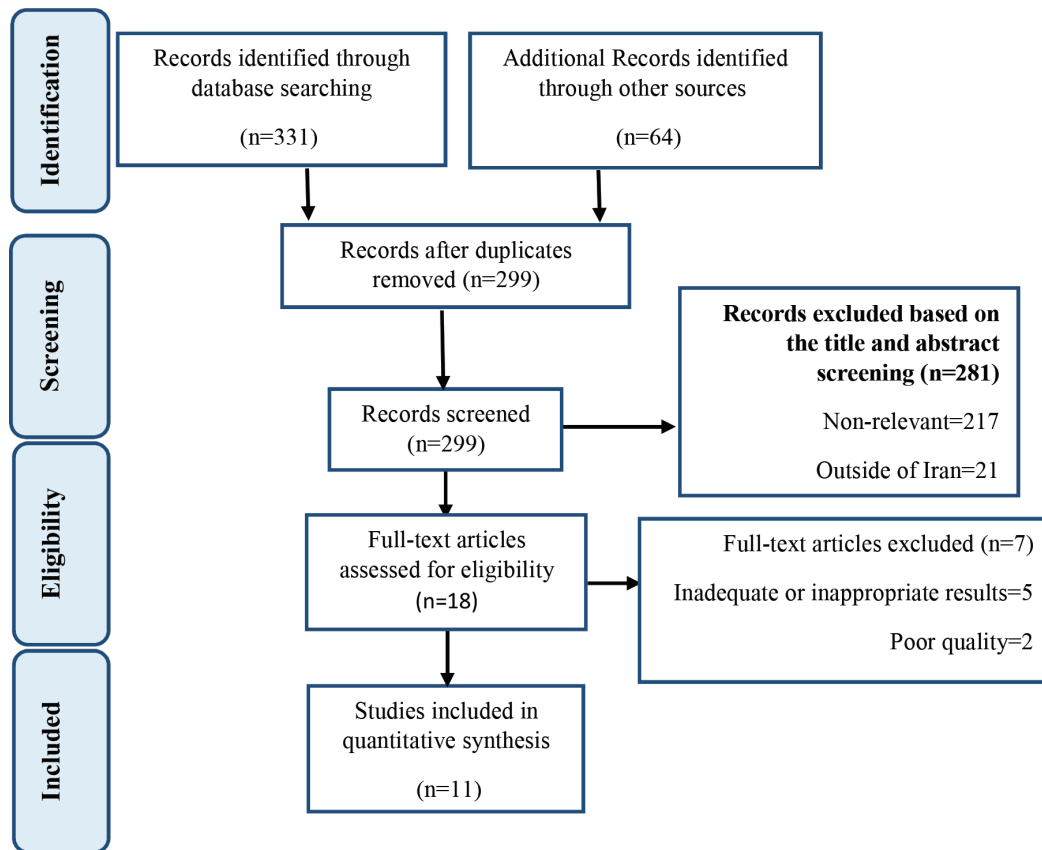


Figure 2: The flow diagram of the literature search

Table 1: The mean score of Iranian hospitals' compliance with patient-centered standards

Ref No	Author	Setting	ACC	PFR	AOP	COP	ASC	MMU	PFE	Patient-based standard%
(18)	Masoudi Asl, 2012	Selected Hospitals, Tehran	44.14	41.86	46.28	45.28	51.42	45.42	42	45.2
(19)	Khodayari, 2010	Hashemi Nejad, Rajaei, Rasoul Akram, Motahhari Hospitals, Tehran	64	54.87	71.87	61.37	74	75.5	59.75	66
(17)	Khodayari, 2011	Selected Hospitals, Tehran	66.33	56.83	71.5	62.5	74.33	76.83	60.66	67
(20)	Kalhor, 2014	Rahimian Hospitals, Pastor, Mehregan, Ghods, Rajaii, Abu Sina, Kosar, Qazvin	76.5	71	63.9	70	77.5	67.6	52.5	69
(21)	Musavi, 2016	Farabi Eye Hospital, Tehran	86.7	84.5	80	66.12	59.63	56.96	60.65	70.65
(22)	Ghaseminejhad, 2016	Teaching hospitals affiliated to Guilan and Mazandaran University of Medical Sciences	83.41	68.58	84.78	85.71	74.61	76.56	53.75	75.34
(23)	Jafari, 2016	Hospitals affiliated to Tehran University of Medical Sciences	87.2	70	78.1	71.7	86.6	78.5	78.5	75.4
(24)	shafaghat, 2012	Private and public hospitals active in medical tourism, Shiraz	81.3	83.3	83.3	82.6	83.5	74.7	58.9	75.6
(25)	Keshavarz M, 2013	Hospitals affiliated to Tehran University of Medical Sciences	83.5	66.35	87.95	68.6	95.7	71.5	70	75.86
Total			74.79	66.37	74.19	68.21	75.25	69.29	59.63	68.89

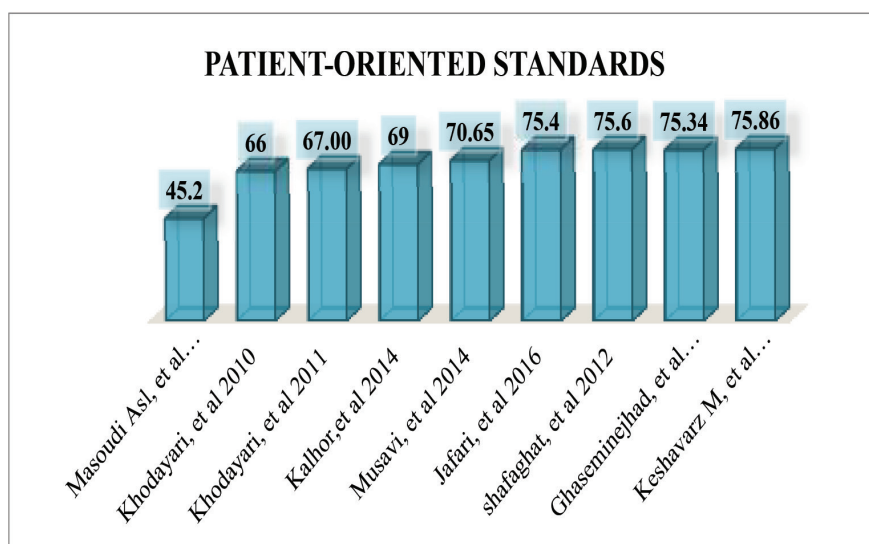
International medical tourism standards in Iranian hospitals. The surveys showed that, as shown, the mean compliance with patient-centered standards in Iranian hospitals was 68.89%. Comparison of these standards also showed that Anesthesia and Surgical Care (ASC) was the most area which adhered to the standards with 75.25, and the Patient and Family

Education (PFE) standard was the lowest with a compliance rate of 59.63 (Table 1).

The highest percentage of compliance with patient-centered standards was reported by Keshavarz's study [75.86] (2013), in which the highest scores were related to the dimensions of Anesthesia and Surgical Care (ASC=95.7) and Assessment of Patients (AOP=87.95),

**Table 2:** The mean score of compliance with organization-centered standards in Iranian hospitals

Ref No	Author	Setting	QPS	PCI	GLD	FMS	SQE	MOI	Organization-based standards%
(26)	Masoudi Asl, 2012	Selected Hospitals, Tehran	42	58	55.33	52.33	50.5	54	52.03
(21)	Mousavi, 2014	Farabi Eye Hospital, Tehran	44.54	66.25	69.9	60.87	55	56.9	58.91
(19)	Khodayari, 2010	Hashemi Nejad, Rajaei, Rasoul Akram, Motahhari Hospitals, Tehran	57.27	68.5	61.3	59.02	63.95	64.5	62.6
(20)	kalhor, 2014	Rahimian Hospitals, Pastor, Mehregan, Ghods, Rajaii, Abu Sina, Kosar, Qazvin	66	73.5	70.5	50	60.9	75.8	66.07
(23)	Jafari, 2016	Hospitals affiliated to Tehran University of Medical Sciences	73.6	79.3	69.2	81.4	74.6	83.6	76.8
(25)	Keshavarz, 2013	Hospitals affiliated to Tehran University of Medical Sciences	73.8	81.8	79.6	72	82.64	73.15	77.17
(24)	shafaghat, 2012	Private and public hospitals active in medical tourism, Shiraz	74.7	86.1	81.3	81	77.2	80.8	77.6
(27)	Zarei, 2017	Hospitals affiliated to Shahid Beheshti University of Medical Sciences	75.2	78.7	82.1	84.4	84.2	82.5	81.2
Total			63.39	74.02	71.15	67.63	68.62	71.41	69.05

**Figure 3:** The extent of compliance with patient-centered standards in the included studies

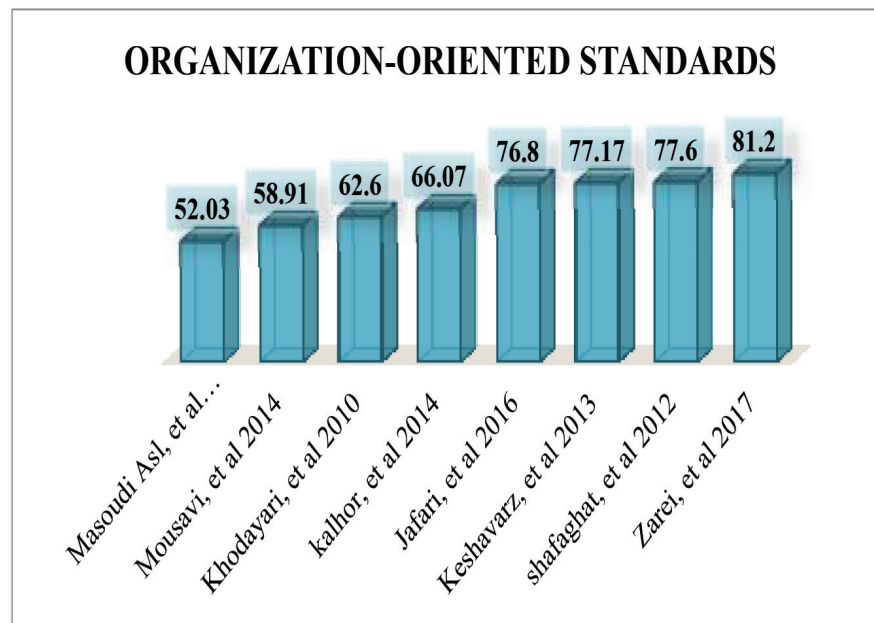
and the lowest scores to the dimensions of Patient and Family Rights (PFR=66.35) and Care of Patients (COP=68.6). The lowest percentage of compliance with patient-centered standards was also reported by Masoudi's study [45.2] (2012), in which Anesthesia and Surgical Care (ASC=51.42), Patient and Family Rights (PFR=41.86) obtained the highest and lowest scores, respectively (Figure 3).

Table 2 presents the results regarding compliance with the organization-based dimension of Joint Commission International medical tourism standards in Iranian hospitals. This table shows that the mean compliance with these standards is 69.05, and the Prevention and Control of Infections (PCI) dimension had the highest (74.02) and the Quality Improvement and Patient Safety (QPS) dimension

had the lowest compliance rate (63.39) in Iranian hospitals (Table 2).

The highest percentage of compliance with organization-centered standards has been reported by Zarei's study [81.2] (2017), in which the highest scores were related to the dimension of Facility Management and Safety (FMS=84.4) and the lowest to the dimension of Quality Improvement and Patient Safety (QPS=75.2). The lowest percentage of compliance with patient-centered standards was also reported by Masoudi's study [52.03] (2012), in which Prevention and Control of Infections (PCI=58) and Governance, Leadership, and Direction (GLD=55.33) obtained the highest scores and Quality Improvement and Patient Safety (QPS=42) showed the lowest score (Figure 4).





**Figure 4:** The extent of compliance with organization-centered standards in the hospitals under the study

## Discussion

In the present study, the results of the research related to the compliance of Iranian hospitals with the desired standards were systematically reviewed. The findings of the study showed that compliance with the standards of this commission was relatively favorable in the studied hospitals.

It was also found that the percentage of adherence to organization-based standards [69.05] was higher than the patient-based standards [68.89] because “Care of Patient” axis does not exist in the internal accreditation standards in health tourism and it has very little compliance with JCI patient-based standards (28).

Among the patient-centered standards, the “Access to Care and Continuity of Care” standard with the highest compliance rate [74.79] had a relatively good condition and was consistent with the observance of this dimension in Jafari’s (2014) study (23). In contrast, this axis was not in a favorable position in London because of the long waiting time for a doctor’s visit and the physician’s failure to continue treatment (29). This dimension has a significant impact on attracting medical tourists, and the commitment of health care providers to follow and take responsibility for the patient’s health after discharge and return to their country of origin was among the top priorities of tourists in choosing a destination.

“Patient and Family Rights” accounted for an acceptable compliance percentage [66.37], which is consistent with Ghaseminejhad’s study (2016), reflecting a relatively unacceptable attention paid to

patient and companion rights by the service providers (22, 30). According to the Shaikh’s study (2017), indicators related to this standard in Saudi Arabia are more comprehensive than JCI standards (31).

The percentage of the “Assessment of Patients” compliance was 74.19, which is higher [87.95] than that in Keshavarz’s study (2014) and this may be attributed to the presence of skilled staff and physicians, ease of access to para-clinical services and adherence to clinical standards (25, 32).

“Care of Patients” axis has achieved a compliance rate of 68.21, which is consistent with the Shafaghat’s study (2014) (24), while Zakirulkarim’s study (2016) shows that prioritizing the patient does not mean taking it as a customer, but rather making the service available to the patient and an effective effort to achieve better care is providing services to individual patients in the form of treatment groups (33).

The “Anesthesia and Surgical Care” standard has a relatively good compliance rate [75.25]; in Keshavarz’s study (2014), it is higher [95.7] (25); in this regard, according to Halasa’s study (2015), providing adequate treatment and control of medical errors can play an effective role in upgrading this standard and reduce the unintended need for re-surgery within 24 hours (34).

“Medication Management and Use” gained a compliance rate of 69.29, which is very close to the result of Kalhor’s study (2016) (20); also, implementation of this standard dramatically reduced the proportion of drug-related errors to the number of discharged patients in the Fang’s study

(2016) (14).

“Patient and Family Education” dimension, for reasons such as the lack of clarity about patient education, inability of the patient or companion to receive training, or lack of a qualified person to train, has the lowest percentage of compliance [59.63] and requires focus and improvement, while this percentage is much higher [78.5] in Jafari’s study (2014) (23). In this respect, in Shaikh’s study, the “Central Board for Accreditation of Healthcare Institutions” (CBAHI) has developed indicators such as the appointment of professional staff to assist in patient education, patient and family participation in the provided care that improve this dimension (35).

Among organization-based standards, “Prevention and Control of Infections” had the highest percentage of compliance [74.02], which is consistent with Kalhor’s study (2016) (20) and this acceptable level may be related to the focus on the internal accreditation program and the existence of an infection control program. According to Chen’s study (2013), infection control is one of the determinants of tourist attraction. Since nosocomial infections cause return and dissatisfaction of the patient and impose high costs and psychological damages on the provider and recipient, keeping this standard at an optimal level is important (36).

The “management of information” dimension has an acceptable compliance [71.41], while Zarei’s study (2017) shows a higher value [82.5], which can be related to monitoring the proper use of medical terms and abbreviations and proper documentation of medical records (27, 37).

The “Governance, Leadership, and Direction” dimension was in a relatively good status, with a compliance percentage of 71.15, and this percentage is close to Kalhor’s study (2016) and it is worth noting that this standard refers to components such as monitoring of health contracts and providing support and guidance in selecting the appropriate supply chain (20, 38).

The “Staff Qualifications and Education” standard was estimated 68.62 and this is almost the same in the Khodayari’s study (2010) (19). The percentage of “Facility Management and Safety” compliance was 67.63, which has achieved a higher score in the Zarei’s study (2017) so, it seems that steps can be taken to improve this dimension by developing effective rules and strategies around maintaining clinical and para-clinical equipment and facility inspection (27, 39).

“Quality Improvement and Patient Safety” [63.39] was the least respected dimension, and Kalhor’s

study (2016) also shows the same weakness (20). It could be due to the abundance of medical and clinical staff errors and lack of a comprehensive and sustained quality improvement plan and systematic performance evaluation, so upgrading this task requires much effort and attention. In Wang’s study (2015), in order to improve the patient quality and safety, they focused on reducing medication management errors, which led to the improvement of this standard (40).

In order to improve and develop international standards of medical tourism, the systematic recognition of this area in the health system is necessary and, therefore, human resources management and budget allocation should be on the government’s agenda (41). The most comprehensive strategy for achieving the global level is localizing proper international standards and enrich national accreditation standards. Limitations of this study included: 1) lack of access to some databases, 2) lack of full-text access to some articles, 3) lack of information about many hospitals in Iranian provinces that have not yet evaluated JCI standards.

## Conclusion

Evaluating the current status of JCI standards identifies reliable and modifiable points for medical tourism service providers in implementing international standards. The results showed that the strongest and weakest dimensions of patient-based standards were “Access to care and continuity of care” and “Patient and of family education”, respectively, and the strongest and weakest dimensions of organization-based standards were “Prevention and control of infections” and “Quality improvement and patient safety”, respectively.

Given that Iran’s medical tourism standards are not universally favorable, practitioners in this field should focus on continual improvement of the reliability of their performance and modifying their weaknesses. To this end, strategies such as developing a comprehensive and mandatory national qualification program and evaluating the hospitals’ performance periodically, further monitoring the quality indicators, developing training and retraining programs to enhance the skills of the staff working in this field are recommended.

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