

Factors Influencing Decision Making of Afghan Patients to Seek Medical Treatment in Pakistan: A Cross-Sectional Study

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Background: Due to inadequate healthcare facilities and certain technologies in Afghanistan, many Afghan patients seek medical treatment abroad. Thus, this study aimed to determine the factors that influence Afghan patients' decision to seek medical treatment abroad.

Methods: A cross-sectional study was conducted on 384 respondents in the center of the Special Commission, dispatching the patients to Torkham from June to September 2024 in Jalalabad City, Afghanistan. A non-probability convenience sampling method was used to select study participants. Data were collected using a pretested structured questionnaire. A hierarchical regression analysis was conducted to determine the factors influencing their satisfaction level toward medical treatment in Pakistan.

Results: A total of 384 respondents were enrolled, including 64.9% male and 35.1% female. 88.10% of participants were satisfied with medical treatment in Pakistan. 49.5% of respondents obtained information about medical tourism primarily from relatives. Among them, 24.2% were cancer patients, 16% were cardiology patients, 10.1% were surgical patients, and 8.8% were kidney patients. Medicines used in Afghanistan are of low quality; Pakistan's availability of internationally accredited hospitals, cultural/religious similarity, well-experienced and reputable doctors, similar language, and high-quality medical facilities with internationally certified physicians and staff were top-ranked items. According to regression analysis, the facility and services factor was the strongest factor ($\beta = 0.386$, $t = 8.508$, $p = 0.001$), followed by the country environment ($\beta = 0.213$, $t = 4.697$, $p = 0.001$) and medical tourism cost factor ($\beta = 0.142$, $t = 3.198$, $p = 0.001$).

Conclusion: The study concluded that facility and service factors were the strongest predictors of medical tourism, followed by the country's environment and medical tourism cost. Therefore, healthcare providers and policymakers need to consider the diverse preferences of Afghan patients and provide accurate, accessible healthcare services and advanced professional training of the healthcare providers, including attitude towards services.

Keywords: predictors, medical treatment, medical tourism, treatment destination, medical tourism costs

Introduction

The term “medical tourism” describes travel to developed and developing countries for elective or invasive medical procedures such as invasive surgeries or health examinations motivated by vacationers who are directly or indirectly involved, in collaboration with the tourism and hospitality sectors for leisure, relaxation, and business purposes.¹ The global market for medical tourism was valued at \$15.05 billion in 2017 and is projected to grow to \$28 billion by the end of 2024.² Approximately 14 million cross-border patients travel worldwide each year, spending an average of \$3800–7000 per visit on medical-related costs, cross-border and local transportation, inpatient stays, and accommodation.³ In 2017, more than 1.4 million Americans sought healthcare abroad, with over 40% viewing medical tourism as a feasible option for the future.⁴ In this area, India is regarded as a global leader and has become one of the most economical and rapidly expanding locations for patients looking medical treatment abroad.⁵ According to media reports, many Afghans travel to Pakistan, India, and occasionally the United Arab Emirates, Iran, and Turkey for medical treatment due to limited availability of quality healthcare facilities for diagnosis and treatment and a lack of new and modern insurance diagnostic and treatment technologies, insufficient number of highly qualified medical professionals, and various ethical and regulatory issues.⁶ The number of Afghan medical tourists visiting India increased from 130,000 in 2015 to 200,000 in 2016.⁷ However, these figures specifically refer to patients entering India on a medical visa.⁸ According to the Afghan Ministry of Public Health (MoPH), 99.3% of people who received medical treatment abroad said it was better than in Afghanistan. The MoPH estimates that Afghans traveling abroad for treatment spend \$1300 (72,000 AFN). According to reports from various media outlets, Afghans spend an estimated \$300 million on medical treatment abroad every year, particularly in Pakistan, India, and Turkey.⁹ The media report stated poor healthcare facilities and lack of certain technologies and professional knowledge in Afghanistan are factors influencing the choice of destination for medical treatment abroad.¹⁰ A qualitative study conducted by Freshta Karimi shows that the main reason for Afghan patients to pursue medical treatment abroad is a lack of satisfaction with the quality of national healthcare services. This research also identifies the key factors that contribute to this dissatisfaction, including patients with complicated diseases, misdiagnosed individuals, lack of medical professionals, promotions (such as relationships between Afghan doctors and foreign hospitals, especially in India and Pakistan), competition and/or showing off, lack of trust among Afghans in the country’s medical professionals (inconsiderate behavior by doctors towards their patients), and low quality of medication.¹¹ Historically, Pakistan has been the most popular destination for Afghans for seeking medical treatment, accounting for about 90% of these visits,¹⁰ largely due to lower travel costs compared to India or other countries, making it a preferred choice for those with lesser incomes, especially those residing in the eastern provinces of Afghanistan.¹¹ The Afghan healthcare system has been severely compromised by decades of war, resulting in poor healthcare outcomes and limited access to quality medical services. As a result, many Afghan patients seek medical treatment abroad, particularly in Pakistan and India. This is primarily due to inadequate healthcare facilities, limited access to specialized and advanced services, perceptions of better care in Pakistan, economic considerations, and shared language, cultural, and religious similarities. Additionally, trust in Pakistani healthcare providers plays a significant role in this trend. This large number of medical migrations has significant economic implications. Instead, funds that could be spent in Afghanistan are being diverted out of the country, with negative effects on the national economy and on individual savings.¹¹ Despite the growing trend of seeking medical care overseas, there is a noticeable dearth of research exploring the factors that influence Afghan patients’ decision to seek medical treatment abroad. Therefore, understanding these factors is crucial to addressing the gaps in the Afghan healthcare system, reducing the dependency on foreign healthcare, and developing strategies to enhance domestic healthcare delivery. Furthermore, it makes sense to carry out additional academic research to provide documentation in this area. In light of this, this study aimed to investigate the factors that affect Afghan patients’ choices and level of satisfaction with medical care in Pakistan. Identifying the diseases that Afghan patients’ intended to be treated during medical treatment in abroad. Finally, to provide evidence-based recommendations for MoPH, policymakers, and healthcare providers to enhance domestic healthcare systems, reduce outbound medical treatment, and adjust policies for improved residents’ health. The rest of this document is structured as follows: Section 2 presents the necessary variable for medical tourism. Section 3 describes materials and methods. Section 4 presents the findings of the study, followed by a discussion in Section 5 that interprets the results in light of the

existing literature. Finally, Section 6 outlines the policy implications, practical recommendations, and conclusions, along with directions for future research.

Indispensable Variables of Medical Tourism

Medical tourists' destination choices are influenced by factors such as reputable doctors, cultural/religious similarity, environmental factors, good accommodations, geographic closeness, high-quality medical care, safety, environmental aspects, innovative medical technology, patient-relative consideration, language services, taking into account medical tourists' food and beverage preferences, offering religious services, creating halal environments, medical specialization, instilling confidence in patients, and the attitude of insurance companies.^{2,12–14} Despite cultural differences, some of these predictors are significant to all people worldwide.² Additional factors include affordable treatment costs, the availability of surgery and complex medical procedures, the ability to receive treatment more quickly, insurance coverage restrictions, privacy concerns, amiable staff, and high-quality medical services and care.^{1,14–16} However, a study reported that the Bangladeshi patients often seek medical treatment abroad due to expensive surgeries, lack of insurance, long waiting times, unavailability of quality treatment, and inadequate medical facilities; lack of trained doctors' and nurses; behavioral issues, such as not being attentive and not providing adequate time for patients; and, besides, even doctors and political leaders' willingness to seek treatment abroad undermines public confidence in the healthcare system.¹ According to Fetscherin and Stephano,¹⁶ two types of factors influence patients to seek medical treatment abroad. The first type includes push factors related to the medical tourists' home country. For example, in Afghanistan, the use of low-quality drugs, non-standard treatments, unreliable laboratory equipment, insufficiently knowledgeable technicians, academically weak doctors, diagnostic errors, and unfriendly behavior of doctors and health workers towards patients. The second type consists of pull factors offered by health institutions in other countries, which attract potential medical tourists, such as cultural/religious similarity, shared language, well-experienced doctors, friendly staff, quality treatments, low treatment costs, and internationally educated doctors.²

Materials and Methods

Study Setting and Design

A community-based cross-sectional study was carried out on 384 respondents in the center of the of the Special Commission, dispatching the patients to Khyber Pakhtunkhwa (KPK) from June to September 2024 in Jalalabad City, Afghanistan. The following were the inclusion criteria: 1) Those patients whose sickness is certified by the special commission dispatching the patients to KPK. 2) Those patients who have been given the token by the special commission dispatching the patients to KPK, as well as those patients who are willing to participate, were included in the study. 1) Patients whose questionnaires were incomplete. 2) Patients who did not receive a token from the special commission responsible for sending patients to KPK and who refused to participate were excluded from the study. As shown in [Table S1](#), this paper is presented in compliance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

Sample Size and Sampling Technique

All eligible respondents were invited to participate. A single population proportion formula was used to estimate the sample size under the following assumptions: **n** is the sample size; **p** is the outcome proportion expressed as a percentage of 50%; **d**² is the margin of error, which in this case is 0.5 (5%); and 1.96 is the standard normal z-value for a 95% confidence interval. Consequently, the minimum size of the sample required was 384 participants. Due to time and resource constraints, infinite population, as well as the nature of the study, we preferred non-probability convenient sampling as the method for data collection.

$$\text{Calculation: } n = \frac{z^2 \times p(1-p)}{d^2} = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2} = 384$$

Data Collection and Patient Characteristics

The survey questionnaire was developed based on a similar study conducted by Zakaria Muhammad et al, translated into the local language Pashto, and used with some minor modifications according to the context of Afghanistan to achieve our study objectives,¹ and the factors influencing Afghan patients' decision to seek medical treatment abroad were adopted from a study conducted by Fetscherin and Stephano.¹⁶ The questionnaire was divided into four constructs: "patients' sociodemographic characteristics, including age, gender, region, place of residence, education, income, marital status, and occupation"; the next three constructs: Health background information (perception of health status, purpose of visit to Pakistan, duration of suffering from disease, and the treatment sector in Afghanistan), source information (the main source of information on medical tourism and a powerful decision-making tool), and factors that influenced patients' decision to seek medical treatment in Pakistan. Data collection was carried out by the researcher himself. First, the researcher invited patients to participate in the survey, who applied for the token at the center of a special commission that dispatching the patients to Khyber Pakhtunkhwa (KPK) in Jalalabad city, Afghanistan. The researcher then explained the importance of the study for the patients. After obtaining consent, the participants were informed about the confidentiality of the study and agreed to participate on a voluntary basis. The data was collected through a personal interview. To track and learn more about participants' satisfaction with medical treatment received abroad, the researcher requested their contact information after completing the survey. After some time, the researcher contacted the patients who had come from abroad and inquired about their satisfaction with the treatment there. We distributed questionnaires to a total of 404 people. Among them, three people's questionnaires were incomplete, three others refused to complete the questionnaire, and 16 were patients who completed the questionnaires and traveled to a neighboring country for treatment. However, after returning from the neighboring country, their contact numbers were no longer active. Therefore, a total of 20 individuals were excluded from the study during the data analysis phase. As a result, 384 participants with complete data for all variables were included in the analyses.

Measurements

The key factors influencing Afghan patients' decisions to seek medical treatment abroad were the independent variables in this study. The "Medical Tourism Index (MTI)", which was created by Fetscherin and Stephano and comprises 34 items (country environment, tourism destination, medical tourism costs, and facilities and services), was used to conduct the assessment.¹⁶ We adopted 26 items from this MTI with minor modifications, selecting 8 of these items based on the unique context of our country, for a total of 26 items. Using the six-point Likert scale, 26 items related to MTI were measured: Do not know = 0, strongly disagree = 1, disagree = 2, unsure = 3, agree = 4, completely agree = 5.

Pilot Study

A pilot study was carried out on 30 participants prior to the questionnaire's completion in order to guarantee its quality. The questionnaire's content validity was examined by an expert researcher, and their comments were considered. The tool's reliability was evaluated using the Cronbach alpha test. The findings reveal the acknowledged reliability of the instrument: ($\alpha = 0.89$) for the facility and services construct, ($\alpha = 0.80$) for the country environment construct, and ($\alpha = 0.79$) for the medical tourism costs construct, which shows the tool's accepted reliability. The pilot study's observation was not included in the final analysis.

Statistical Analysis

An Excel spreadsheet was used to enter the initial data, which was subsequently exported to SPSS version 28.0 for analysis. The distribution of the quantitative variables was tested for normality via the Shapiro–Wilk test. Data are summarized as mean $\pm$ SD for variables with an approximately normal distribution. All qualitative data were expressed as a percentage (%) and a number (n). The one-sample *t*-test was used to calculate the mean scores of the MTI satisfaction levels, with a cutoff value of 3.5. A hierarchical regression analysis was performed to determine the factors influencing their satisfaction level toward medical treatment in Pakistan. In order to identify the predictors of higher

satisfaction scores, all three subfactors were incorporated into linear regression models since their p-value was <0.05. A p-value that was less than 0.05 was deemed statistically significant, and the p-value was two-sided.

Results

A total of 384 respondents were enrolled, including 64.9% male and 35.1% female. The mean age of the respondents was 43.76±19.5 years (range, 1–90 years). 88.10% of the respondents reported satisfaction with medical treatment in Pakistan. [Tables 1](#) and [2](#) show the statistical data on the socio-demographic and health-related characteristics of the study participants.

The Diseases That Afghan Patients' Intended to Be Treated During Medical Treatment in Neighbor Country

According to [Figure 1](#), cancer accounted for 24.2% of the study participants, followed by cardiology 16.0%, surgery 10.1%, kidney 8.8%, neuro 8.0%, liver 4.1%, tumor 4.1%, lung 3.1%, hematology 3.1%, orthopedics 2.8%, rheumatic

Table 1 Sociodemographic Characteristics of Study Participants [N=384]

Variables	Categories	Frequency	Percentage
Age (in years)	1–15	33	8.5%
	16–30	82	21.4%
	31–45	73	19.1%
	46–60	116	30.2%
	>60	80	20.9%
Gender	Male	249	64.9%
	Female	135	35.1%
Region	Central	113	29.6%
	Northern	97	25.0%
	Southern	15	3.9%
	Eastern	149	38.9%
	Western	10	2.6%
Residence	Urban	154	39.9%
	Rural	230	60.1%
Education	Uneducated	221	58.0%
	Primary	38	9.8%
	Secondary	35	9.0%
	High school	58	14.9%
	University	31	8.0%
	Master	1	0.3%
Income	High	16	4.2%
	Medium	209	54.6%
	Low	159	41.2%
Marital status	Single	74	19.1%
	Married	310	80.9%
Occupation	Business Men	2	0.5%
	Student	16	4.1%
	Housewife	125	32.2%
	Service/Professional	25	6.4%
	Unemployed	216	56.7%

Table 2 Health Related Characteristics of Study Participants [N=384]

Variables	Categories	Frequency	Percentage
Perception of health status	Good	57	14.7%
	Fair	135	35.3%
	Poor	192	50.0%
Specific purpose of visiting in Pakistan	Diagnosis/checkup and Self-treatment	384	100%
Duration of suffering a disease	<1 year	109	28.6%
	1–2 years	84	21.6%
	3–4 years	42	10.8%
	>4 years	149	38.9%
Sector of receiving treatment in Afghanistan	Private clinic	71	18.3%
	Government Hospital	44	11.3%
	Both	269	70.4%

diseases 2.3%, eye 2.1%, gastroenterology 1.8%, diabetes 1.3%, ENT 0.8%, gynecology 0.8%, infertility 0.5%, skin diseases 0.5, endocrinology 0.3%, and other diseases 5.3%.

Source-Related Information of Study Participants

According to Table 3, which shows the status of information of the study participants, the main sources of knowledge on medical tourism are relatives (49.5%), followed by doctors (23.5), friends and colleagues (11), family members (8.5) and social media (0.5). Additionally,64.9% of patients said that family members or relatives encourage them to seek medical treatment overseas, followed by hospital physicians at 30.9%.

Distribution of the Medical Tourism Index’s Components

The mean score and the percentage distribution of the one-sample *t*-test (two-tailed) results for the attitude of respondents toward the medical tourism index items are presented in Table 4. According to the results of the one-sample *t*-test, out of the 26 items related to MIT, the mean scores for 15 of them were significantly above the satisfactory limit ($p = 0.001$), while the average values for 11 items were below the satisfactory limit of 3.5 ($p = 0.001$). Out of the 26 items, the facility and services (FS) factor and country environment components had the majority of the top-ranked items, based on the observed mean value. The top 15 items in the ranking order were: (1) Drugs used in Afghanistan are of low quality (FS); (2) Neighbor country has well-experienced

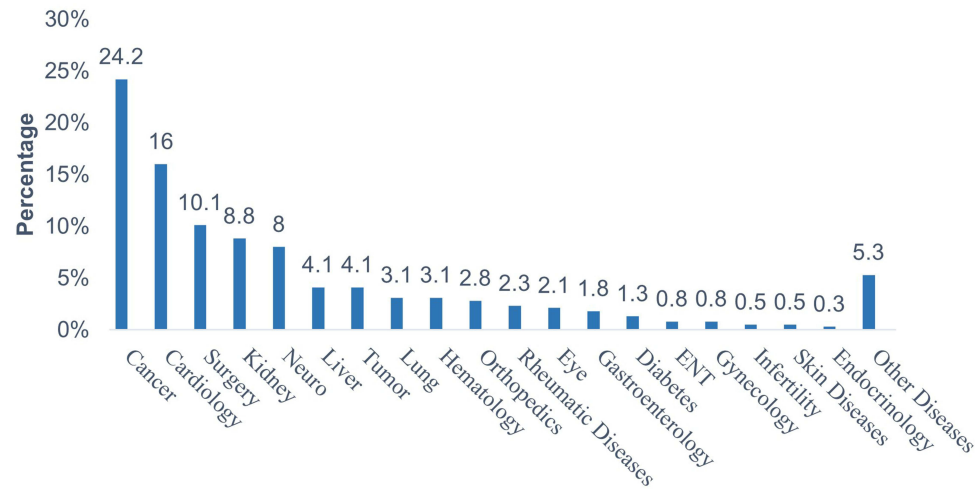


Figure 1 The diseases for study participants intended to take treatment in Pakistan.

Table 3 Source-Related Information of Study Participants [N=384]

Variables	Categories	Frequency	Percentage
A key source of information regarding medical tourism	Relative	189	49.5%
	Friend/colleague	39	10.1%
	Family member	31	8.0%
	Social Media	2	0.5
	Mass Media	33	8.5
	Doctors	90	23.5
An influential source for decision-making	Patients	14	3.6%
	Family/relative	250	64.9%
	Hospital Doctors	120	31.5%

Table 4 Mean Score and One Sample t-Test Different Items Relating to Medical Tourism Index

Items	M	SD	Rank	t	p
Drugs used in Afghanistan is of low quality ^(FS)	4.026	1.139	1	69.643	0.000
Neighbor country has internationally accredited hospitals/medical facilities ^(FS)	3.905	2.298	9	125.448	0.000
Neighbor country is culturally /religiously similar to mine ^(CE)	3.956	0.499	5	156.256	0.000
Neighbor country has well experienced doctors ^(FS)	3.985	0.373	2	210.293	0.000
Neighbor country has well trained doctors ^(FS)	3.964	0.430	3	181.660	0.000
Neighbor country has reputable doctors ^(FS)	3.959	0.465	4	167.600	0.000
Neighbor country has a similar language to mine ^(CE)	3.918	0.527	7	126.335	0.000
Neighbor country has internationally educated doctors ^(FS)	3.915	0.610	8	139.175	0.000
Neighbor country has hospital/medical facilities with high standards ^(FS)	3.936	0.569	6	136.191	0.000
Neighbor country has internationally certified staff and doctors ^(FS)	3.905	0.613	10	117.623	0.000
Neighbor country is known for state-of-the-art medical equipment ^(FS)	3.894	0.672	12	114.182	0.000
Neighbor country has quality treatments and medical materials ^(FS)	3.899	0.699	11	109.889	0.000
Neighbor country has friendly staff and doctors ^(FS)	3.861	0.845	13	89.974	0.000
Neighbor country has hospital /medical facilities with good healthcare indicators ^(FS)	3.827	0.793	14	95.056	0.000
Neighbor country has reputable hospitals/medical facilities ^(FS)	3.820	0.856	15	87.925	0.000
Treatment in Afghanistan is not standard ^(FS)	3.376	1.021	16	65.167	0.000
The country's laboratory equipment is unreliable, and the technicians' level of knowledge is low ^(FS)	2.992	0.944	17	62.428	0.000
Doctors in Afghanistan are weak academically and make mistakes during diagnosis ^(FS)	2.776	0.978	18	56.262	0.000
Doctors and health workers in Afghanistan are not friendly with the patients and their attendance ^(FS)	2.358	0.920	19	50.519	0.000
The pharmaceutical company in the country is standard ^(FS)	2.026	0.658	20	60.610	0.000
The condition of medication in the pharmacy is standard ^(FS)	2.003	0.766	21	51.505	0.000
Is the imported medicine brought to the country under a standard system ^(FS)	1.969	0.596	22	65.040	0.000
Neighbor country has low treatment costs ^(MTC)	1.802	1.594	23	22.258	0.000
Neighbor country has low corruption ^(CE)	1.580	1.748	24	17.803	0.000

(Continued)

Table 4 (Continued).

Items	M	SD	Rank	t	p
Neighbor country has hospitals/ medical facilities I would recommend (FS)	1.075	1.700	25	12.451	0.000
Neighbor country has doctors I would recommend to my family or friends (FS)	1.028	1.626	26	12.461	0.000

Notes: Items: Variables being analyzed, M: Mean value for each item, SD: Standard Deviation, Rank: The position of the item based on a specific criterion, such as highest to lowest mean, t: t-value from one sample t-test, p: p-value were obtained from a one sample t-test.

Abbreviations: FS, Facility and services factor; CE, Country environment components; MTC, Medical tourism cost.

doctors (FS); (3) Neighbor country has well-trained doctors (FS); (4) Neighbor country has reputable doctors (FS); (5) Neighbor country is culturally or religiously similar to mine (CE); (6) Neighbor country has high-quality medical facilities (FS); (7) Neighbor country has a similar language to mine (CE); (8) Neighbor country has internationally educated doctors (FS); (9) Neighbor country has internationally accredited hospitals (FS); (10) Neighbor country has internationally certified physicians and staff (FS); (11) Neighbor country has quality treatments and medical materials (FS); (12) Neighbor country is known for state-of-the art medical equipment (FS); (13) Neighbor country has friendly staff and physicians (FS); (14) Neighbor country has hospitals with good healthcare indicators (FS); (15) Neighbor country has reputable hospitals/medical facilities (FS).

Satisfaction with Medical Tourism

The findings of the hierarchical regression analysis revealed that when the included facility and services factor was combined with the other two predictors in model 3, the facility and services factor ($\beta = 0.386$, $p = 0.001$), the country environment factor ($\beta = 0.213$, $p = 0.001$), and the medical tourism costs factor ($\beta = 0.142$, $p = 0.001$) contributed significantly to the regression model ($F = 54.25$, $p = 0.001$) and accounted for 29.2% of the variations in the outcome variable (Table 5).

Table 5 Results of the Hierarchical Regression Analysis Representing Factors Affecting Study Participants' Satisfaction with Medical Tourism in Pakistan

Variables	R ²	ΔR ²	B	SE	β	t	P
Model 1	0.229	0.227					
Facility and services			0.395	0.037	0.479	10.71	<0.001
Model 2	0.279	0.275					
Facility and services			0.388	0.037	0.410	9.047	<0.001
Country environment			0.112	0.022	0.234	5.164	<0.001
Model 3	0.298	0.292					
Facility and services			0.318	0.037	0.386	8.508	<0.001
Country environment			0.102	0.022	0.213	4.697	<0.001
Medical tourism cost			0.029	0.009	0.142	3.198	0.001

Notes: Step 1: $\Delta R^2 = 0.227$, ($F = 114.66$, $p < 0.001$); Step 2: $\Delta R^2 = 0.275$, ($F = 74.48$, $p < 0.001$); Step 3: $\Delta R^2 = 0.292$, ($F = 54.25$, $p < 0.001$).

Discussion

In this study, a total of 384 individuals were enrolled, of whom 64.9% were male and 35.1% were female. The number of male visitors for medical treatment was higher than that of females, and 80.9% were married. The majority of the study participants were middle-class and unemployed. With regard to the place of residence, the majority of patients were from the rural areas. The findings of this study consistent with the findings of studies conducted by other authors.^{1,2} The study reported that many Afghan patients visit Pakistan for routine checkups to confirm their diagnosis in addition to undergoing complicated procedures. The findings of earlier research are consistent with these findings.^{1,11} The current study found that some medical technologies are available in Afghanistan; patients often complain about making mistakes in diagnosing diseases, which has led to a loss of trust in them. Comparable results were noted in Bangladesh, where most respondents reported that they had lost confidence in doctors and in the use of these technologies.^{1,17} Previous studies have also established that the treatment in Afghanistan is not standard, which supports the findings of our study.^{11,14} Fetscherin and Stephano claim that two types of factors influence patients to seek medical treatment abroad.² The first type includes push factors related to the home country of medical tourists, such as the use of low-quality drugs, non-standard treatments, unreliable laboratory equipment, diagnostic errors, and the individual's own preferences. The second type is based on the pull factors offered by health institutions in other countries that attract potential health tourists, such as cultural and religious similarities, shared language, well-experienced doctors, friendly staff, quality treatments, low treatment costs, and internationally educated doctors. Twenty-six of the variables discussed in this study, eight of them fall into the first category, and eighteen fall into the second category. Similar findings were reported in a study conducted in Turkey.² Furthermore, the present study showed that the country environmental factors (cultural, language, and religious similarity) were also reported as influencing factors for seeking medical treatment abroad. The results of the current study are in contrast with the findings of previous studies.^{1,5,18} This discrepancy may be due to variations in the sample population, methodology, and context, as well as possible changes in societal attitudes over time. According to the results of the present study, the facility and services factor of the MTI seemed to be the most significant determinant of Afghan patients' decision to seek medical treatment in Pakistan out of the three sub-factors. The majority of the study participants stated that they chose to stay abroad primarily due to the wide range of healthcare facilities and services, such as availability of well-experienced, internationally certified staff and renowned physicians, quality healthcare, hospitals with highly qualified physicians, and friendly behavior of staff and physicians. These results align with those of other published research.^{3,4,14–16,19} A prior study reported that accessibility of healthcare services, quality of healthcare services and low cost of treatment were independent factors for patients seeking medical treatment abroad, which support the findings of our study.² According to the results, our study found that cultural/religious and linguistic similarity were an independent predictor of Afghan patients seeking medical treatment abroad. These findings are in line with those of studies conducted by other authors.^{5,14,20,21}

Moreover, the facility and services factors were found to be strongest predictors in the multiple regression analysis results to influencing decision making of Afghan patients to seek medical treatment in Pakistan, followed by the country environment and the medical tourism costs determinants. Similar findings were reported by a previously published study.¹ Finally, the current study showed that satisfaction with medical treatment abroad was higher compared to other studies. This contradictory result can be attributed to factors such as cultural/religious and linguistic similarity, trust in health service providers or possibly improved communication and a better understanding between patients and doctors in the neighboring country.¹ Although this study provided insightful information, it should be noted that it has a number of limitations. First, due to limited funding resources and a short study period, our study focused on individuals who attended a Special Commission dispatching center that sent the patients to the KPK. It is therefore challenging to generalize to other populations. Second, since the design was cross-sectional, we were unable to establish a causal relationship between the identified factors and Afghan patients' decision-making process and satisfaction levels. Future research employing analytical designs could provide more vigorous evidence of the causal relationships. Third, because access to larger populations is restricted, convenience sampling is usually the most practical and secure research method available in a healthcare setting. Enhancing the methodology was subordinated to safety because we do not want to expose participants or the research team to any intolerable risk. Fourth, the study may not be fully representative of the Afghan population because the data were gathered from a single center and the sample size was small. A prospective study with a large sample size is needed to validate the factors that influence Afghan patients' decision and their satisfaction to seek medical treatment abroad. Finally, the study utilized self-report measures, which are susceptible to potential biases like social

desirability bias and recall bias. Alternative data collection techniques or objective measures might be considered in future research to lessen these biases.

Conclusion

The study concluded that facility and service factors were the most significant predictors of medical tourism, followed by the country's environment and medical tourism cost. According to the study findings, the availability of well-trained, experienced, and famous doctors; quality healthcare; hospitals with highly qualified doctors; quality treatments and medical supplies; friendly behavior of staff and doctors; cultural/religious factors; and language similarity are major influencing items of facility and service factors. The medical tourism index-related items include low treatment cost, treatment in Afghanistan is not standard, country's laboratory equipment is unreliable, and the technicians' level of knowledge is low, doctors in Afghanistan are weak academically weak and make mistakes during diagnosis, doctors and health workers in Afghanistan are not friendly with the patients and their attendance, the pharmaceutical company in the country is standard, the condition of medication in the pharmacy is standard, and imported medicine brought to the country under a standard system scored lower, implying disagreement towards these items. Therefore, healthcare providers and policymakers need to consider the diverse preferences of Afghan patients and provide accurate, accessible healthcare services and advanced professional training of the healthcare providers, including attitude towards services. Addressing these gaps can reduce dependency on foreign healthcare systems, improve the quality of healthcare, and mitigate economic losses.

Recommendations

First, it is recommended to strengthen the country's healthcare system by providing diagnostic facilities and training for healthcare professionals on diagnostic equipment. Second, strengthening national specialization programs and enhancing the capacity of healthcare professionals. Third, enhancing the medical ethics of healthcare professionals and their interactions with patients and their guardians, as well as fostering positive relationships between patients and healthcare providers. Fourth, strengthening the private healthcare system because it could provide some of the high-level medical care and diagnostic services, and the government could avoid the huge indirect costs of patients traveling abroad for treatment. Fifth, increasing public confidence in secondary and tertiary healthcare systems, as many patients are visiting for the problems that can easily be diagnosed and treated in Afghanistan. Sixth, identification of certain health facilities in Pakistan, India, Iran, and other neighboring countries by the government of Afghanistan-MoPH; building good relations and affiliation with them for the purpose of referring the eligible patients to them, as well as getting their support in diagnosing and treating the patients by the telemedicine mechanism. Seventh, building the infrastructure and capacity for advanced treatment should be the MoPH's main priority, as should efforts to increase Afghans' confidence in the country healthcare system. Eighth, the government should encourage Afghans to seek treatment in their own country by organizing health camps, especially in remote provinces. Ninth, there should be more health-related information available to Afghans, particularly in communities, mosques, and schools. For the purpose of taking preventative measures and making timely visits to medical professionals for the treatment of potential or existing illnesses. Tenth, investigate the satisfaction levels and challenges faced by Afghan patients during their treatment journey in abroad. Eleventh, simplify border crossing and visa procedures for patients and their families. Additionally, special medical travel permits for Afghan patients requiring long-term or urgent treatment in Pakistan. Finally, I recommend a number of studies, both prospective and retrospective, to fill in the gaps in this area.

Data Sharing Statement

Data cannot be made public in order to adhere to ethical guidelines and protect the privacy of study participants. Consequently, information is available upon request by emailing ghafarsherzad15@gmail.com, Assistant Professor, Department of Biochemistry, Faculty of Medicine, Nangarhar University, Nangarhar, Afghanistan.

Ethical Consideration and Consent to Participate

This research was approved ethically (IRB No. 6, dated December 29, 2023) from the Nangarhar University Institutional Review Board (NUFM-IRB)'s Department of Biochemistry, Faculty of Medicine. Every participant gives their written

informed consent prior to participating in the research. A parent or legal guardian gave their informed consent for participants who were younger than 18 years. The study was carried out in accordance with the principles outlined in the Declaration of Helsinki (as revised in Fortaleza, Brazil, October 2013).

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Author Contributions

All authors contributed significantly to the work reported, whether in conception, design of the study, implementation, data acquisition, analysis and interpretation, or in all these areas; contributed to the drafting, revision or critical revision of the article; gave final approval of the published version; agreed to the journal of the article; and agreed to be responsible for all aspects of the work.

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The author(s) declare that they have no conflicts of interest with this paper.

References

1. Zakaria M, Islam MA, Islam MK, et al. Determinants of Bangladeshi patients' decision-making process and satisfaction toward medical tourism in India. *Front Public Health*. 2023;11:1137929. doi:10.3389/fpubh.2023.1137929
2. Çapar H, Aslan Ö. Factors affecting destination choice in medical tourism. *Int J Travel Med Glob Health*. 2020;8(2):80–88. doi:10.34172/ijtmgh.2020.13
3. Beladi H, Chao -C-C, Ee MS, Hollas D. Does medical tourism promote economic growth? A cross-country analysis. *J Travel Res*. 2019;58(1):121–135. doi:10.1177/0047287517735909
4. Zolfagharian M, Rajamma RK, Naderi I, Torkzadeh S. Determinants of medical tourism destination selection process. *J Hosp Mark Manag*. 2018;27(7):775–794. doi:10.1080/19368623.2018.1444527
5. Bagga T, Vishnoi SK, Jain S, Sharma R. Medical tourism: treatment, therapy & tourism. *Int J Sci Technol Res*. 2020;9:4447–4453.
6. Harkins J. Afghan Medical Tourism Patients Find Welcome Mats in India. 2012.
7. Chowdary S. Medical tourist arrivals in India up 25%. *Business Standard*. 2017.
8. Times E. Medical tourism value in India to touch USD 9 bn by 2020: Govt. 2017.
9. Magazine MT. Afghanistan Helping Citizens Find Treatment. 2013.
10. Price G, Hakimi H. *Reconnecting Afghanistan. Lessons From Cross-Border Engagement*. London: Chatham House; 2019.
11. Karim F. Outbound Health Tourism and its Impact on Healthcare in Afghanistan. *Organ Policy Res Dev Stud*. 2013;1:22.
12. Jotikasthira N. *Salient Factors Influencing Medical Tourism Destination Choice*. Citeseer; 2010.
13. Han H, Hwang J. Investigating healthcare hotel travelers' overall image formation: impact of cognition, affect, and conation. *Tourism Hosp Res*. 2018;18(3):346–356. doi:10.1177/1467358416670936
14. Sherzad AG, Shinwari M, Azimee MA, Nemat A, Zeng Q. Risk factors for calcific aortic valve disease in Afghan population. *Vasc Health Risk Manag*. 2022;18:643–652. doi:10.2147/VHRM.S376955
15. Connell J. Medical tourism: sea, sun, sand and ... surgery. *Tourism Manage*. 2006;27(6):1093–1100. doi:10.1016/j.tourman.2005.11.005
16. Fetscherin M, Stephano R-M. The medical tourism index: scale development and validation. *Tourism Manage*. 2016;52:539–556. doi:10.1016/j.tourman.2015.08.010
17. Medhekar A, Ali MM. Key reasons for medical travel from Bangladesh to India. 2012.
18. Lovelock B, Lovelock K, Lyons K. The impact of outbound medical (dental) tourism on the generating region: new Zealand dental professionals' perspectives. *Tourism Manage*. 2018;67:399–410.
19. Momeni K, Janati A, Imani A, Khodayari-Zarnaq R. Barriers to the development of medical tourism in East Azerbaijan province, Iran: a qualitative study. *Tourism Manage*. 2018;69:307–316.
20. Cham T-H, Lim Y-M, Sia B-C, Cheah J-H, Ting H. Medical tourism destination image and its relationship with the intention to revisit: a study of Chinese medical tourists in Malaysia. *J China Tourism Res*. 2021;17(2):163–191. doi:10.1080/19388160.2020.1734514
21. Ghosh T, Mandal S. Medical tourism experience: conceptualization, scale development, and validation. *J Travel Res*. 2019;58(8):1288–1301. doi:10.1177/0047287518813469

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