Impact of COVID-19 on outbound medical tourism: An empirical study

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ABSTRACT

This study attempts to analyze the overall outbound medical tourism situation in Bangladesh, more specifically in the city of Dhaka, during the COVID-19 pandemic. The primary focus of the study is to identify the effect of COVID-19 on outbound medical tourism. To attain the objectives of the study, a quantitative research technique was used, and data were collected from respondents involved in outbound medical tourism through convenience sampling. The study's samples were 100 people from Dhaka who were patients, medical attendants, relatives of patients, neighbors of patients, and closely related entities of outbound medical tourism. The data were analyzed using the Statistical Package for the Social Sciences (SPSS). The results reveal that the COVID-19 situation had a significant impact on outbound medical tourism; the effects were measured through various factors, including accessibility, cost, the quality of domestic medical services, the information gap, and technological advancement. The results of the study provide insights to those involved in outbound medical tourism and offer guidelines to recover from this problem. Future research can consider the whole of Bangladesh and conduct a longitudinal study to increase the generalizability of the result.

Contribution/Originality: Very few previous studies have explored outbound medical tourism. Moreover, research on the effect of COVID-19 on outbound medical tourism is limited. Therefore, the current study examines the effect of COVID-19 on outbound medical tourism and provides a recovery plan to overcome this problem.

1. INTRODUCTION

Tourism is a social, cultural, and economic phenomenon in which individuals visit countries or places outside their typical environment for personal or professional reasons (Anderson & Westcott, 2021). There are various forms of tourism. Medical tourism is one form that is gaining in popularity every day. In recent years, people have become increasingly concerned about health issues. Medical tourism is a form of tourism in which people travel for medical purposes. Inbound medical tourism and outbound medical tourism are two forms of medical tourism. Inbound medical tourism is when people from other countries visit a country for medical purposes. Outbound medical tourism is when people travel from their home country to other countries to obtain medical treatment.

Outbound tourism for medical purposes is very popular in Bangladesh due to the limitations of the healthcare system. Patients have lost faith in the prevailing medical treatment and checkup system in Bangladesh for reasons such as a lack of skilled personnel, corruption in the health supply chain, congested public healthcare facilities, and others. For these reasons, the more affluent parts of the population seek medical services in foreign countries such

as India, Singapore, Malaysia, and Thailand (Afrin, 2019; Ali & Medhekar, 2018; McNamara, 2020). However, the COVID-19 pandemic created barriers to outbound medical tourism.

The novel coronavirus COVID-19 is a transmittable disease from the same virus family as Severe Acute Respiratory Syndrome (SARS). It was initially recorded in Wuhan, China, between October and November of 2019. In a very short time, it caused a global outbreak that impacted every possible sphere of human life, including health, the economy, transportation, industry, food, and more. Everything came to a standstill. In Bangladesh, the first case of COVID-19 was identified on March 8, 2020. The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020. The first lockdown in Bangladesh was announced by the government on March 23, 2020, and came into effect on March 26, 2020. International as well as domestic transport was restricted; people could not travel anywhere and had to stay at home to control the spread of the virus. Due to the lockdown and restrictions on travelling abroad, people could not avail themselves of outbound medical tourism at all during this phase of the pandemic. It was a threat to outbound medical tourism as people were not permitted to travel for any reason.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Outbound Medical Tourism and the Pandemic Situation

The WHO defines medical tourism, also known as health tourism or health travel, as a form of tourism that focuses on health. Medical tourism refers to when patients seek medical treatment outside their home country. Medical tourists are those who travel to another country for medical treatment. The term "medical tourists" was originally used to refer to persons from least developed or less developed countries who visited major health centers in advanced countries for treatment options that were not accessible in their native country (Horowitz, Rosensweig, & Jones, 2007). Currently, however, patients from low and middle-income countries (LMICs) travel to access higher-quality medical treatment, and patients from high-income countries (HICs) travel to access low-cost healthcare. These are the two main directions of medical tourism (Turner, 2007). In the year 2000, the global value of medical tourism was less than US$10 billion. However, by 2014, the global value of the medical tourism business had reached US$478 billion (Tong, 2018). Medical tourism is classified into two forms: inbound medical tourism and outbound medical tourism. When patients come from other nations to visit a country for medical treatment, this is considered inbound medical tourism. Outbound medical tourism is when patients travel from their home country to other countries to acquire medical treatment or, in other words, the circumstance in which patients travel other countries to access different healthcare facilities (Medical Tourism Magazine, 2019). The components of outbound medical tourism are illustrated below in Figure 1.

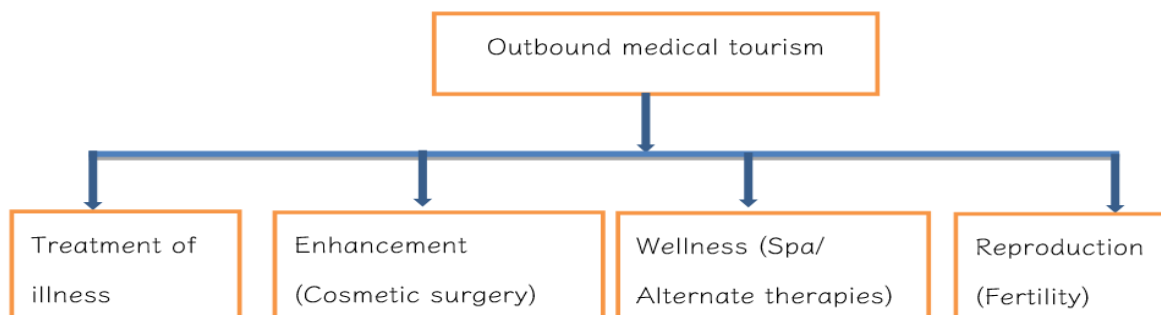**Figure 1.** Outbound medical tourism components.

Source: TRAM (2006).

COVID-19 was first spotted in China's Wuhan Province in October or November 2019 (Nishiura et al., 2020). After spreading across China, the virus sparked a global outbreak in mid-January 2020. After a considerable number of cases were diagnosed, Western countries began the lockdown process in February. On January 30, 2020, the

WHO declared a public health emergency of international concern, and COVID-19 was declared a pandemic on March 11, 2020. In Bangladesh, the first COVID-19 case was reported on March 8, 2020. The country recorded its first death due to COVID-19 on March 18, 2020 (Sharma, Vishraj, Ahlawat, Mittal, & Mittal, 2020). The COVID-19 pandemic is largely acknowledged to have had a wide-ranging influence on the human population. It has had a widespread impact on all sectors, including health, the economy, industry, food, and transportation, due to travel restrictions and the associated threat to the global economy. COVID-19 has also had a severely negative impact on medical tourism, which has persisted into 2021 (Kosaka, Kobashi, Kato, Okawada, & Tsubokura, 2021).

2.2. The Outbound Medical Tourism Situation in Bangladesh

Bangladesh plays a critical role in both inbound and outbound medical tourism. In Bangladesh, medical tourism is still a niche business with enormous potential but a clearly restricted capacity. However, in terms of existing facilities and potential investment regions, this form of tourism is gaining traction. As a result, the connections between medical tourism and other types of tourism are becoming more apparent. The development of allied fields, such as sustainable tourism, urban tourism, and others, is inextricably linked to the expansion of this type of tourism (Hasan & Hassan, 2013). Bhuiyan (2005) argued that the expansion of the private sector, modification of the internal structure and functioning of the public sector, and changes in the funding of healthcare are all significant parts of health sector transformation in developing nations. Bangladesh's policy agenda also includes health system reforms. Lee and Spisto (2007) noted that medical tourism, as an international phenomenon, is projected to become an important global trend in the provision of medical amenities in the future, as costs and expertise rise. Despite the considerable amount of money spent on Bangladesh's healthcare system in recent decades, there has been little change (Ali & Medhekar, 2018; Andaleeb, Siddiqui, & Khandakar, 2007). Patients have lost confidence in the prevailing medical system in Bangladesh for reasons such as a lack of skilled personnel, corruption in the healthcare supply chain, congested government healthcare facilities, and more. For these reasons, the more affluent parts of the population tend to seek medical services in foreign countries such as Singapore, India, Malaysia, and Thailand (Afrin, 2019; Ali & Medhekar, 2018; McNamara, 2020). A major portion of these patients go to India, and the outbound tendency to India is increasing day by day (Anwar, 2020; Chaity, 2017; Kumar, 2018). McNamara (2020) explained that due to the inefficiency of biomedicine and the need for improved healthcare, a significant number of Bangladeshi patients are driven to seek treatment in foreign countries. Table 1 presents popular medical tourism destinations around the world.

Table 1. Popular medical tourism destinations around the world.

Asia	The Americas	Europe	Africa	Oceania
China	Argentina	Belgium	South Africa	Australia
India	Bolivia	Germany		
Israel	Brazil	Hungary		
Jordan	Columbia	Lithuania		
Malaysia	Costa Rica	Poland		
Philippines	Jamaica			
Singapore	Mexico			
Thailand	United States			

Source: Hasan and Hassan (2013).

2.3. Factors Affecting Outbound Medical Tourism during COVID-19

During the pandemic, people were unable to travel abroad to pursue medical tourism; moreover, some found it difficult to access domestic healthcare. Most of the patients whose medical travel was affected by COVID-19 had been unable to get an appointment with a domestic healthcare facility for more than a year. Furthermore, medical tourism is not only impeded by the response to the COVID-19 pandemic but also by the excessive cost of medical tourism itself. Although patients obtained medical treatment in their own country's hospitals as a result of the

disruption in medical tourism, communicating the patient's medical information between domestic and international healthcare institutions was challenging; all the tests had to be repeated at the medical destination (Kosaka et al., 2021). Several factors had an impact on outbound tourism during the COVID-19 pandemic. These are outlined below:

2.3.1. Accessibility

Covid-19's challenges for the tourist industry were much more severe for the medical tourism industry. Because of the complexity of medical treatment, there was an increased risk of contracting the virus due to the higher contact time between individuals (Myles & Maswime, 2020). Many constraints had to be met and complex procedures fulfilled prior to outbound medical tourism, particularly regarding travel visas and international flight arrangements during the pandemic. For outbound medical tourists, the process was cumbersome (Tong, 2018).

H1: Accessibility has a significant impact on outbound medical tourism.

2.3.2. Medical and Other Expenses

One of the most essential aspects when choosing a medical tourism destination is the cost of travel (Han & Hyun, 2015; Jaapar, Musa, Moghavvemi, & Saub, 2017; Lee, Han, & Lockyer, 2012). Medical tourism may become more appealing when price differentials within countries become more severe as a result of demand-supply shifts. The cost component involves more than just treatment; it also includes flights and accommodation, among other factors. Other components can be considered, such as advances in healthcare accreditation (for instance, Joint Commission International Accreditation) and better technology that allows the entire treatment process to be integrated, coordinated, monitored, and traced (i.e., pre-, during-, and post-treatment) (Deloitte, 2011). Patients from developed countries usually consider medical destinations in underdeveloped countries because of the greater medical costs in their home countries (Collins, Medhekar, Wong, & Cobanoglu, 2019). As is well known, rising oil prices increase transportation expenses, ultimately increasing travel costs for tourists and prompting them to prefer to access treatment in their home country with lower travel costs, which limits the number of people partaking in outbound medical tourism (Tong, 2018). Based on this discussion, the hypothesis is as follows:

H2: Medical and other expenses have a substantial impact on outbound medical tourism.

2.3.3. Quality of the Domestic Medical Service

Quality improvement requires multidisciplinary inter-professional collaboration, medical record technologies, scientifically sound treatment plans, and scholarly institutional participation (Deloitte, 2011). Prior studies have identified healthcare service quality as one of the primary motivators of medical tourism. Medical tourists go abroad to obtain higher-quality medical services and treatment (Lee & Kwag, 2019; Rahman, 2019). Advanced medical equipment, professional healthcare teams, and an attractive healthcare facility with high standards of cleanliness both in treatment-giving establishments and in accommodation service providers raise the quality level of medical tourism (Ghosh & Mandal, 2019). Treatment costs may be excessively high as a result of a lengthy waiting period for treatment in the home country. Consequently, a growing number of people elect to travel to foreign countries for curative care (Tong, 2018). The following hypothesis has been developed in this regard:

H3: The quality of domestic medical services has a substantial impact on outbound medical tourism.

2.3.4. Information

People are made cognizant of the quality, pricing, and conveniences of healthcare services all over the world as a result of readily available information (Hasan, 2007). No explicit rules or regulations have been enacted to address medical negligence or medical crimes, and patients' rights and interests are unprotected. Due to linguistic and cultural differences, it can be difficult for hospital employees and medical tourists to communicate with one another.

Operators' incomplete information disclosure about the pandemic has also had an impact on the number of medical tourists (Tong, 2018). Thus, the following hypothesis is proposed:

H4: The information gap has a significant impact on outbound medical tourism.

2.3.5. Technology

These days, consumers can easily identify and receive services from all over the world, as well as share their experiences with others through technological advancements (Pagan & Horsfall, 2020). The influence of healthcare on severely ill patients has also changed as a result of technological advancements. Technology is continuously helping to detect diseases at an earlier stage, which has increased the need for remedies (Stephano & Samuels, 2012).

H5: Technological advances have a significant impact on outbound medical tourism.

2.4. Conceptual Framework

This framework in Figure 2 illustrates the research model of the impact of COVID-19 on outbound medical tourism.
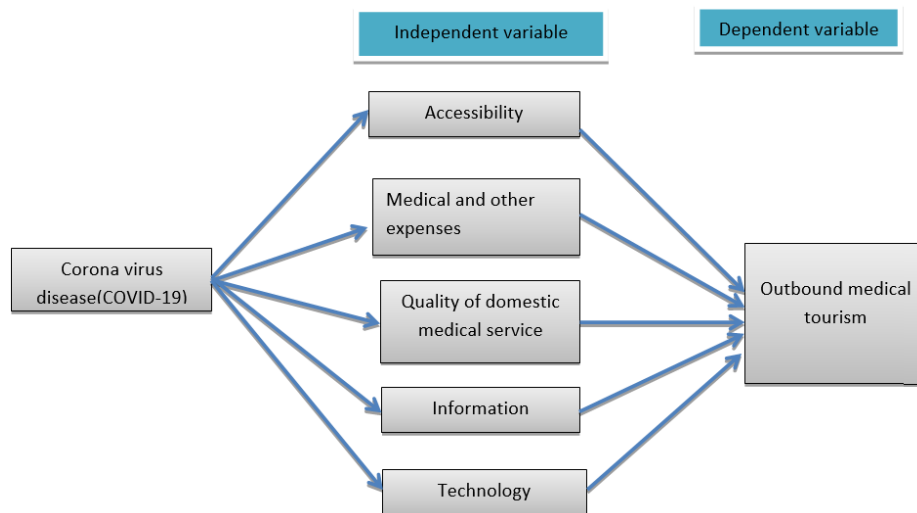

Figure 2. Research model.

3. STUDY OBJECTIVES

The primary objective of this research is to identify the impact of COVID-19 on outbound medical tourism in Bangladesh, specifically in Dhaka. To fulfill the primary aim of this study, the following specific objectives have also been considered.

1. To present a concise discussion of outbound medical tourism and the COVID-19 situation in Bangladesh.
2. To address factors influencing outbound medical tourism during the COVID-19 pandemic.
3. To recognize the factors that advance and impede outbound medical tourism during the pandemic.

4. RESEARCH METHODOLOGY

The research methodology describes the methods or approaches used to acquire, select, organize, and explore ideas about a topic. A research article's methodology section explains to the reader the overall accuracy and trustworthiness of the study. Moreover, the methodology describes the broader research approach that defines how the research is performed and, among other things, identifies the techniques that are deployed. This section discusses the research design, population and sample, tools, data, research procedure, and data collection method.

4.1. Research Design

The research design is "The recipe for carrying out the project" (Hair et al., 2007). With this idea in mind, it becomes critical that the researcher selects a design that is suitable to the study proposition and offers relevant information on the research question, with the underlying goal of completing the research process quickly and accurately. The two most prevalent types of research design are qualitative and quantitative. Qualitative research can be defined as a type of research that is non-quantitative in nature and in which the researcher applies different methods to collect, evaluate, and interpret data for the purpose of defining, treating, meaning, symbolizing, and representing (Pawar, 2020). Quantitative research, on the other hand, is extensively applied in the fields of economics and commerce to assess numeric numbers, quantities, and amounts. Indeed, quantitative research is the systematic form of empirical analysis through which researchers identify quantitative facts and explain the relationships between two or more facts or variables (Sridhar, 2010). The current study utilized the quantitative method to identify the cause-and-effect relationships between two or more variables.

4.2. Selection of Population and Sample

4.2.1. Target Population

The complete assemblage of respondents is considered the target population who meet the necessary set of criteria. The population can be defined as a whole unit from which researchers or investigators draw samples (Kothari & Garg, 2019). The population of this study included all individuals in the city of Dhaka in Bangladesh who were related to outbound medical tourism. At the time of this survey, the total population of Dhaka was 22,478,000 (PopulationStat, 2022). This study mainly focused on those people who usually participate in outbound medical tourism at different times.

4.2.2. Sampling Frame and Sample Size

The sampling frame is a list of all units in the population from which the target respondents are chosen. The sample size refers to the number of persons who should be polled to represent the target population. A sample is a portion of the population chosen to participate in a study. Each study necessitates a different sample number (Kothari & Garg, 2019). The sample size can be determined using a variety of methods; in some studies, the sample size is determined at random and in other studies through convenience sampling. In this study, there is no sampling frame; therefore, the researchers collected data from 100 people in Dhaka who were patients, medical attendants, or otherwise related to outbound medical tourism (relatives of patients, neighbors of patients, and other closely related entities) based on convenience sampling. The convenience sampling approach is utilized in this study because it is inexpensive, convenient, takes very little time, and provides a clear picture of the population.

4.3. Data Collection Method

Both primary and secondary data were utilized in this study. The core data were gathered through a structured online questionnaire, which surveyed 100 respondents. Secondary data were gathered through related articles, research papers, thesis papers, various authentic websites about outbound medical tourism and COVID-19, and so on. Respondents were asked to provide a variety of information for this study. A standardized questionnaire was created for this purpose and emailed to the respondents. The respondents were then asked to supply information to be used in this research. This study mostly used primary data because all the data was acquired directly from the participants.

4.4. Tools and Measurement

A structured questionnaire was utilized to gather information. The study questionnaire was divided into two sections. The first section concerned demographics and comprised questions eliciting specific information about the

respondent. The next section was designed to elicit the respondent's perceptions of several factors that influenced outbound medical tourism during the COVID-19 pandemic. A 5-point Likert scale was used for each statement where 1 indicated strongly disagree, 2 indicated disagree, 3 indicated neutral, 4 indicated agree, and 5 indicated strongly agree. The statistical analyses were performed and evaluated using the Statistical Package for the Social Sciences (SPSS). The data was coded and entered into SPSS. The affiliation between the dependent variable and the entire group of independent variables was explored using frequency distribution, correlation, and regression analysis. Tables are utilized to present the study's findings.

5. DATA ANALYSIS

Two types of data were acquired using the structured questionnaire. SPSS was used to conduct the analysis. This section begins by presenting descriptive information on the respondents' demographic profile, followed by a diagram of the measuring scales for the variables examined in this study.

5.1. Demographic Variables (Frequency Distribution)

The following tables present the demographic information. Table 2 shows the demographic statistics.

Table 2. Statistics.

Statistics		Medical tourist category	Gender	Marital status	Age	Occupation	Income level	Education level
N	Valid	100	100	100	100	100	100	100
	Missing	0	0	0	0	0	0	0

Table 3 summarizes the medical tourist category. The survey was conducted with 100 respondents. Of these respondents, 39% were patients who frequently partook in outbound medical tourism, 27% were medical attendants who travelled with the patient, such as their wife or children, and the remaining 34% were others, such as neighbors or relatives of patients or other people with profound knowledge about outbound medical tourism.

Table 3. Medical tourist category.

Tourist category		Frequency	Percent	Valid percent	Cumulative percent
Valid	Patient	39	39.0	39.0	39.0
	Medical attendant	27	27.0	27.0	66.0
	Others	34	34.0	34.0	100.0
	Total	100	100.0	100.0	

Table 4 depicts the gender breakdown. Of the 100 respondents, 58% were female, and 42% were male.

Table 4. Gender.

Gender		Frequency	Percent	Valid percent	Cumulative percent
Valid	Male	42	42.0	42.0	42.0
	Female	58	58.0	58.0	100.0
	Total	100	100.0	100.0	

Table 5 presents the respondents' marital status. Of the 100 respondents, 72% were unmarried. The remaining 28% of respondents were married.

Table 5. Marital status.

Marital status		Frequency	Percent	Valid percent	Cumulative percent
Valid	Married	28	28.0	28.0	28.0
	Unmarried	72	72.0	72.0	100.0
	Total	100	100.0	100.0	

Table 6 presents the age breakdown. This table shows that 44% of respondents are below 25 years of age. Next, 32% of respondents are 26-50 years of age. The remaining 21% of respondents belong to the 51-75 age range, and very few respondents (3%) are above 75 years old.

Table 6. Age.

Age range		Frequency	Percent	Valid percent	Cumulative percent
Valid	Below 25	44	44.0	44.0	44.0
	26-50	32	32.0	32.0	76.0
	51-75	21	21.0	21.0	97.0
	76-above	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Table 7 presents the respondents' occupation breakdown. This table shows that 32% of respondents held private jobs, 11% of respondents worked in government jobs, 11% were in business, and the rest of the respondents (46%) had another occupation (student, doctor, homemaker, etc.).

Table 7. Occupation.

Occupations		Frequency	Percent	Valid percent	Cumulative percent
Valid	Govt. job	11	11.0	11.0	11.0
	Private job	32	32.0	32.0	43.0
	Business	11	11.0	11.0	54.0
	Others	46	46.0	46.0	100.0
	Total	100	100.0	100.0	

Table 8 presents the income level. This table shows that 54% of the respondents had an income level of 30,000-59,000. Next, 25% of respondents had an income level below 30,000, 14% of respondents' income level was 60,000-89,000, and only 7% of respondents had an income level of 90,000 or above.

Table 8. Income level.

Income level		Frequency	Percent	Valid percent	Cumulative percent
Valid	Less than 30,000	25	25.0	25.0	25.0
	30,000-59,000	54	54.0	54.0	79.0
	60,000-89,000	14	14.0	14.0	93.0
	90,000-above	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 9 depicts the respondents' education level. This table shows that most respondents (57%) had a post-graduate education. Next, 39% of respondents' education level was graduate. Finally, 4% of respondents had a Higher Secondary School Certificate, and no respondents had a lower education level.

Table 9. Education level.

Education level		Frequency	Percent	Valid percent	Cumulative percent
Valid	Graduate	39	39.0	39.0	39.0
	Post-graduate	57	57.0	57.0	96.0
	Higher secondary school	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Table 10 presents the descriptive statistics of the questionnaire items.

The table summarizes the total responses for all the items of the survey, showing the minimum and maximum range of responses for each item, as well as the mean and standard deviation. The mean and standard deviation indicate the average responses for each variable and to what extent the responses are spread out along the 5-point Likert scale from strongly agree to strongly disagree.

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Table 10. Descriptive statistics.

Item	N	Minimum	Maximum	Mean	Std. deviation
Lockdown	100	1	5	3.88	1.343
Restriction on international travel	100	1	5	3.88	1.233
Outbound medical expenses	100	1	5	3.80	1.044
Communication expenses	100	1	5	3.88	1.037
Accommodation and food costs	100	1	5	3.86	1.035
Lack of quality doctors	100	2	5	3.99	0.810
Lack of professional service attitude	100	2	5	3.92	0.849
Lack of developed hospital infrastructure	100	2	5	3.91	0.818
Long waiting list at hospital	100	2	5	4.15	0.783
Unavailability of advanced medical equipment	100	2	5	4.13	0.774
Dependence on overseas medical resources	100	2	5	4.00	0.899
Unavailability of information	100	1	5	3.86	1.073
Miscommunication	100	2	5	3.80	0.899
Language barrier	100	2	5	3.91	0.668
Low literacy level	100	2	5	3.86	0.711
Online medical consultancy	100	2	5	3.73	0.790
Virtual medical facility	100	2	5	4.00	0.636
Accessibility	100	1.00	5.00	3.8800	1.27549
Cost factor	100	1.67	4.67	3.8467	0.64514
Quality of domestic medical service	100	3.17	4.33	4.0167	0.30932
Information gap	100	2.50	4.75	3.8575	0.60119
Technological advancement	100	3.00	5.00	3.8650	0.56789
Outbound medical tourism	100	3.18	4.88	4.3218	0.43181
Valid N (List wise)	100				

In addition, to identify the particular relationship between outbound medical tourism and the impact of COVID-19, the items were grouped into 5 independent variables and 1 dependent variable. The variables were calculated as follows:

- Accessibility = (Lock Down + Restriction on International Travel) / 2.
- Cost Factor = (Outbound Medical Expenses + Communication Expenses + Accommodation and Food Costs) / 3.
- Quality of Domestic Medical Service = (Lack of Quality Doctors + Lack of Professional Service Attitude + Lack of Developed Hospital Infrastructure + Long Waiting List at Hospital + Unavailability of Advanced Medical Equipment + Dependence on Overseas Medical Resources) / 6.
- Information Gap = (Unavailability of Information + Miscommunication + Language Barrier + Low Literacy Level) / 4.
- Technological Advancement = (Online Medical Consultancy + Virtual Medical Facility) / 2.
- Outbound Medical Tourism = (Lock Down + Restriction on International Travel + Outbound Medical Expenses + Communication Expenses + Accommodation and Food Costs + Lack of Quality Doctors + Lack of Professional Service Attitude + Lack of Developed Hospital Infrastructure + Long Waiting List at Hospital + Unavailability of Advanced Medical Equipment + Dependence on Overseas Medical Resources + Unavailability of Information + Miscommunication + Language Barrier + Low Literacy Level + Online Medical Consultancy + Virtual Medical Facility) / 17.

5.2. Correlation Analysis

Correlation coefficients are used to determine the degree of correlation between variables as well as the direction of that correlation. Table 11 presents the study's correlations.

Table 11. Correlations.

Criteria		Accessibility	Cost factor	Quality of domestic medical services	Information gap	Technological advancement	Outbound medical tourism
Accessibility	Pearson correlation	1	0.029	0.679**	0.918**	-0.786**	0.779**
	Sig. (2-tailed)		0.778	0.000	0.000	0.000	0.000
	N	100	100	100	100	100	100
Cost factor	Pearson correlation	0.029	1	0.564**	0.008	0.021	0.551**
	Sig. (2-tailed)	0.778		0.000	0.935	0.835	0.000
	N	100	100	100	100	100	100
Quality of domestic medical services	Pearson correlation	0.679**	0.564**	1	0.567**	-0.557**	0.926**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000
	N	100	100	100	100	100	100
Information gap	Pearson correlation	0.918**	0.008	0.567**	1	-0.671**	0.737**
	Sig. (2-tailed)	0.000	0.935	0.000		0.000	0.000
	N	100	100	100	100	100	100
Technological advancement	Pearson correlation	-0.786**	0.021	-0.557**	-0.671**	1	-0.500**
	Sig. (2-tailed)	0.000	0.835	0.000	0.000		0.000
	N	100	100	100	100	100	100
Outbound medical tourism	Pearson correlation	0.779**	0.551**	0.926**	0.737**	-0.500**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	N	100	100	100	100	100	100

Note: ** indicates that the correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient was computed to examine the relationship between the dependent variable and each independent variable. The correlation coefficient can range between -1 and +1, with -1 signifying perfect negative correlation, +1 signifying perfect positive correlation, and 0 signifying no relation at all. If the value lies between ±.000 and ±.30, the correlation is negligible. If the value lies between ±.30 and ±.50, it designates a low positive (negative) correlation. If the value is between ±.50 and ±.70, it designates a moderate positive (negative) correlation. If the value is between ±.70 and ±.90, it designates a highly positive (negative) correlation. If the value is between ±.90 and ±1, it designates a very highly positive (negative) correlation (Schober, Boer, & Schwarte, 2018).

6. RESULTS DISCUSSION

In the table above, correlations can be observed among the variables as well as between the independent and dependent variables of the study. First, there is a positive association between accessibility and outbound medical tourism, with a significant positive correlation coefficient of r = .779 at p < .05. As accessibility has a significant positive correlation with outbound medical tourism, if accessibility is affected by Covid-19, outbound medical tourism will also be affected. Second, there is a positive association between the cost factor and outbound medical tourism, with a correlation coefficient of r = .551 at p < .05. The cost factor has a moderate association with outbound medical tourism. Third, there is a positive association between the quality of domestic medical services and outbound medical tourism, with a significant correlation coefficient of r = .926 at p < .05. The quality of domestic medical services has a very high and significant degree of correlation with outbound medical tourism. Fourth, there is a significant positive association between the information gap and outbound medical tourism, with a correlation coefficient of r = .737 at p < .05. The information gap thus has a highly significant relationship with outbound medical tourism. Lastly, there is a negative association between technological advancement and outbound medical tourism, with a significant correlation coefficient of r = -.500. Therefore, technological advancement has a moderate negative relationship with outbound medical tourism.

6.1. Multiple Regression Analysis

Table 12 presents the model summary.

Table 12. Model summary.

Model	R	R-squared	Adjusted R-squared	Std. error of the estimate
1	0.990[a]	0.979	0.968	0.063

Note: a. Predictors: (Constant), technological advancement, cost factor, information gap, quality of domestic medical services, accessibility

The model summary and overall fit statistics for the multiple linear regression are shown in the table. It shows that the R-squared is .979 or 97.9% and the adjusted R-squared of this model is .968 or 96.8%. The R-squared describes the ratio of variance in the dependent variable that can be anticipated from the independent variable. This value indicates that 97.9% of the variance in the impact of COVID-19 on outbound medical tourism can be predicted from the variables of accessibility, cost factor, quality of domestic medical services, information gap, and technological advancement.

Whenever predictors are added to the model, each predictor will explain a portion of the variation in the dependent variable due to chance. The adjusted R-squared seeks to generate a more accurate figure for the estimation of the R-squared for the population. To fit the model, the adjusted R-squared must be less than the R-squared. As the adjusted R-squared is .968 or 96.8%, this means that 96.8% of the variance in the dependent variable is described by the independent variables. If all variables were forced into the linear regression model, there would be a slightly higher R-squared as well as an adjusted R-squared (.979 and .968, respectively). From this analysis, it can be concluded that the model fits the data very well.

6.2. ANOVA

Table 13 exhibits the analysis of variance (ANOVA) results.

Table 13. Analysis of variance (ANOVA) results.

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	18.076	5	3.615	885.171	0.000[b]
	Residual	0.384	94	0.004		
	Total	18.460	99			

Note: b. Predictors: (Constant), technological advancement, cost factor, information gap, quality of domestic medical services, accessibility.

This method is used to check if there are any interactions between the dependent and independent variables. The F-test is used to establish a regression model's overall significance, compare the fits of several models, and measure whether the means are equal. Because the value is greater than 1, the null hypothesis can be rejected.

6.3. Regression, Residual, Total

The origins of variance are regression, residual, and total. The total variance is split into two categories: that which can be explained by the independent variables (regression) and that which cannot be explained by the independent variables (non-regression), the residual, sometimes called error.

6.4. Sum of Squares

The three origins of variance (total, regression and residual) are associated with the sum of squares (SS). The SSTotal = SSRegression + SSResidual. As SSRegression / SSTotal is equal to .979, the value of R-squared, the ratio of the variance described by the independent variables can therefore be calculated by SSRegression / SSTotal.

The sources of variance have degrees of freedom (DF) associated with them. The entire variance has N-1 degrees of freedom. Because there were N = 100 responses in this situation, the total DF is 99. The regression degrees of freedom are equal to the number of estimated coefficients minus one (K-1). There are 6 predictors in

total, including the intercept, giving the model 6-1 = 5 degrees of freedom. The residual degrees of freedom are 99-5 = 94, which is the DF total minus the DF model.

6.5. Mean Square

The sum of squares is divided by the corresponding DF to obtain the mean square.

6.6. F and Sig

The mean square (regression) is divided by the mean square (residual) to calculate the F-statistic. In examining the null hypothesis that all model coefficients are .000, the p-value is evaluated to the alpha level of .05. As the p-value is lower than .05, the findings are statistically significant. If the p-value had been higher than 0.05, it would have been possible to conclude that the set of independent variables does not have a statistically significant association with the dependent variable or that the set of independent factors does not consistently predict the dependent variable.

7. DISCUSSION

ANOVA is used to conclude whether there is any interaction between the independent variables and the dependent variable. The F-test is used to assess the overall relevance of a regression model, evaluate the fits of multiple models, and determine whether the means are equal. As the p-value is lower than .05, the findings are statistically significant. The standard value of p is .05 or 5%. A value greater than 5% indicates that there is no interaction/relation between the independent variables and the dependent variable, and a value lower than 5% indicates that there is an interaction/relation between the independent variables and the dependent variable. The analysis shows that the p-value is less than 0.05 (.000); therefore, it is possible to conclude that the set of independent variables has a statistically significant association with the dependent variable and that the set of independent variables may predict the dependent variable with reasonable accuracy.

Table 14 presents the coefficient results.

Table 14. Coefficients.

	Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	**Std. error**	**Beta**		
1	(Constant)	-1.367	0.17		-8.058	0
	Accessibility	0.119	0.018	0.352	6.628	0
	Cost factor	0.148	0.015	0.221	9.736	0
	Quality of domestic medical services	0.772	0.044	0.553	17.646	0
	Information gap	0.2	0.028	0.278	7.102	0
	Technological advancement	0.203	0.019	0.267	10.763	0

In the table, B indicates the values for the regression equation used to anticipate the dependent variable from the independent variable. As they are weighed in their natural units, these are denoted as unstandardized coefficients. As a result, because the coefficients might be assessed on various scales, they cannot be compared to identify which is more influential in the model.

To compare the values for accessibility to the values for outbound medical tourism, for example, the regression equation can be expressed in a variety of ways, such as:

$$Y \text{ predicted} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \dots\dots\dots\dots\dots\dots\dots\dots\dots + \beta_n x_n$$

The column of approximations (coefficients or parameter estimates, hereafter labeled coefficients) delivers the values for β_0, β_1, β_2, β_3, and β_4 in this equation. Articulated according to the variables used in this example, the regression equation is:

Outbound Medical Tourism predicted = (1.367) +0.119*accessibility +0.148*cost factor +0.772*quality of domestic medical services+ 0.200*information gap + 0.203*technological advancement.

The coefficient for accessibility is 0.119. So, for each unit growth in accessibility, .119 increases in outbound medical tourism are expected, holding other variables constant. The coefficient for the cost factor is .148. So, for every single-unit increase in cost factor, 0.148 increases in outbound medical tourism are anticipated, holding other variables constant. The coefficient for the quality of domestic medical services is 0.772. So, for every single-unit increase in the quality of domestic medical services, 0.772 increases in outbound medical tourism are expected, holding other variables constant. The coefficient for the information gap is 0.200. So, for every single-unit increase in the information gap, 0.200 increases in outbound medical tourism are anticipated, holding other variables constant. The coefficient for technological advancement is 0.203. So, for every single-unit increase in technological advancement, 0.203 increases in outbound medical tourism are anticipated, holding other variables constant.

The standardized coefficients are the coefficients that would be obtained if most of the variables in the regression, including the dependent and independent variables, were standardized and the regression run. By controlling the variables before conducting the regression, all the variables are on the same scale, and the intensity of the coefficients can be evaluated to see which has the greatest impact.

The t-statistic is calculated by dividing the coefficient by its standard error and the p-value of the intercept, and each variable shows how significant an effect each factor has on behavioral intention. Using an alpha of 0.05, it can be explained that the p-value for all variables, including accessibility, cost factor, quality of domestic medical services, information gap, and technological advancement, is .000, which is less than .05. Therefore, the variables are statistically significant; so we can accept all the hypotheses, and the coefficient is different from 0.

Finally, it can be said that the variables associated with all hypotheses, H1, H2, H3, H4, and H5, namely accessibility, cost factor, quality of domestic medical services, information gap, and technological advancement, positively and significantly influence outbound medical tourism.

8. THE FINDINGS OF THE STUDY

Outbound medical travel is defined as the circumstance in which patients visit another country to obtain medical treatment. In recent decades, it has become a popular form of tourism. Bangladesh plays a significant role in both inbound and outbound medical tourism. However, despite the progress and significance of outbound medical tourism, this study focused primarily on the detrimental impact of COVID-19 on outbound medical tourism. To study this issue, five hypotheses were proposed. SPSS software was used to test these hypotheses and pinpoint the impact of COVID-19 on outbound medical tourism. According to the analysis of the survey data, all hypotheses were statistically significant, meaning that all hypotheses were accepted. Using a survey, the study thus identified how the variables of accessibility, cost factor, quality of domestic medical services, information gap, and technological advancement affected outbound medical tourism during the COVID-19 pandemic. For H1, the analysis showed that accessibility has a significant positive relationship with outbound medical tourism. This means that when accessibility increases, in normal situations outbound medical tourism will also increase. However, during the COVID-19 pandemic, accessibility decreased due to lockdowns and international travel restrictions. People were significantly affected by this limitation. Based on this survey result, it can be concluded that accessibility has had a severe impact on outbound medical tourism during the COVID-19 pandemic.

Regarding H2, the cost factor had a moderate positive impact on outbound medical tourism during the COVID-19 pandemic. According to the law of supply and demand, if cost increases, demand decreases. Outbound medical tourism focuses on middle-income and affluent people as a market segment. For that reason, increases in medical costs, communication costs, and other expenses have a moderate impact. Concerning H3, a lack of high-quality domestic medical services has a very highly significant relationship with outbound medical tourism. In Bangladesh, this factor plays the most significant role in promoting outbound medical tourism. However, during

the pandemic, services around the world collapsed. Foreign medical facilities also stopped offering services internationally. For that reason, people in Bangladesh could not get appointments at foreign medical establishments and were forced to take resort to domestic healthcare. Therefore, it can be said that during the COVID-19 pandemic, this factor played a prominent role in outbound medical tourism. Regarding H4, the information gap has a high degree of influence on outbound medical tourism. The availability of information is a major factor in outbound medical tourism. Information about outbound medical tourism inspires people to obtain medical care abroad. The unavailability of information about the exact death and infection rates of COVID-19 around the world and miscommunication between patients and medical entities had a severe impact on outbound medical tourism during the pandemic. Concerning H5, technological advancement had a moderate negative impact on outbound medical tourism during the COVID-19 pandemic. People could not easily access foreign medical care during the pandemic. However, online medical consultancy and virtual medical facility options created by technological advances gave people the opportunity to receive medical care without physically attending a medical destination. This facility had a negative impact on outbound medical tourism. To summarize, it can be concluded that H1 and H3 were responsible for the most significant impact of COVID-19 on outbound medical tourism, although the other hypotheses also had significant correlations in this regard. All the hypotheses showed a significant impact on outbound medical tourism.

8.1. Limitations and Future Directions

This study is not free from limitations. Due to the pandemic, an online survey was conducted; however, it was challenging to collect responses from all the target respondents online. Therefore, the response rate was not high. As the study took place during a pandemic, in future, researchers may also want to explore the post-pandemic impact on outbound medical tourism. Moreover, the study was cross-sectional as data was collected at a single point in time. Future studies could explore longitudinal aspects. The results of the study do not reflect outbound medical tourism all over the world or even all over Bangladesh, rather they reflect the outbound medical tourism situation in the city of Dhaka. Future studies can be conducted to cover the whole of Bangladesh or other countries in the world. Finally, the study explored only a few factors that affect outbound medical tourism. Future studies can consider other variables that may have an impact on outbound medical tourism.

9. CONCLUSION

As a developing nation, Bangladesh has certain shortcomings in its healthcare system. As a result, a large number of patients prefer to obtain medical treatment in other nations. Outbound medical tourism is a popular form of tourism in Bangladesh. However, in the COVID-19 era, the tourism industry, including outbound medical tourism, faced challenges in conducting their regular activities. The pandemic made outbound medical tourism unfeasible for a time. During the initial stage of Covid-19, no vaccine was available for this disease, and people became infected at a geometric rate. It spread uncontrollably, and many people were afraid of contracting this disease. People were confined at home across most of the world, and the situation was getting worse every day. People who required treatment on a continuous basis for any issues suffered due to the unavailability of proper treatment. After the invention of the COVID-19 vaccine, the situation started to change. People were vaccinated and returned to their normal lives. The objective of this study was to discover the impact of COVID-19 on outbound medical tourism. The independent variables (accessibility, cost factor, quality of domestic medical services, information gap, and technological advancement) each had a significant impact on outbound medical tourism. This research adds to our knowledge of outbound medical tourism in Bangladesh and how it was impacted by the COVID-19 pandemic. In this situation, outbound tourism faced losses as they could not continue their activities. As the situation changes and the impact of COVID-19 decreases, outbound medical tourism should follow

a recovery plan to overcome this situation. The government should standardize outbound medical tourism so that outbound medical tourism can operate to its full potential as it did before the outbreak of Covid-19.

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