## FACTORS AFFECTING OUTBOUND MEDICAL TOURISM: EVIDENCE FROM BANGLADESH



This Dissertation has been submitted to the Institute of Health

Economics, University of Dhaka, for the fulfillment of the requirement

of the Degree of Doctor of Philosophy (PhD)

by

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November 2020

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#### **DECLARATION**

I do hereby declare that the dissertation entitled "Factors Affecting Outbound Medical Tourism: Evidence from Bangladesh" submitted to the Institute of Health Economics, University of Dhaka for the degree of Doctor of Philosophy is exclusively my own and original in nature. No part of it, in any form, has been submitted previously to any other university or institute for any degree or for other similar purpose whatsoever.

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#### LETTER OF CERTIFICATE

I am pleased to certify that Munira Sultana, bearing Reg. No. 15/2016-2017, a PhD Research Fellow in the Institute of Health Economics, has prepared the dissertation entitled "Factors Affecting Outbound Medical Tourism: Evidence from Bangladesh" under my supervision. I believe that it is an original piece of research work and no part of it, in any form, has been submitted previously to any other university or institute for any degree or diploma. To the best of my knowledge and belief, no part of this thesis has been copied from any previously published or written reports without due reference(s).

I have gone through the dissertation thoroughly and found it as satisfactory for submission to the Institute of Health Economics, University of Dhaka for fulfilling of the degree of Doctor of Philosophy.

I wish her success.

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# **DEDICATION**

# Dedicated to My Parents for Their Unlimited Love and Sacrifice

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Munira Sultana

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#### **ABBREVIATIONS**

**ASEAN** Association of Southeast Asian Nations

**BBC** British Broadcasting Corporation

**BMDC** Bangladesh Medical and Dental Council

**BSMMU** Bangabandhu Sheikh Mujib Medical University

**BTS** Bartlett Test of Sphericity

**CI** Confidence Interval

**CIET** Central Institute of Educational Technology

**CIT** Confidence in Treatment

**EVI** Economic Vulnerability Index

**FICCI** Federation of Indian Chambers of Commerce and Industry

**GATS** General Agreement on Trade in Services

**GDP** Gross Domestic Product

**GNI** Gross National Income

**HAI** Human Assets Index

**HEU** Health Economics Unit

**HIV** Human Immunodeficiency Virus

**IMTJ** International Medical Tourism Journal

**JCI** Joint Commission International

**KMO** Kaiser-Meyer-Olkin

**KPMG** Klynveld Peat Marwick Goerdeler

**LAC** Language and Culture

**MBBS** Bachelor of Medicine, Bachelor of Surgery

**MDA** Market Development Assistance

**MDG** Millennium Development Goals

MSA Measure of Sampling Adequacy

**NGO** Non Government Organization

**OR** Odds Ratio

**SE** Standard Error

**SPSS** Statistical Package for the Social Sciences

**THB** Thai Baht

**TIB** Transparency International Bangladesh

**UAE** United Arab Emirates

**UN** United Nations

**USD** United States Dollar

WHO World Health Organization

**WTO** World Trade Organization

#### **ABSTRACT**

Medical tourism, a form of tourism activity for the patients to cross the borders for medical care, has been growing over the past decades. Health care services are not client focused and need based in Bangladesh. On the other hand, health care services are expansive to the majority of the people. Therefore, thousands of patients, irrespective of their socioeconomic condition, travel to India, Thailand and Singapore for perceivably higher quality of medical care.

Existing literature on medical tourism indicates that there is a lack of comprehensive study that provides the information regarding outbound medical tourists in developing country like Bangladesh. In particular, very little is known about the factors that influence outbound medical tourism and the satisfaction level of outbound medical tourists. To fill this gap, this study has been undertaken. This study has the following objectives: (1) to identify the factors that influence outbound medical tourism and (2) to measure the satisfaction level of outbound medical tourists. To achieve the objectives of the study, data were collected from 300 patients who travelled India, Singapore or Thailand for medical treatment purpose and 60 Bangladeshi doctors through semi-structured questionnaire.

Non-probability, such as convenience and snowball, sampling methods were used to select the respondents. For analyzing the data different statistical tools and methods were

used from STATA software 12.0 versions and SPSS software 20.0 version. The study has employed descriptive statistic, factor analysis, Mann-Whitney U Test, Kruskal-Wallis H Test, Spearman's rank correlation and Ordinal Logistic Regression analysis. Descriptive statistics has been used to identify most influential pre-travel factors related to outbound medical tourism. Moreover, Factor analysis has been used to identify most important post-travel factors related to outbound medical patients' satisfaction, thereafter ordinal logistic regression analysis is performed to investigate the influence of independent variables (quality of medical care, Treatment facilities, cost of medical care, environmental aspects, service of medical staff', tourism facilities and availability of doctor/ medical staff) of patients on the dependent variable (satisfaction level of outbound medical tourists).

The findings indicated that the nine pre-travel factors influenced outbound medical tourism. Apart from these all post- travel factors related to medical service in abroad are significantly influenced outbound medical tourism. Quality of medical care is the most influential factor followed by Treatment facilities and Cost of medical care. Moreover, the overall satisfaction level of patients towards medical services in abroad is satisfactory. The main reasons as found are: Experienced, Helpful, reliable and sincere doctors, fast and accurate diagnosis and world standard medical facilities, and affordable treatment cost. On the other hand, the overall satisfaction level of patients towards medical services in Bangladesh is dissatisfactory. The main reasons as found are: insufficient time paid by the doctors to their patients, unnecessary test and poor diagnosis, high treatment cost.

The following recommendations have been put forwarded, firstly, to initiate continuous professional training and evaluation program for doctors and nurses. Secondly, international standard hospital and diagnostic centers should be arranged so that local people can receive better medical care in the country. At the same time affordable medical care in-country hospital should ensure. , hospitals must ensure hygiene, cleanliness and adapt best practices of health to support patients. This in turn would help to reduce outbound medical tourism from Bangladesh significantly, which will save heard earned foreign currency significantly for the country.

# CHAPTER ONE

INTRODUCTION

#### 1.0 Background

In the present world, medical tourism is growing very rapidly which is commonly known as medical trip, medical travel or wellness tourism that means passing through international borders so as to get health care service. It can be well-defined as the procedure of taking a trip outside the country's boundary for taking medical treatment (Ormond, 2020). Bangladesh experiences a considerable outflow of medical patients to some countries such as India, Thailand and Singapore for medical treatment. The current situation leads to about 700,000 people traveling abroad for medical purposes (Daily Industry, 2018). It has reached the country's alarming position. An approximate \$2.04 billion in 2012 was spent on medical tourism, which is now growing to \$4.00 billion (BanikBarta, 2019).

Medical tourism has emerged as one of the most rapidly increasing and popular industries for last few years. There are some very notable reasons which influence the patients of developing countries to attach with medical tourism. The conception of medical care in foreign countries dates back to several hundreds of years. Historically, wealthy patient from developing countries came to developed countries for medical care that were not available in their home countries. Medical tourists' from developed countries travel to developing countries for medical care at lower price and better hospitality (Horowitz, Rosenpsweig and Jone, 2007; Casken and Eissler 2013).

In the age of globalization with the help of market liberalization such as insurance, increased patient mobility due to greater ease of transportation and technological development along with the participation of the private sector in health care has increased medical tourism (Herrick, 2007; MacKain, 2003). At the time of globalization, medical tourism is the practice of travelling beyond national borders in order to get private medical treatment and care (Synder et al., 2015). In case of low and middle-income countries, people has to travel beyond their national border to get the medical care as the treatment is not available in their country or for getting the better treatment (Connell, 2013).

Outbound medical tourism provides opportunities to the patients to access medical facilities not obtainable or affordable in their own countries (Synder et al., 2015; Crooks et al., 2010). However, extended access to medical services and facilities abroad through enhanced travel networks, quick and easy visa procedure and extension of the medical tourism industry have significant effect on the decisions about where to get the treatment in home or abroad (Synder et al., 2015). Medical Tourism Association describes medical tourism as a segment of travel where citizens of one country usually trip to another country in order to get medical, dental and surgical treatment ensuring equal or greater care than their own country because of the affordable cost and access to a superior level of quality care (Medical Tourism Association, 2018). In this study, medical tourism has been defined when people travel from their residence to overseas destinations (e.g., India, Thailand, Singapore) for medical or surgical procedure in the expectation of getting superior quality treatment.

Bangladeshi patients travel to different countries like Thailand, Singapore and India, for medical care due to various factors mainly insufficient time provided by the doctors to the patient, lack of confidence on medical treatment, dissatisfaction about quality of medical care, poor diagnosis, long waiting time, high cost of medical care, inadequate treatment facilities, non-curability and lack of experienced doctors. Apart from superior quality of doctors and medical staff, advanced medical treatment facilities, cost–effective treatment, cleanliness of hospital, availability of doctors and staffs, attractive tourist destination in destination countries have played an important role in patients' satisfaction as well as enlargement of medical tourism from Bangladesh to abroad.

Bangladesh is one of the densely populated country of the world which is ranked 8<sup>th</sup> in terms of population size. Bangladesh has a population of 163.32 million with a small geographical area (Worldometer,2019). It has experienced a notable progress in terms of growing its economy by sustainably lifting people out of poverty, improving the lives of the people through increased employment opportunities, increasing access of education and health facilities, and lastly the developing infrastructure (BBC, 2018). Comparative to other developing countries in the world Bangladesh has made it possible to grow its GDP over 7.90 percent in 2018 fiscal year (Trading Economics, 2019) which is really a dream for other South Asian countries to achieve and this development has become attainable only because of the consistency of growth from the last two decades (The Daily Star, 2018a). The current scenario of our economy shows that Bangladesh's per capita income has reached at USD 1,909 (Dhaka Tribune, 2019a); and the achievement has helped a lot to reduce the poverty ending at 21.8 percent with an 11.3 percent extreme poverty level (Dhaka Tribune, 2019b).

Although the health sector of Bangladesh has achieved the target of health status on Millennium Development Goal (MDG 4) before 2015 by falling the child death rate, and now focusing on other factors such as immunization coverage, maternal health and survival from some infectious diseases including malaria, tuberculosis, and diarrhea to improve the status, it still has some critical challenges to move forward (Ahmed et al., 2015). Bangladesh has achieved huge progress in the health sector. Health infrastructures have undeniably increased in number of medical schools, medical universities, private medical colleges, private clinics, private hospitals, district hospitals, rural health centers and community clinics, as well as NGOs that play an important role in providing health care (Health Bulletin, 2018).

A country like Bangladesh requires a higher amount of budget to deal with its healthcare system because of the huge population, thus the sector has become one of the demanding place for public funding to avail the necessary medical treatment and facilities for the local people. The country's public health care system is not improving enough in keeping pace with other development projects, the health sector is overcrowded and it has lack of enough funds, absence of modern technologies in the system to increase medical expertise of the professionals and a small number of renowned private hospitals with minimal accommodation facilities (Ali, 2012). For an example, we can take our Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), which does not have the adequate facilities to serve the needs of the huge number of diabetic patients of our country. Though the allocation of public funds for healthcare facilities in Bangladesh has enhanced gradually from the last fourteen years which is covering the fiscal year 2003-2004 to 2016-2017, but the

proposed budget of 2017-2018 has allotted around Taka 13.05 billion for healthcare which is lesser than the previous year's budget (Ali and Medhekar, 2018). The proposed budget for 2020-21 year is Tk 29,247 crore for the health service to combat COVID-19 situation(UNB,2020). In 2014, the health expenditure of Bangladesh was around 2.5% of the total percentage of GDP and it has reached a point of 3.7% in 2013 gradually but again reduced to 2.8% in 2014 (United Nations, 2004).

The Financial Express (2017) stated that in 2012 per capita health expenditure of India, Nepal, Sri Lanka, Pakistan, and Thailand was USD \$ 61, USD \$ 36, USD \$89, USD\$ 39, and USD\$ 215 respectively where Bangladesh had only USD\$ 27. Though the per capita health expenditure of Bangladesh was increased to USD 27 in 2014 from USD 16 in 2007, but the government allocation for health expenditure had reduced from 27% to 23% leading to a situation where the objective of the universal healthcare was unable to attain and enforce people of the country to bear the other 63% for their health expenditure(Ali and Medhekar, 2018). The out of pocket payment in Bangladesh for healthcare services is now 74 percent whereas it is 50 percent for Srilanka, 38 percent for Malaysia, 11 percent for Thailand (The Business Standard, 2020). The high out of pocket payment for healthcare services are well known fact to the general people of the country and they believe that there should be a reformation of healthcare finance scheme (Ali, Chi and Nunez, 2017).

But in recent time health sector allocation in the national budget is gradually increasing. In 2018-19 fiscal year, government has allocated TK 23,393 corer for the health sector which is 5% of total budget; and in 2019-20 fiscal year proposed allocation is TK 25,732 corer which is 4.9% of total budget. Moreover, this report also stated that the share of

GDP in health sector in Bangladesh has fallen from 1.1% in 2010 to 0.89% in 2018 and 0.92% in 2019 which is lowest among 21 countries in south, southwest and southeast Asia(Dhaka Tribune, 2019a).

Bangladesh having lack of enough experienced and qualified medical experts has created sufferings in the public healthcare system which allowing the private sector to offer services at a higher cost but at a lower capacity(Ali and Medhekar, 2018; Dutta, 2017). On the other hand, the doctors those who are able to make themselves more experienced than the others from our country is moving towards abroad for better remuneration, working facilities and good quality life (Ali and Medhekar, 2018; World Bank, 2003). To serve the enormous population there is only 86,800 registered MBBS doctors and dentist and of those, 20,000 doctors are employed in government job and the ratio of doctors for every 10,000 population is 1.29. The doctor-patient ratio to every 10,000 population in South Asian countries are, 7.77 for India; 9.75 for Pakistan; 9.5 for in Sri Lanka; 6.5 for Nepal; 8.6 for Myanmar and 22.3 in Maldives and Bangladesh has only 5.26 (Dhaka Tribune, 2019c).

Bangladesh has ranked 133<sup>rd</sup> position out of 195 countries for providing access quality of healthcare (Dhaka Tribune, 2019c). The country is now fulfilling with a large number of medical schools and the numbers are increasing every year, but the qualities of these institutions remain questionable (Ali and Medhekar, 2016; Mamun and Andaleeb, 2013). On the other hand, the unnecessary diagnostics tests and obsolete medical procedures have left the system to lag behind and driven the private sector to turn its action towards a profit motive. The lack of public funding in many developing countries has left the

healthcare system to left behind and thus made it impossible for its citizens to get adequate healthcare facilities in their countries (Ali and Medhekar, 2018; Dutta, 2017).

Taking the examples of logistical facilities for procuring medical instruments from abroad, it faces a dilemma where the control of the procurement process is managed by a centralized position but a decentralized process in terms of supplying those medical supplies. Apart from this, delay in the procurement process has long been an issue for the sector. The delay in bringing medical instruments and supplies has been identified as a severe reason for the health sector, as it absorbs most of the allocated budget from the government (Ali and Medhekar, 2016). The procurement process still today has been experiencing unnecessary items and irregularity in supply chain. Sometimes the ordered goods remain unmatched with the supplied ones. The quality of maintenance of the current facilities in the healthcare system is not at the level where it can serve large number of patients for a certain period of time. Again, the public hospitals remain the ultimate place for any kind of accident patients, that time the only necessity is emergency attention and this defines the inability of the private hospitals to serve the patients (Ali and Medhekar, 2016).

Bangladesh has its lacking in terms of establishing specific policies and strategies. In some cases, the existing policies remain inefficient to bring any improvement in health sector. The main reasons which are identified as obstacles in enhancing quality healthcare facilities in Bangladesh include unskilled human resources, inadequate physical infrastructures, ineffective medical treatment, higher costs, internal politics among the medical service providers, discrepancy in drug production, lack of cooperation among the stakeholders and so on (Ali, 2012).

The inefficient coordination among different ministries to implement healthcare facilities across the country remains a primary cause along with other causes such as inadequate number of trained healthcare providers, increased informal health service providers, minimal amount of fund in national budget for health sector, high out of pocket payment by households and lastly absence of accessibility to both urban and rural areas to provide healthcare services (Ahmed et al., 2015). This situation leads most of the patients to go overseas for medical purpose and spend huge amount of money every year. Thus, it creates drainage of our hard- earned currency to other nations (Daily Industry, 2018).

The economic progress of the country's people and the absence of quality medical services in the country for everyone let this number to visit India now a days for medical reason. One of the major reasons for travelling to India for medical purpose is because of their quality medical and health-care facilities. But it is not possible for the country to ensure public healthcare facilities for every citizen at present, because the country is not well prepared to offer quality services at an affordable price for everyone (Ali and Medhekar, 2018). Sometime the health conscious people are looking for internationally recognized medical facilities which lead them to visit in abroad for healthcare facilities (Ali and Medhekar, 2018; Turner, 2010). The concern of getting quality healthcare among the health conscious people is on the rise which drives them to travel foreign countries. Researches show that Bangladeshis are usually crossing their country for high end medical care because of the poor healthcare services, poor diagnostic facilities, lack of surgical specialty, and post-surgery care (Medhekar and Ali, 2012).

Asian countries such as India, Thailand, Singapore, Malaysia and Indonesia has become famous to the Bangladeshi patients to travel for medical purposes while these countries

are also exporting their healthcare facilities with the help of globalization (Ali and Medhekar, 2018;Bookman and Bookman, 2007). The affordability of these countries along with other facilities like quality medical service at lesser price, use of modern technologies in service provision, Joint Commission International (JCI) accredited medical facilities and professionals give them advantage to attract foreign patients into these countries (Ali and Medhekar, 2016).

According to a report of United News of Bangladesh, during the fiscal year of 2015-16 about 58,000 medical visas were issued by the Indian government to Bangladeshi people to accommodate around 165,000 patients out of 460,000 inbound patients in Indian hospitals and generating USD \$0.34 billion alone that period (Business Standard, 2017). A data from the ministry of tourism of Indian shows that the number of visitors from Bangladesh in 2016 was around 1.37 million which was merely close to 0.48 million in 2012 (Business Standard, 2017). There are many liaison offices in Dhaka for the patients to deliver information about the healthcare facilities and hospitals in India, at present daily 1,000 patients from Bangladesh visiting India for medical reason and around 100 patients are visiting these offices every day (The Daily Star, 2018a). As estimated in 2015, 2016, 2017 and 2018, the number of medical tourism trips to India in Bangladesh was 120000, 210000, 221000 and 235000 respectively (The Hindu, 2018; BanikBarta, 2019). By promoting medical visas, India has made it easier for more patients to receive treatment in their country. (BanikBarta, 2019; Daily Industry, 2018).

There are other reasons for Bangladeshi people to visit India for medical facilities and these include cost effective services, less waiting time, easy accessibility, state of art medical technology etc. Another issue which enforces people to take decision to go

abroad is because of the faulty medicine production in the country responsible for damaging patients' health instead of giving them the relief (Afroz and Hasanuzzaman, 2012).

Thailand always has been the most popular destination for Bangladesh people for medical treatment. The availability of halal food, top notch medical services, hospitality, caring healthcare facilities and cultural affinity has made Thailand a suitable medical tourism destination for country like Bangladesh (Ali and Medhekar, 2016; Medhekar and Haq, 2015). Apart from the middle class, higher level income generating people are also visiting Thailand. In spite of having some issues such as higher medical costs, language barrier and high cost medicine, the people are visiting Thailand because of its overseas qualified and caring facilities along with less waiting time for surgery compared to Bangladesh. Thailand is well known for its health care allocation across the ASEAN countries as it has allotted 14% of its total budget for health sector which is 4.6% of their total GDP in 2016 (Ali and Medhekar, 2018; JCI, 2017). Moreover, their actions have proved extraordinary by achieving Joint Commission International accreditation for 53 hospitals. Thailand's hospitals usually have the facilities to store their foreign patients' record which helps them to answer any queries of the patients through e-mail with the shortest timeframe (Ali and Medhekar, 2018). Thailand had estimated its medical tourism earnings around THB 48 to THB 49 billion earning from public and private medical centers which was around 3% to 4% more from 2016, thus the government also is giving emphasis on developing Thailand as medical and wellness tourism destination through high quality medical services provision (KPMG, 2018).

In 2017, there was around 150000 patients visited Thailand for medical purposes whereas 500 patients are going monthly (BanikBarta, 2019; Daily Industry, 2018). The worldwide market for medical tourism will grow at an annual growth rate of 17.9% from 2013-2019, indicating earnings of USD 32.5 billion in 2019 from this sector (KPMG, 2018). China remains as the most tourists generating country for Thailand and the number of tourists is increasing every year (Tourism Review, 2018). According to Tourism Authority of Thailand, the total number of tourists in Thailand including medical tourist will also reach at 40 million in 2019 which will generate around BHT 3.4 trillion income, 10% more from the previous year 2018 (IMTJ, 2018).

The high income society's people from Bangladesh visit Singapore for surgery instead of going to United Kingdom or United States. Singapore has become the fourth largest medical tourism destination around the world. Traveling to neighboring countries for medical treatments, the patients usually provide significance on waiting list bewilderment at home and affordable quality treatment in the foreign nations (The Straitstimes, 2015). An estimated in 2018, there was around 25000 Bangladeshi patients have visited Singapore for medical treatment purposes. The costs of treatment in Singapore tend to be higher than other Asian countries like Malaysia, Thailand, and India. Therefore, the rich patients prefer to seek treatment in Singapore (BanikBarta, 2019).

Singapore has become a hub for international patients for wide varieties of medical services such as health screenings, high end surgeries (neurology, cardiology, ophthalmology, organ transplants) and generating good amount of earnings. The country holds many advantages which include well trained doctor from abroad, internationally accredited hospitals, and well developed infrastructure, robust medical ecosystem, free of

political unrest situation, social stability, and innovative medical technology to draw the attention of potential medical tourists to travel Singapore. To become as a multi-faceted medical pivot, Singapore is also drawing the attention of medical professional and health companies to share and exchange healthcare related research through international events (The Straitstimes, 2015).

However, the medical market of Singapore seems challenging because of higher costs, but the country is still preferable for world-class treatment in dealing with complex health issues such as new drugs for life threatening conditions are available here to use rather in America or other developed nation comparatively at a higher cost (Straitstimes, 2017). Singapore has changed its traditional track to attract international patients to their country for heart bypass, dental work rather the renowned private healthcare companies of Singapore are investing in different countries to establish their shops and use their brand to provide high quality care to foreign patients relatively at a lesser costs (Business Times, 2017).

The statistics of different findings has shown that the people's motive to travel foreign nation for medical purposes is increasing day by day in Bangladesh. And this alarming condition can make the earned currency of people go abroad easily. This may also influence the other people of the country those are not visiting to foreign countries for medical purposes to mislay their belief towards our existing healthcare system. The study defines the specific reasons for selecting foreign countries for medical services and find out the satisfaction level of those patients having the medical experience from abroad. The medical issues which are most common for the Bangladeshi people to deal with foreign medical service have also been examined through the study.

In a study, it is found that the healthcare facility of Bangladesh and the pattern of consuming various kinds of medical services have always been influenced by many factors which are connected with the affordability of medical treatment and service providing system (Medhekar and Ali, 2012). The observation of medical sector of Bangladesh provides strong evidence as patients and their relatives are worst victim of the system as they don't get proper treatment from public healthcare system because of the substandard quality of medical care, and lack of proper accountability contributing to improper treatment in the country (Medhekar and Ali, 2012). Sometimes the inappropriate practices by our local doctors are also responsible for losing confidence of the patients to take treatment from them (Ali and Medhekar, 2016).

The increasing rate of the outbound medical tourist in Bangladesh has made the country's government to take steps to focus on the existing medical facilities and to ensure the availability of the affordable medical cost which is easily bearable for the low- and middle-income class of Bangladesh (Medhekar and Ali 2012). In spite of a huge amount of charge of different health centers, nursing homes, medical colleges and specialized hospitals, the assurance of getting good treatment and quality services is absent most of the time. Moreover, doctor's unethical actions in prescribing lower quality medicines from some companies for commission responsible for the present quality of medical care (Ali, 2012). The neighboring countries are getting more Bangladeshi patients to their hospitals each year and the rate is increasing because of the concern of people of the country over the quality of medical service of hospitals of Bangladesh which lead to the loss of faith in our own healthcare system and enhanced the outflow of Bangladeshi

people to travel for medical services in abroad (Andaleeb, Siddiqui and Khandakar, 2007).

Earlier a report of the world bank defines that the unqualified health providers who are privately providing services to 70% patients and the health care system still has the lacking in terms of standard treatment protocols, competent nurses and necessary diagnostic tests facilities which are the main drawbacks for ensuring higher quality of service (Ali and Medhekar, 2018; World Bank, 2003). The benefit from traveling to foreign nations for medical reasons surpluses the cost of the travel to some extend and the difficulties during the travel such as financial cost, getting visa, obtaining foreign exchange, arranging transportation do not bother much them to travel abroad especially for those who are affordable enough to bear the financial costs mainly (Andaleeb, Siddiqui and Khandakar, 2007).

But unfortunately, the technological advancements and the door of globalization move people to further improved services over time. The early studies show that the public health care system of Bangladesh has been a unbearable place for the mass people because of the scarceness of doctors and nurses, as well as their unhelpful behaviors toward the patients, lack of drugs at the hospitals and surely the long waiting times (Andaleeb, Siddiqui and Khandakar, 2007; HEU, 2003). The reliability of our health care system in Bangladesh has been questioning for many years over time and these reasons include irregular supervision to the patients by the service providers, lack of available specialists for patients, inadequate supply of drugs at the hospital centers and unnecessary medical tests recommended by the doctors responsible for lower quality of service (Andaleeb, Siddiqui and Khandakar, 2007).

There were some situations where the people of the country were more interested in getting medical treatment from the local private institutions of the country while the utilization of public health care services had decreased at that time (Andaleeb, Siddiqui and Khandakar, 2007; CIET, 2004). The people of developing country has also become more concern in searching for better health care services and they provide more emphasis on the value of healthcare comparing the countries in terms of world class service quality, cost, waiting times and post-surgery care which helping them to outsource advanced and innovative medical facilities (Ali and Medhekar, 2016; Bookman and Bookman, 2007). In Bangladesh the patients feel to take their medical service from other places rather their own country and these include unreliable pathological and diagnostic tests, lack of medical know-how, long waiting time, shortage of super-specialty, and corruption, as physicians often take a charge for different needless diagnostic tests (Medhekar and Haq, 2015; Medhekar and Ali, 2012).

Sometimes the travel packages for patients have driven the people to the medical tourism destination as the package generally bundled with high quality care services, diagnostic clinics, world class medical experts, accommodation and also travel arrangements which ensure cost effective services comparative to their home countries (Ali and Medhekar, 2018; Teh, 2007). The ideal destination for taking medical services offers many advantages such as reasonable healthcare costs, state-of-the-art healthcare facilities, high quality of medical specialists, no waiting-time, and a hospitable and service-minded culture which may not be found to the patient's country (Ali and Medhekar, 2018; Supakankunti and Herberholz, 2012).

There are many reasons which have been identified throughout these years of outbound medical tourism boom from Bangladesh and these include inefficient skilled manpower to serve the healthcare industry, absence of implementation of health policies and strategies, corruption in the health sector, insignificant number of human resources and medical institutions, absence of improved and modern technologies etc. Apart from these, some study suggests that the behavioral patterns of the doctors and other staff at the institutions are also responsible for people to seek health services form alternative sources (New Age, 2017).

It is evident from prior research that several topics related to medical tourism have been identified such as factors affecting inbound and outbound medical tourism, medical tourists' satisfaction and attitude, medical tourists' destination choice etc. However, research findings in this field are inconclusive. Moreover, most of these studies are based on the context of developed countries. It is observed that one of the major drawbacks of all earlier studies is that they did not consider both factors (pre-travel and post-travel) together for outbound medical tourism. They could not measure the satisfaction level of the medical tourist. But the present study has considered both factors (pre-travel and post-travel) together in details and also measure the satisfaction level of outbound medical patients' which ultimately affects the selection of medical destination.

#### 1.1 Research Objectives

#### 1.1.1 General Objective

The core objective of this research is to uncover the factors, which directly pursue the people of Bangladesh for visiting India, Thailand and Singapore for medical treatments.

#### 1.1.2 Specific Objectives

This study seeks to realize the following specific objectives:

- i. To identify the factors that influence outbound medical tourism.
- ii. To measure the satisfaction level of outbound medical tourists.

#### 1.2 Research Questions

In order to fulfill the research objectives, the study formulates the following research questions.

- i. What are the factors that affect outbound medical tourism?
- ii. What is the level of satisfaction of outbound medical tourists?

#### 1.3 Significance of the Study

The volume of outbound medical tourism from Bangladesh is very large. It is also rapidly increasing. It causes huge economic loss of the country. Thus, scientific study on this issue is highly important for analyzing the underlying factors motivating outbound medical tourism from Bangladesh. The findings from the scientific studies in this regard are useful for policy makers to formulate appropriate policy to reduce outbound tourism from Bangladesh. The earlier studies (Ali and Medhakar, 2018; Ali and Medhakar, 2016; Sultana et.al, 2014; Hasan and Hasan, 2013; Reddy, 2013; Mamun and Andaleeb 2013; Medhakar and Ali, 2012; Jotikasthira, 2010; Andaleeb, Siddiqui and Khandakar, 2007) did not consider both factors (pre-travel and post-travel) together in detail for outbound medical tourism. They also did not measure the satisfaction level of the medical tourists.

Thus, this study attempts to fills up the research gap by examining the existing and new factors related to outbound medical tourists considering their pre- travel and post-travel attributes and also by measuring medical tourists' satisfaction level in the Bangladesh context. This study reveals the perceived quality of medical care as well as the level of satisfaction in external and internal medical service. The findings and recommendations of this study may be useful for policy makers to adopt appropriate policy regarding reducing outbound medical tourism from Bangladesh.

#### 1.4 Structure of the Thesis

The thesis consists of five chapters. Chapter one begins with the research background followed by the research problems based on the gaps identified from the existing researches. Subsequently, this paper has focused on research objectives and after that, the research questions are presented. It then describes the significance and scope of the study. After that, chapter two outlines the review of related studies on various issues of medical tourism. It mainly covers definition of medical tourism, reasons for growing demand of medical tourism, medical tourism destination and factors affecting outbound medical tourism (pre- travel and post-travel) and presents conceptual framework of the study. Chapter three presents the research methodologies that are used. In this chapter discusses the methodology adopted in data collection, including sampling and the statistical techniques used to analyze the data. Chapter four discusses all the statistical results in response to the research objectives of this study. In this chapter, the respondents' profile, descriptive analysis, factor analysis, Mann Whitney U-test and Kruskal Wallis H- test, Spearman's correlation analysis and the results of ordinal regression analysis are presented. Chapter five mainly discuss with the subject matter and subsequent

conclusions. This chapter also presents some recommendation based on the findings of the study. At the same time, it opens some avenues for future research on basis of the limitations of this study.

# **CHAPTER TWO**

# REVIEW OF LITERATURE

#### 2.0 Introduction

This chapter reviews the literature and documents relevant to outbound medical tourism. The aim of this review is to find out the gaps in literature, especially on the factors that affecting outbound medical tourism both global and Bangladesh contexts. This chapter captures the following issues:

- 1. What is Medical Tourism?
- 2. Reasons for growing demand of medical tourism.
- 3. Medical Tourism Destination.
- 4. Outbound Medical Tourism from Bangladesh.
- 5. Factors Affecting Outbound Medical Tourism

#### 2.1 What is Medical Tourism?

The term "medical tourism" is still defined inconclusively. There is no specific definition of medical tourism to express (Garcia-Altes, 2005 and Lee and Spisto, 2007). The Medical Tourism Association defines "medical tourism" as a segment of travel where citizens of one country usually trip to a different country to get medical, dental and surgical treatment ensuring equal or greater care than their own country because of the affordable cost and access to a superior level of quality care (Medical Tourism Association, 2018).

WTO (1995) states that traditionally, traveling to one place to receive some healthcare services is known as medical tourism. Broadly if someone travels to a place with the purpose to enjoy medical services or to cure their diseases with the help of medical technology and treatment systems of the destination is known as medical tourism. It could be within the border or across the international borders.

Goodrich and Goodrich (1987) express medical tourism as a tourist destination which is promoted by its health care services and modern facilities. Laws (1996) defines medical tourism with a wide viewpoint as it is the leisure and recreation taken activities away from home place, where one of the major purposes is to recover one's health condition. Carrera and Bridges (2006) stated medical tourism as "prearranged travel arrangement outside one's normal health care situation for the rebuilding of the individual's well-being condition through medical involvement".

Bookman and Bookman (2007) practice the phrase "medical care tourism" and "health care tourism" interchangeably. According to the researchers, "the sale of high technological medical treatment to foreigners has arisen to be named as healthcare or medical tourism". "Medical Tourism is a financial event that involves trade in services and characterizes the merging of at least two sectors that are medicine and tourism". Medical tourism is made on the basis of treatment facilities of certain country or hospitals. On the other hand, availability of advance technology and special care services motivate the tourist to go for medical care tourism. The growth rate of medical care tourism has been led by the globalization of both tourism and health consciousness of the people which has been established as a major economic activity in the world.

According to Bies and Zacharia (2007) mentioned that medical tourism is merely the subcontracting of medical care related services, principally expensive and critical surgeries to low-cost countries such as India, Thailand and other country. Hong, Lim and Kim (2007) explain medical care tourism as an individual's desires to look for sickness anticipation or develop psychological and physical well-being in a country other than their home country.

Yu and Kang (2008) mention that medical tourism is related to the actual volume of time consumed on medical related service and tourism activities on the journey. This kind of medical treatment are normally availed of by those who desire medical services beside with repossession and those who want to obtain necessary medical services. These types of tourists also want various medical services such as organ transplant which may not be instantly accessible at the patients' own country. Besides, there are so many medical tourists who want to save money and find out "affordable health care services" in the foreign country as of the very high cost of the medical services in their own country. After that, there are some medical tourists who want to take quality health care services from the abroad hospital. For that reason, they travel overseas to find out international acknowledgment or qualifications because of lack of quality services at their home country. Last of all there are some "premium or best quality health care searchers" who want to enjoy lavish and comfortable medical services in abroad.

Marsek and Sharpe (2009) define medical care tourism as "the exercise of traveling abroad in exploration of high-quality, affordable and low-cost medical care". Heung, Kucukusta, and Song (2011) mentioned that the globalization of healthcare system has grown in a new form in tourism and generally known as a medical tourism or health care

tourism. In this modern time, medical related tourism is one of the wildest rising segments and many developed and developing countries are now making practical and lawful policies to assist it.

Medhekar (2010) defines medical tourism is a practice where people travel because of numerous push factors in their home country which averts them for getting proper medical treatment such as: high cost of treatment compared to other country, high waiting time, lack of treatment facilities, absence of medical amenities and proper care, lack of qualified physicians and nurses, corruption and inadequate medical facilities.

# 2.2 Reasons for Growing Demand of Medical tourism

The trend of outbound patients in the term of medical tourism from Bangladesh is growing day by day. It has reached to an alarming situation for the country. It will be more terrified in the future because every year huge amount of money drainage to the medical tourism purposes. In recent year, health care facilities of Bangladesh are not focused on the patients need. Although a few hospitals (Apollo, Square, United, and Labaid) offer quality services, these are highly expensive to afford for most of the patients of Bangladesh (Mamun and Andaleeb,2013; Daliy Industry, 2018). Moreover, due to various reasons such as rising health demand, information availability about treatment in competitive destinations, easy transportation and communication systems (Khan, Chelliah and Harun, 2015)

Healthcare providers may deliberate leveraging on both business and clinical contemplations. The development in medical technologies, amplified patient mobility and demand for direct quality healthcare is affecting healthcare providers

internationally. Patients from well-developed as well as developing neighbouring countries travel to different countries for medical care purpose and reasonable quality and finest medical facilities and technology (Medhekar 2010).

Travel in a foreign country for medical treatment is increasing fast from the last decade because of long waiting time, high medical care cost and health insurance in developed countries. On the other hand, better medical services, know-how and proficiency in destination countries, ease mode of travel, specialized travel agent for medical care tourism and internet promotion played a important role in medical tourist travelling from developed or developing countries or which are prominent for medical care( Bookman & Bookman 2007; Horowitz, Rosenswei and Jones, 2007; Stanley 2010).

On the other hand, patient from developing countries such as Bangladesh, Sri-Lanka, Oman, Ghana and Tanzania, are also travelling to India, Thailand, Singapore due to high treatment cost, lack of availability of particular treatment, poor medical and nursing care, delays in surgery, and abuse in healthcare service (Ali 2012; Dasgupta 2011). They also state that in some of the developing countries like Bangladesh, lack of modern health care high cost of care, insufficient infrastructure and medical technology, shortage of qualified professionals and less quality of health care services stimulates the medical patients to travel transversely border to numerous cities in India for medical treatment.

Medical tourists have a common tendency that they want to travel overseas to cross border countries such as Thailand, India, Malaysia, Mexico, for medical care (Medhakar and Ali, 2012). In Asian Countries like such as Thailand, India, Singapore and Malaysia, private hospitalise with government sustenance, are contribution composite modern

invasive surgeries and non-invasive treatments (Bookman and Bookman 2007; Horowitz and Rosensweig 2007). It is possibly that moreover low cost of care and surgery, less waiting period, and other factors like social conditions, food, cultural similarity, language, religion, political and economic stability impact the medical patient's travel to abroad for medical treatment (Medhekar 2010).

Smith and Forgione (2007) state that there are some issues in the developing countries in terms of dealing their healthcare system, although they can arrange the quality and maintain the standard of service but the fear of some epidemic diseases such as HIV, typhoid, malaria, tuberculosis, and influenza force individuals to pursue medical treatment in abroad.

Gill and Singh (2011) identify that there are some severe reasons which actually impact on providing quality medical care to the patients such as lack of proper service equipment, lack of health insurance, travel opportunity, waiting list of hospitals and absence of confidentiality enforce people to travel foreign nations for medical treatment. Medical tourism has reached one step ahead as a result of increasing waiting time in the hospitals of developed countries in recent time which allow the people to quest for medical service in other places even after of spending a lot of time in their home countries' hospitals. The people of developed countries are more likely to visit medical destination not only for the lesser waiting time but also lower price of the treatment comparative to their home countries. Apart from the bearable medical expense in different destination, the destination also offers various attractions for the tourists to enjoy (Sobo, 2009). Some patients select locations having different attraction and

enjoyment facilities which actually worked as a motivational factor for them to take medical service from the same destination (Turner, 2008).

Jones and Keith (2006) show that health care tourism is today producing more than US\$ 60 billion in all over the world. This figure indicates medical tourism market is growing day by day. Ramirez de Arellano (2007) mention that "investment and business in this segment is one of the greatest active ways of cumulative income, enlightening services, producing foreign exchange earnings, generating an additional satisfactory equilibrium of trade, and increasing tourism." It is not astonishing to observe that a growing quantity of countries have apprehended the business prospects that medical care tourism suggestions. Moreover, Snyder et al. (2013) show that there are approximately positive and negative influences of medical tourism which are directly or indirectly influence the tourists, host country and the medical tourists generating country.

Bookman and Bookman (2007) state that in recent time, the development of information and communication technology has melodramatically altered the character of conversation and also change the nature of specialty and communication technique among the countries. For that reason, health care tourism is privileged by the globalization of equally tourism development and health care systems which day by day change the total economic activity of the concerning country and the whole world. Medical tourism has been appeared as niche market tourism but it is now recognized as a global industry. People travel long distances from one country to alternative country to achieve medical, surgical and dental care along with taking holiday.

Musa, Thirumoorthi and Doshi (2012) find the motivational factors which usually lead a person to take foreign travel decision for medical purpose include excellent medical service, value for money, cultural resemblances and religious issues. But Guojinga and Zhijun (2013) argued that the medical need for a person is considered as the ultimate motivator to travel abroad. The required type of medical treatment also sometime derives the decision-making process of a medical tourist to select a particular country. The other motivating features in medical tourism include inaccessibility of treatment at the home country, lack of knowhow at home, excessive costs, lack of language barrier in abroad and the advantage of presence for family members with the patients in the destination country.

Bies and Zacharia (2007) argue that though the outbound medical provides us with the highest quality services along with other medical facilities, but there are also some issues relating to medical tourism in foreign countries such as risk of travel for patients, side effects, infection, weak malpractice law and accreditation. It will be difficult for a patient to claim damage for irrelevant medical practices in the foreign countries. The follow-up checks afterward the treatment is also regarded as one of the considerations in taking foreign facilities. The availability of local follow up care should be arranged to avoid such circumstances.

Allegranzi et al. (2011) state that the risk of receiving infested during the treatment procedure is also become a matter of concern. It is found that the developing countries are riskier in terms of infection exposure during treatment than the developed countries. The infection rate from adult intensive treatment is about three times higher in developing countries than the developed countries. To avoid these hazardous situations

during treatment, the potential medical tourists must have to consider the possible risks are associated with the travel.

Woodman (2009) mentions that medical tourism is extremely predisposed by some factors such as financial condition, time of the tourist as well as political environment and economy of the destination. Moreover, immigration and emergency visa processing transport system and facilities are also important for some special care patient.

Horowitz, Rosensweig, and Jones (2007) mention that the amount of medical tourist is increasing substantially. Now days in global medical tourism market place a number of countries compete for the patients. They offer a range of medical services along with updated technology and best treatment facilities. Medical travelers travel to developed counties for several purposes such as:

- Assisted Reproductive Technology
- Bariatric Surgery
- Cosmetic Surgery
- Cardiac Surgery
- Dental Treatment
- Executive Health Evaluation
- Orthopedic Surgery
- Organ and Cellular Transplantation
- Gender Reassignment Procedures

Casken and Eissler (2013) mention that now a day's patient from developed country travel to developing country for the treatments in less cost and better hospitality. This situation is only possible because in developed countries patient has to pay very high amount of money for the medical treatment and another big reason is time schedule. Patient has to book appointment of the doctors at least one week before meetings. Emergency services cost two or three times more than the regular fees.

Herrick (2007) and MacKain (2003) state that in the era of globalization market liberalization such as insurance, ease of transportation, increased patient mobility and technological development along with the involvement of the private sector in health care has increased medical tourism.

### 2.3 Medical Tourism Destination

Lunt and Carrera (2010) mention that patients' past medical history, physician and doctor selection, types of medical procedures and facilities and cost of treatment are important for the medical tourists to select a destination. William (1998) argues that to choose any medical tourism destination patient may use reference of other patients, the doctor's references or follow the brand name of renowned hospitals or doctors. Patients collect information about the hospitals from their friends and family as well as from outside sources and chose from the alternatives but some time they rely on their doctors and go for the doctor's reference. From the ancient period there has been good practice of medical tourism, but in the 21<sup>st</sup> century it has become much more popular. Some country is taking this as an opportunity to make huge profit. Proper healthcare system with skilled

doctors and updated technology and proper branding can help a country to promote medical tourism.

Caballero-Danell and Mugomba (2007) establish their findings by creating a map that includes information about medical tourism collected from different sources such as the electronic media, newspapers, journals, magazines, and academic material. In their study, they tried to signify that the mechanisms of the medical tourism market include consumer assistances, labelling, the legal framework, infrastructure, goods, target markets, communication channels, machinists, intermediaries, and social issues.

English et al., (2005) mention that the advancement of technological facilities regarding medical services are that much significant for a medical patient to select a destination for medical care because the technological efficiency makes the destination most competitive in terms of price to the potential buyers.

The relationship between medical services and tourism is significant as medical tourism usually build us with the cooperation of the tourism industry (American Medical Association, 2008; Reed, 2008; Lunt and Carrera, 2010). For this reason, if there is a definition to describe this industry, these two segments should be taken into consideration for better understanding. But some of the experts suggest that the medical tourism only deals with the medical services rather than tourism services.

There are lots of medical tourism destinations all over the world. Some of these are India, China, Thailand, Singapore, United Arab Emirate, United States, Canada, Brazil, Argentina, Germany, Italy and Spain. These countries are making huge profit from the business of medical tourism where there targeted customer is from their neighboring

countries. According to Gahlinger (2008) almost 50 countries in the world aggressively support medical tourism. Most of them are in Asia and Latin America. Selected Asian countries are China, United Arab Emirates (UAE), India, Israel, Jordan, Malaysia, Philippines, Singapore, Thailand, and Vietnam and some of the notable countries in Latin America are Brazil, Costa Rica, Cuba, Dominican Republic, Mexico, Panama, and Venezuela. European countries that promote medical tourism include Belgium, Bulgaria, Croatia, Germany, Hungary, Latvia, Poland, and Spain. A few countries in Africa that stimulate medical tourism are Egypt, Tunisia, and South Africa.

A study carried out in Bangladesh by Hasan and Hassan (2013) find out that almost 77 percent patients prefer to go India whereas 13 percent in Singapore, 4 percent in Thailand, 2 percent in Malaysia and 4 percent preferred other countries to take their medical treatment. They also find out that about 17 percent travel for heart diseases, 14.5 percent for kidney disease, 11.5 percent for orthopedics surgery, 11 percent for liver diseases and 11 percent for cancer treatment.

According to Mamun and Andaleeb (2013), India, Singapore and Thailand are wellestablished medical tourism destinations that have become popular recently for patients seeking a variety of treatment.

## 2.3.1 India as a Medical Tourism Destination

Swamy (2014) mentions that the Indian government is actively working with the foreign investors to broaden the existing healthcare system and also increase its quality. So the Indian largest hospitals such as Apollo, Fortis Healthcare are working in foreign countries and expanding their brand names globally and establishing referral opportunities for them. The medical tourists those who are visiting India are mainly seeking medical treatment cardiac surgery, orthopedic etc. But the country is popular for its organ transplant and surrogacy services which may not be easily available in other places.

Medhekar and Ali (2012) mention that India is a great place for visiting historical place and natural beauty but it has a vast consequence on medical tourism for all developed and developing countries. As for developed countries like UK, US, Canada etc. people from these countries comes India with the expectation of getting low cost health services and fast treatment facilities. And people from developing countries like Bangladesh, Sri Lanka, Kenya comes to India with the expectation of having quality of health services, affordable treatment options. The government of India also delivers numerous amenities for medical tourists by allowing several travel selections like medical visas to the patient so that they can benefit from long term treatment options in India such as for various surgical procedures and diseases where special long-term care is needed. And they also give medical escort visa for the family members and friends or accompanying of the patient.

Piazolo and Zanca (2011) mention that many medical tourists of neighboring countries of India prefer this country because of its enormous advantages and benefits. There are several factors which have an influence on their decision. Neighboring countries of India like Bangladesh and Nepal are often familiar with the Indian language. They can easily learn this language and it is a great advantage for them. Medical tourists from developing countries also prefer this country for non-availability of adequate treatment options in their own countries.

Baliga (2006) states that many medical tourism agencies are providing satisfactory options for medical tourists to get benefits from hospitals and clinics from India. Different hospitals like Apollo, Fortis Healthcare, Tata Memorial hospital etc. provides various facilities for medical tourists including travel arrangements. Apollo hospitals also provide online consultations, doctor's appointment and arranging travel plans for medical tourists. These hospitals have many facilities like great nursing care, satisfactory rooms for patient and advanced technological equipment. India is a developing country with emerging economy but it is getting prominent in the market of medical tourism. By providing world class facilities in healthcare sector India is gaining its reputation in the medical tourism market. Hospitals in India provide immediate health services facilities and emergency surgeries are done without much delay. So, it causes the foreign medical tourists to come to this country. Non-availability of treatment in many developing countries like Bangladesh some time also plays a role for a patient to seek available treatments in India. Many Bangladeshi people go to India for orthopedic surgeries and for other medical conditions.

Wong and Musa (2012) mention that advantages like personalized facilities, medical specialization and highly qualified doctors make potential buyers to select India for medical treatment. Apart from this, most of the medical care tourists choose India because of its low-cost influence. To meet need of the patients, the Indian government has managed to organize world class medical study facilities and it supply more than 30.000 medical graduates yearly. There are 21 Joint Commission International (JCI) credited hospitals in India and among them most of the hospitals are located in Mumbai and Delhi.

Dawn and Pal (2011) state that traveling options to India are not complicated for medical tourists across the world. People can now easily buy air tickets for Delhi, Kolkata, Chennai and Bangalore which are major medical tourism destination in India. And even traveling option inside India is also so easy for people to get a relax time while recovering from illness. People can have various options of therapy such as yoga, Ayurveda etc. while improving from illness. These help people to improve their mental and physical wellbeing.

#### 2.3.2 Thailand as a Medical Tourism Destination

Ali and Medhekar (2018) mention that Thailand is a famous place for medical tourism now a days in the world. Thailand is mostly popular for medical tourism because of excellent doctor's service quality, state of art medical facilities, accurate diagnosis, less waiting time for surgery, hassle free fastest service system, and unique hospitality and friendly culture.

A report in My Med Holiday (2013) shows that the medical tourism sector of Thailand had been intelligent to appeal about 2.53 million foreign patients, resulting income of THB 121 to 140 billion which is about USD 4 to 4.6 billion. The situation actually proves that how Thailand has become leader globally in terms of medical tourism services. This report predicts that medical patients from Asian countries especially from South East Asian countries accounted for about 35% of the total medical tourism receipts in Thailand. The availability of on arrival visa for most of the nationalities has made it easier for the potential tourists to book their travel plan to Thailand for medical purpose. To facilitate the need of the medical tourism, the government of Thailand has granted nonimmigrant visa for medical purpose which allows the tourists to stay 90 days in Thailand to get medical treatment. An offer of 90 days visa free stay has been providing to the medical tourist from the Middle East countries since 2013. Thailand has best quality hospitals and services for the patients with in cheaper rate. There are several wellknown and JCI accredited hospitals in Thailand. These hospitals provide best quality healthcare services to its patients. Low cost is another big reason of the popularity of health tourism in Thailand. Most of the country charge high cost for various medical treatments and surgeries. But in Thailand the cost of medical services is comparatively lower.

March (1997) mention that hospitals in Thailand provide best quality facilities to the patients. Patients from about the world come to Thailand for various kinds of medical treatments. Hospitals in Thailand are very much concerned about the patient's condition and better services. In case of critical surgeries and operation cases they form special team for planning, decision making and monitoring the patient. Thailand is a tremendous

country with beautiful unique destinations which attracts lots of tourist from all over the world. It has many historical places, floating markets, beaches which surely get the attention of tourists from other countries.

Medical tourists come to Thiland from the different part of the world for their treatment as the treatment cost is relatively cheaper than their countries. Besides cost efficiency, hospitals of Thailand also give standard quality of health as well as offered various packages that include diagnostic tests, treatment facilities and various therapies.

Chantal and Sirnipen (2014) mention that hospitals in Thailand plans their services in such a way that foreign patients can enjoy the best benefit. Marketing of these services are so precise and informative that patients feel reliable when they make decisions. The number of medical tourists in recent times are enhancing than before.

Sastre and Phakdee-Auksorn (2017) argue that doctors in Thailand are very courteous and receptive to the patient and always treat a patient like a guest rather patient. This is a good sign of hospitality that motivates the patient for treatments and makes them feeling comfortable. Medical tourists from other countries come to Thailand for many treatment purposes like cosmetic surgeries, dental surgeries, orthopedic surgeries and others also. They choose this country because treatment options are relatively cheaper and they can also access to treatment on the hospitals without longer delays. There are many JCI accredited hospitals situated in Thailand. For example, Bangkok Hospital Pattaya, Chiangmai Ram Hospital, Bumrungrad Hospital, Bangkok Hospital Phuket, SamitivejSukhumvit Hospital and BNH Hospital. These hospitals offer various medical services to the medical tourists.

Wong and Musa (2012) state that there is a huge flow of international tourists to Thailand and it has become a unique destination for the visitors because of the presence of exotic beaches, entertainment facilities, medical treatments and obviously the Thai hospitality. In terms of providing medical services to patients, Thailand is well recognized to the visitors for its dental treatment services along with cosmetic surgery. Thailand has become one of the first movers in terms of attaining international accreditation internationally from Asia. About 37 hospitals in Thailand has already earned JCI accreditation so far (JCI, 2012), among them most of the hospitals are situated in Bangkok. Although most of the medical tourists has been facing language barrier during their visit to different hospitals in Thailand, but they also recognize the professionalism of the services providers resulting in excellent service experience for the patients

### 2.3.3 Singapore as a Medical Tourism Destination

Yeoh et al. (2002) argue that some advanced diagnosis equipment's available in Singapore, which made this country as an ideal medical tourism destination for the people of other part of the world especially for Asia. To fascinate more tourists to Singapore the government ensures a stable political situation, clean and safe environment. The widely spoken language English has made it easier for most of the potential tourists to select Singapore.

Ganguli and Ebrahim, (2017) state that Singapore is a scenic beauty of great historical places, rivers, beaches and lots of tourist's places that attracts many visitors around the world. As this country has great sight for visiting, it also has triumphant history of medical science. Among all the Asian countries this small country has a great old culture

and environment which gets the most attraction of people from other countries. This country has also a great history of health infrastructure. It has increased the standing of one of the top countries of medical care tourism by its whole lots of advanced modern equipment and instruments, group of well qualified doctors and consultants. The medical universities of this country are also adopted with high-quality teaching, practicing and students can learn from many experienced doctors and professors. Students can also get great skills of modern equipment of medical science. They can learn new diseases as there are many foreign patients with unknown diseases come to them. So, they can identify clinical features of many diseases and get involved themselves with new and latest treatment options.

Singapore General Hospital (2013) finds that there are a lot of Bangladeshis going to Singapore for treatment as they expect a great treatment options with proper care and satisfactory nursing and proper privacy as well as a best place for recover also. There are lots of visiting places with great natural views so they feel a great place for receiving treatment and also visiting option for their family members. They come to this place for curing various diseases of orthopedic, ophthalmologic, hematologic and general surgical condition. In Bangladesh, treatment option for diseases related to these departments is high in price. There are various treatment facilities for many cancer patients in Singapore. As a result, many Bangladeshi cancer patients go there for treatment in affordable price.

Moreover, Singapore has adopted with affordable high-quality health services and technology in the field of medical science. Sometimes the cost for a specific treatment is more than other developed countries but patients or their family member gets the

satisfaction or peace of mind going for these options. That is because the hospitals has qualified, experienced and certified doctors, consultants and satisfactory nursing care.

Singapore has a relatively better heath infrastructure as it gives most affordable high-quality services and satisfactory nursing care. According to research, life expectancy in Singapore is relatively more than other countries. And infant mortality rate is half of the number than United States, United Kingdom and Canada. Singapore got 6<sup>th</sup> position in health systems ranking from WHO in the year of 2000. This country spends about 4% GDP on healthcare. By the year of 2009 Singapore pays \$2000 per person on health care.

Singapore heath care system includes both public and private inputs. There are many private hospitals with advanced technology and healthcare facilities which attracts the foreigners to come to such as Mount Elizabeth Novena Hospital and Specialist Center, Thomson Medical Center, HMI Balestier Hospital, Raffles Hospital, Parkway East Hospital and Medical Center, Gleneagles Hospital and Medical center and Camden Medical Center.

These hospitals have adopted with best available technology in affordable price, experienced doctors and consultants. Mount Elizabeth Novena Hospital which is in Novena is a great place for both local and international patients for having best quality, more privacy-maintained hospital. Thomson Medical Centre is also a good hospital adopts with advanced technology and specialized in gynecology and obstetrics department. MI Bales Tier Hospital is also an excellent hospital with quality services. Raffles Hospital is a great destination for local as well as international patients. There are more than 35 specialties services and more than 20 specialist canters for medical, surgical

and ancillary services. There are also some public hospitals in Singapore which provide advanced and specialized services. For example, Changi General Hospital and Singapore General Hospital, Singapore National hospital.

## 2.4 Outbound Medical Tourism from Bangladesh

Medical tourism from Bangladesh is expanding exponentially day after day. The failure of our current healthcare system allows this situation will be continued. According to an expert from Bangabandhu Sheikh Mujib Medical University (BSMMU), patients those who are travelling to abroad are mainly for open heart surgery, kidney transplantation and liver cirrhosis which can be carried out in our country also, but the open heart surgery for an example in private medical institute of our country will cost around Tk. 400,000 to TK 600,000 comparative to TK 300,000 in Bangalore, India. (Daily Industry, 2018).

Many reasons have been identified which are responsible for outbound medical tourism boom from Bangladesh and these include inefficient skilled manpower to serve the healthcare industry, absence of implementation of health policies and strategies, corruption in the health sector, insignificant number of human resources and medical institutions, absence of improved and modern technologies etc. Apart from these, some study suggest that the behavioral patterns of the doctors and medical staff at the institutions are also responsible for people to seek health services form alternative sources (New Age, 2017).

Medhekar and Ali (2012) note that the reasons behind traveling to nearby Asian countries from Bangladesh for medical treatment are relatively high costs, poor quality of delivery of healthcare services, and lack of or unavailability of special medical treatment. The

main reasons described as barriers to improving quality healthcare facilities in Bangladesh include unqualified human resources, insufficient physical infrastructure, ineffective medical treatment, internal dirty policies and corruption among medical service providers, disparities in drug production, lack of stakeholder cooperation, and so on (Ali, 2012). The availability of desired trust and confidence from the patients about the local healthcare institutions remains lower still today which is also responsible for outbound medical tourism from Bangladesh out flowing huge amount of money (Daily Industry, 2018).

Outbound medical tourism occurs due to various push factors such as lack of availability of specific treatment, higher costs compared to other places, fewer expert doctors, medical corruption and ethical practice in Bangladesh. Apart from push factors, some pull factors in destination countries such as trained physicians and surgeons, special standard of nursing care (pre and post-surgery), low cost of surgery, and modern medical technology, treatment and facilities have motivated to go abroad.

The main drawbacks of the public hospitals in Bangladesh are lack of vital medical equipment and amenities, shortage of essential drug poor diagnostic facilities, fewer experienced specialist doctors and trained nurses and capacity problem (Ali and Medhekar, 2016). Moreover, some of the public hospitals provide advanced and specialized service like organ transplants, cosmetic surgery, neurosurgery, radiation therapy, heart surgery at lower price. But the majority of the patient do not trust the health care system of public hospitals, they are going to the private owned hospitals for the treatment (Andaleeb, Siddique and Khandaker, 2007).

In recent time some private hospitals like Labaid hospital, Square hospital, Apollo hospital, United hospital have been established in the capital city Dhaka which are providing the world class services but much expensive (Mamun and Andaleeb,2013). Since 2000, Bangladesh has experienced a five times growth in the number of registered private hospitals. The number of registered private hospitals has increased to 5023 in 2017, which was 3026 in 2011 and 1032 in 2000 (Dhaka courier, 2018). But the services are not extensive to the majority of the patients.

Moreover, Bangladeshi patients are mostly go abroad for the open heart surgery, liver cirrhosis disease, kidney transplant but these types of treatment is also available in Bangladesh because of doctors negative attitude patients do not relay on the treatment of our country (Daily Industry, 2018). Most of the doctors in Bangladesh do not treat a patient with friendly manner (Ali and Medhekar, 2016). Doctors cannot give enough time to check up a patient properly because of the huge pressure of large number of patient in daily basis that degrade the quality of services and also creates dissatisfaction of the patient (Andaleeb, Siddique and Khandaker, 2007).

Mamun and Andaleeb (2013) show that there are lots of hospitals to provide health care service to the people of Bangladesh. However, it is disappointing that the service quality of these hospitals is not satisfactory. Health care service has become a global service and most of the countries are taking its benefits and making profit through business. But in case of Bangladesh, the service providers are indifference about the fact and also do not pay any attention to the opportunities rather losing local patients as outbound tourism. Despite of huge demand Bangladesh has no scope of medical tourism, while medical patients in Bangladesh are in search of treatment in Apollo Hospitals in India and Sri

Lanka, but they ignore Apollo Hospital in Dhaka due to lack of faulty marketing and lack of information.

Transparency International Bangladesh (TIB) conducted a survey on private healthcare systems in Bangladesh and shows the current condition of this sector. This report shows that private hospitals and diagnostics centers have only operated for profit and their service is below standard. TIB found that there is an illegal relationship between private clinic physician and the diagnostic centers. Private physician give unnecessary and contradictory test to the patients lead to a large number of cases of misdiagnosis and gets a center amount commission. Moreover, there is no uniform price range for the service provided by the private hospitals, so that price range is very high for the available services (The Daily Star, 2018b).

Assenov and Rerkrujipimol (2011) find out that in Bangladesh there are lots of hospitals in towns and also in the village areas but nurses and staffs in those hospital are not skilled and experienced enough to attend the patient with proper attitude and manner. Most of them do not show proper hospitality to the patient so that patient wants to switch to hospitals in abroad. For supporting the heath sector there is only 56,733 registered nurses, and midwives. The nurse-patient ratio to every 10,000 population in Bangladesh is 3.06 that signify the shortage of nurse in the medical sector (Dhaka Tribune, 2019c).

Ali and Medhekar (2016) state that, for the scarcity of the quality health service providers in Bangladesh, there is a high demand for all health and treatment services. This high demand translated into high price. Another big reason for the high cost for getting health services in Bangladesh is their dependency on the impetrated updated machineries.

Bangladesh does not have any industry or technology for making advanced health equipment. So they are dependent on imports which are costly and subject to taxes.

Andaleeb, Siddiqui and Khandakar (2007) find that patients' satisfaction is also an important factor for the health care industry in Bangladesh. Patient satisfaction about health service is influenced by several factors. Doctor's attitude, nurses and other staffs' behavior, availability of doctors, process of admission in the hospitals, procedure of booking, long time serials, availability of drugs, waiting time for reports are some of them. During the stay at hospital, patient can be dissatisfied at any stage due to misbehavior of the staff, carelessness, and delay of services or other reasons.

Awadzi and Panda (2006) mention that medical tourism is a popular practice in southeast-Asia but Bangladesh cannot promote its healthcare services because of lack of proper branding. To attract foreign tourist Bangladesh has to set some marketing strategies to promote healthcare services. There are lots of hospitals in Bangladesh, but they are not interested in promotion for the global healthcare services. So, they do not promote their services in international level. On the other hand, Bangladeshi patients are also unaware about treatment facilities and services. They are frequently attracted to the international brands and have faith on the brand name. Healthcare service is related to some other support services such as transportation, accommodation, food, information or communication system etc. There is a lack of proper support services needed for healthcare services in Bangladesh. For example, transportation system and public road is not suitable for the emergency patient. As well as traffic jam is a big issue in this case. There is a lack of accommodation facilities and food services near the hospitals where

patients get admitted for treatments. As a result, family and friends who come to assist the patient has to suffer a lot regarding their stay and food consumption.

Ali (2012) identifies that some factors like poor service quality, high treatment cost and long waiting time at home country; improved new technology, lower transportation cost and improved internet marketing in destination countries have played an significant role in the development of medical tourism from Bangladesh to abroad. Based on the income and character of diseases, patients visit various countries from Bangladesh. Most of the patients visit USA, Canada, Australia, UK, Thailand, South Korea, Malaysia, Saudi Arabia, Singapore and India etc. But majority of the patients go to India, Singapore and Thailand for their treatment.

Rahman (2010) mentions that a good health care system needs enough physical structure, skilled manpower and good facilities. Bangladesh is still lack of these. Physical structure is must for health care services. Updated technology can help to provide smooth services to the patient. On the other hand, we need skill workforce to operate these machineries and to use technology. Accommodation services of Bangladesh for the patients are also not satisfactory. There are no specialized hotel services for the patients. Hospitals that provide accommodation services also cost high price. Food service quality is mostly disgraceful for the patient that comes to big cities for the treatment. There is no specialized food services system for the patients which could provide prescribed food with proper nutrition. As well as relatives who assist the patients during their treatment time become sick due to consuming unhealthy food and water.

Ali and Medhekar (2018) state that Bangladesh has many private medical colleges. Nowadays medical degree is very easy to achieve in exchange of money and time. Proper education system and quality of education is not ensured in these hospitals. Negative branding in print and news media about health care service in Bangladesh is another big reason of the patients for losing faith in Bangladeshi doctors and hospitals. There is no concern of government about the fact that Bangladesh is losing its patient to other countries. Government is always concerned about the availability of the hospitals in all area of the country but it is also essential to confirm the quality services as well as skilled workforce to these hospitals. Scholarship and training facilities for the MBBS doctors to go for higher degree and training are very limited in number.

Ali (2012) opines that the people in Bangladesh mainly travel for diagnostic, pathology and complex surgeries, they expect lower cost, better quality care, availability of treatment, than they would receive at home. Our existing healthcare facilities are still suffering from the capacity problems, shortage of vital medical equipment, treatment facilities, and essential lifesaving medicine, diagnostic facilities, experienced specialist doctors and trained nurses. Each year the government has been considering health sector budget, but the allocation is not enough to serve this dense population.

Medical services are also dependent on some other support services such as transportation system, accommodation system, food facilities etc. Transportation system of Bangladesh is not so favorable for the emergency patients and traffic jam is a consistent scenario in the major cities of the country. Traffic jam causes great suffering to the patients and sometimes it results in the death of patient. Some airlines provide air ambulance and air transport services at a high price, but the service is not satisfactory and

due to unavailability of helipad, it is not always possible to travel to the hospital in whole country.

## 2.5 Factors Affecting Outbound Medical Tourism

Patients' decision for taking medical treatment from abroad countries are affected by several factors (Known as Pre-travel factors in this study) such as non-curability, lack of experienced doctors, dissatisfaction about quality of medical care, inadequate treatment facilities, lack of confidence on medical treatment, cost-ineffectiveness, insufficient consultation time by the doctors to patients, poor diagnosis facilities, long waiting time, language and culture and nearness. When the performance of these factors is not satisfactory in home country (Bangladesh). Then the patients take the decision to go abroad (India, Singapore or Thailand) for medical treatment. On the other hand, selection of medical tourism destinations are affected by other factors (Known as Post-travel factors in this study) such as doctors' quality of medical care, cost of medical care, treatment facilities, environmental aspects, tourism facilities, service of medical staff and availability of doctors and staffs'. Each of these factors includes multiple issues (e.g. reliability, skill and empathy and communication) see figure 2.1 more detailed. According to the diagram, growing demand for medical tourism in Bangladesh is linked with medical patients' satisfaction. On the other hand, medical patients' satisfaction is connected with both pre-travel factors and post-travel factors which ultimately influence the selection of medical tourism destinations. We reviewed the literature related to pretravel and post –travel factors in the following.

#### 2.5.1 Factors considered as Pre-Travel Attributes

Tourists' motivation is inclined by two attributes- the concepts of pre travel and post travel factors has been examined by a number of researchers (Akhoondnejad, 2015). These pre-travel factors are acknowledged as the first step of travel and useful means in clarifying the aspiration for travel and accepting tourists' behavior (Crompton, 1979). The pre-travel factors push tourists' from home country and make decision to travel. The key pre -travel factors for patients motivate to travel abroad for medical treatment were lack of obtainability of specialised treatment, high treatment cost, underinsured or insured, lack of specialist doctors, dishonesty and ethical practice, long waiting list in Bangladesh. (Burns, 2015; Crooks et al., 2011; Turner, 2010; Medhekar and Ali, 2012). Previous studies reveal some push factors such as reference from doctors, family, and friends (Connell, 2011; Deloitte Center for Health Solutions, 2009; Singh, 2013), inadequate insurance coverage (Cosmetic, dental, vision, fertility treatments, etc.) (Connell, 2011), aspiration for privacy and discretion of treatments (Alsharif, Labonte, and Zuxun, 2010), preceding medical tourism knowledge (Fisher and Sood, 2014; Henson et al., 2015), affordability of international travel (Culley et al., 2011), Socio demographic status (age, gender, income, etc.) (Culley et al., 2011; Fetscherin and Stephano, 2016), Cultural similarities (AlcarazAriza, &Navarro, 2006), lack of treatment opportunities in home countries (Ferraretti, et al., 2010) and disbelief in local healthcare systems (Crooks & Snyder, 2010; Culley et al., 2011). The present study has identified eleven factors in medical arena that motivates patients' before the travel to take medical treatment from abroad.

# **Non-Curability:**

In our country many patients have travelled to India, Singapore and Thailand for medical treatment because of the ineffective curing factor (Ali and Medhekar,2012;Ali and Medhekar,2016; Awadzi and Panda, 2005). The motivating feature in medical tourism include inaccessibility of treatment at home and lack of knowledge (Musa, Thirumoorthi and Doshi,2012). The more negative patients' perception towards the curability from disease, the higher is the probability that he or she will adopt medical tourism (Jotikasthira,2010)

## **Dissatisfaction about Quality of Medical Care:**

The patients usually provide more emphasis on the standard of services specially the quality of care and the safety of them during the decision making process of choosing medical destination (Runnels and Carrera, 2012). The overall performance of a particular service or experience usually defines the parameter of satisfaction with that service or experience. The satisfactory issues regarding health care services include factors from the appointment to the doctor to the post medical care after the treatment. The patients usually provide more emphasis on the quality of medical treatment by the doctors and considered it as one of the factors for highest satisfaction for them (Krishnan and Chelliah, 2013). The absence of such services enforces people to travel abroad for their treatments. Sometime the medical destination countries create collaboration with the government which allows the patients to put more confidence in taking services from those countries (Lee and Spisto, 2007; Krishnan and Chelliah, 2013).

### **Inadequate Treatment Facilities:**

Treatment facilities and services are more important for the medical tourists (Gill and singh, 2011). Inadequate facilities of treatment in the country are one of the main reasons to motivate other countries (Assenov and Rerkrujipimol, 2011). The availability for providing different medical needs has been an issue for outbound medical tourism for many years. In order to meet the need of specialized medical services for the patients, many countries seem unsuccessful. The specialized medical treatments for some diseases such as cancer, cardiac care, dentistry, and oncology and organ transplant remain unavailable in most of the countries' hospitals which drive people to visit foreign hospitals (Krishnan and Chelliah, 2013).

#### Lack of Confidence on Medical Care:

The lack of high-end medical procedures and the lack of modern training facilities for the medical personnel create confusion among the patients about the quality of the medical treatment of local medical providers. This condition also leads people to travel abroad for medical treatment. The lack of established laws against the malpractices and culture of greed among the doctors, nurses, pathologists, administrators, legal and government medical officers concluding a situation among the patients not to have trust and faith in them and local health care system (Nurunnabi and Islam, 2012).

### **High Cost of Medical Care:**

Cost of the treatment is one of the factors, which influence people to prefer other countries. The opportunity for better medical treatment is not available in the country and

the existing medical practices among the private medical service providers let this group to put higher price tag on the limited quality care or without ensuring quality care and service. Patients in Bangladesh also found that the price of superior diagnostic centers of Bangladesh is comparatively too high than in India (Ali, 2012). Medical tourism is travelling outside the home country to obtain medical care at meaningfully compact cost or increased quality. Hereafter, developed countries' low insured patients are travelling to developing countries for a reasonable quality of medical service and they can save thousands of dollars as well as involved in tourism activities (Burns, 2015; Deloitte, 2008; Smith et al., 2010; Singh, 2012; Turner, 2010).

## **Insufficient Consultation Time by the Doctors:**

The more time the doctor spends with a patient, the more possibility to find out the reason for getting illness. Insufficient consultation time as factors cause to patient unhappiness in Bangladesh (Aldana et al., 2001; Rahman et al, 2002) .So, the question of providing enough time to the patients and listening to their sufferings properly have created situation for the patients to look for alternatives. In Bangladesh public hospital doctor have a contractual relationship with private clinics and creation money by forcing patient through their chamber or business to visit private clinics for diagnosis purposes and, in return, doctors earn 'commissions'. The hunger of doctors in Bangladesh is also reflected in their relationship with other associated healthcare professionals (Ali and Medhekar, 2016).

## **Long Waiting Time:**

Sometimes the waiting time for getting an emergency services may create dissatisfaction

of the patients while it may increase the chances of risks associated with a certain disease and side effects of that disease (Hashemi et al., 2017). There are some situations where the side effects of a certain disease can be dangerous in nature within a short period of time from its appearance leading the patients to death. Here the waiting time has affected the quality of the healthcare system. The people who have travelled to abroad from Bangladesh for medical purposes think that the waiting time in the medical centers in Bangladesh is long (Jotikasthira, 2010; Ali and Medhekar, 2016)

### **Lack of Experienced Doctors:**

Most of the time, the experience of the doctors' matter for better treatment which makes healing process faster and more effective. The required knowledge and experience to become an expertise in medical sector drives to better training facilities and patients are more like to take medical aid from doctors having particular knowledge, experience and efficiency. The main purpose of the medical tourists is to avail the most effective and efficient medical treatment during their travel to medical tourism destination. So, the core component for medical tourism is the doctors and many countries are now providing services with doctors having international experience and qualification both (Pancha Pakesan and Dahab 2012).

## **Poor Diagnosis Facilities:**

In most of the public healthcare system, the patients are unable to get a simple medical diagnosis such as pathological, radiological in their country that let them to visit private clinics for expensive costs and the diagnosis process may prove insufficient (Ali and Medhekar, 2016). The doctors who send their patients for diagnostic tests gets 25-45 per

cent commission (Ali and Medhekar, 2016). The diagnostic facilities are available in Bangladesh like blood, urine and stool examination, microbiological cultures, routine biochemical tests to other sophisticated services like ultrasonography, and immunological tests. There are very demanding services; consequently, there has been a great deal of maltreatment. Doctors and hospitals often prescribed medical test unnecessarily. This, added to the diagnostic centers' common apathy, leads to many cases of misdiagnosis (Andaleeb, Siddiqui, and Khandakar, 2007). Hospital's unsatisfactory services, heartless manners of medical professionals and incorrect diagnostic tests have resulted in a general suspicion among Bangladeshi people regarding the healthcare system. For that reason, patients are choosing to go abroad for diagnosis and treatment (Mamun and Andaleeb, 2013).

# **Language and Culture:**

The familiarity with the health care system and the little similarities between the languages make it easier for the patients to feel comfortable in the foreign hospitals. There are some factors which mold cultural proximity such as language, religion, cuisine, customs, practices, climate make attractive to patients to visit a certain destination (IMTJ, 2012).

#### **Nearness:**

The nearby countries remain the first priority in taking medical care in abroad because the geographical location, shorter travel time, less waiting time, direct communication from both land and air, lastly the visa procedures which make it easy for them to make decision to travel abroad (IMTJ, 2012; Ali,2012).

#### 2.5.2 Factors considered as Post–Travel Attributes

Post- travel attribute, is the tangible assets and medical traveler's observation and anticipation concerning the structures, attractions, or qualities of a specific destination; therefore, It plays an significant role in choice of destination of medical tourists once the decision to travel has been made (Crompton, 1979; Uysal and Hagan, 1993). Post-travel factor is the external forces related to natural refreshment facilities, fascinations, people, and marketed image of the destination and found the actual particular destination select. (Uysaland and Hagan, 1993; Bello and Etzel, 1985; Cha). "Pull factors" have been included both tangible and intangible structures such as natural and historical charms, infrastructure, amusement and refreshment facilities, food, people and the image of the destination (Kim, Crompton and Botha, 2000; Klenosky, 2002). Chen, Prebensen, and Huan (2008) exposed the essential tourists' travel motivation to a wellness destination. Their study mention that leisure numerous activities, recreation, and enjoying nature are the major motivations.

Post travel factors include country environment, cost of desired healthcare, educated medical staff, destination attractiveness, better quality of tourism facilities and service designed by the tourists' awareness and knowledge of the destination position (Gnoth, 1997) The previous literature specifies that the common motivation factors that drive people to pursue treatments in other countries are accessibility (Bookman and Bookman, 2007; Carrera and Bridges, 2006; Singh, 2013), knowledge and awareness of the country (Musa, Thirumoorthi and Doshi 2012), low medical costs (Crooks et al., 2011; Musa, Thirumoorthi and Doshi 2012;Singh, 2013), and safety and security of one country

(Awadzi and Panda, 2006; Bookman and Bookman, 2007; Deloitte, 2008). The present study has identified seven post –travel factors which ultimately influence medical tourists' destination. The description of each factor is given below.

### **Quality of Medical Care:**

The overall service quality of doctors in health care industry is a vital area for fascinating customer. It can be considered as one of the crucial factors that affect patients' satisfaction (Chen et.al, 2016). If a physician provides good quality care to the patient, the patient satisfaction level increases (Chen et.al,2016; Celik, Oktay and Akbaba, 2014). Doctors' quality of patient care has a noticeable influence on patient personal satisfaction, and doctors' appearances comprising both mechanical and interpersonal skills that can stimulus patient approaches or medical consequences (Tung and Chang, 2009).

Doctors' reliability refers to providers' talent and capability to perform the promised service reliably and correctly. Reliability of the doctor is high for various reasons in abroad such as doctors recommend necessary medical tests, regular supervision of patients, give correct treatment as well as understand the problem of patient. Knowledge, skill and good manners of the doctors offer a promise that they will deliver services with honesty equality and beneficence (Zeithaml and Bitner 2000). It personified doctors who appropriately understand and explain laboratory reports, identify the disease proficiently, provide right clarifications to queries, evidence-based guidelines as well as generate a sense of safety (Andaleeb, Siddique and Khandaker, 2007). Chang, Yang and Chiang 2003).

Bikker and Thompson, (2006) emphasize relational skills as a significant factor on patient satisfaction. Koermer and Kilbane (2008) expose those courteousness terminologies, and individual construction socialites played a substantial role in complete satisfaction with the physician. However, communication is important for the satisfaction of the patients. Necessary communication and sound relationship benefit deliver critical information such as nature of the treatment and awareness of patients. Doctors' empathy denotes to the understanding of patients' physical and mental problems. Patients want doctors to be more concentrating, deliver personal care, and give mental support that may affect patients' satisfaction. (Andaleeb, Siddique and Khandaker, 2007).

#### **Cost of Medical care:**

One of the vital determinants of customer satisfaction of any product or service is the cost. Moreover, cost of any product or service determines the competitiveness of that particular product or service in any field. It can consist of product cost, carriage cost, physical cost, social cost and opportunity cost. (Oliver, 1997; Hart, 2007; Luo and Homeburg, 2007). In tourism, a destination can be gorgeous to its tourists only when the costs of related services are more reasonable compare to the service. There can be about extraordinary cases, but cost affects tourist satisfaction. Therefore, in medical tourism cost of medical services or fees, it is vital to measure a destination's attractiveness. It is one of the essential metrics for destination attractiveness and drivers of health travel (Crooks et al, 2011). The cost of medical tourism is measured as one of the crucial factors (Cortez, 2008). It also significantly influences the patients' satisfaction (Chen et.al, 2016). Lagace (2007) suggests that cost must be a vital consideration when the

arrangement for medical tourism. Snyder, Crooks and Turner (2011) stated that, the cost is the primary motivating and encouraging factor between other.

#### **Treatment Facilities:**

In the selection of medical tourism destination, available medical treatment facilities and types of treatment is pointed out as a vital factor. According to Hancock (2006) some of the core medical processes in the medical tourism arena such as cardiac surgery, cosmetic surgery, dental surgery, eye surgery, fertility treatment, orthopedic surgery and transplant surgery. Medical tourism does not comprise any kind of specific treatment but also added a wide range of treatment facilities (Mattoo and Rathindran, 2006). Paffhausen et al., (2010) not, medical tourism includes a wide variety of therapeutic treatments extending from numerous important treatments to different kinds of traditional and alternative treatments.

### **Environment of the Hospital:**

Patient satisfaction upsurges the image of hospital as well as market value, satisfied patients' elasticities the positive feedback, which is very much helpful for the medical care providers on a long-term basis (Zeithmaland and Bitner, 2008). A research by Andaleeb (1998) states that cost of medical care's with quality facilities is significant inpatient satisfaction. If the physical facilities in the hospital such as operation theater, medical equipment, cabin, bed, floor, toilet and bathroom are neat and clean, it stretches a good feeling and the patient satisfaction can be increased. In case of assessment of hospital environment, typically encompasses physical entrance inside and outside of the hospitals. An appropriate and contented environment will intensification inpatient

satisfaction. (Kavadas, Barham and Finch-Jones M, 2004). Crowded and noisy environments increase inpatient dissatisfaction scores. Keeping the hospital environment clean and neat is helpful for making the inpatients feel comfortable (Abdellah, Levine and Levine, 1986).

#### **Tourism Facilities:**

Tourism facilities can play a vital role behind medical tourists' satisfaction and selection of a particular destination for medical tourism. A possible medical tourist takes a decision to travel on the basis of a countries tourism attractions, protection and exclusive JCI-accredited hospitals. This may comprise tourism opportunities, security in travel, lodging, patented hospital, accredited hospitals, understanding with the local language and the English language facility and culture (Abubakar and Ilkan, 2016;Esiyok, Cakar, and Kurtulmusoglu,2016; Gill and Singh, 2011; Sultana et al., 2014). According to (Smith and Puczko, 2009), medical tourists have a large impact on the tourism industry not only by being consumers of healthcare services but also by travelling to the destination, staying in different hotels and using tourism services. Tourist satisfaction of a destination depends on many different factors. It is influenced by different experiences from many independent businesses.

Moreover, Mamun and Andaleeb (2013) stated that countless services in hospitals such as pharmacies near hospitals, proper management of all schedules to avoid misbehavior, and investigative patients' history whereas serving international patients. Moreover, hotels and restaurants of international customary near hospitals, airports pick-up and drop-up services need to be upgraded to attract more medical tourists from abroad. In

addition, the destination should be culturally, politically, socially, and environmentally sound and friendly. The most satisfactory anticipated destination could be the one where medical tourists get an approachable environment (Sultana et al., 2014).

#### Service of Medical Staff:

Medical staff showing politeness, helpfulness, and having a positive behavior towards patients, will have a profound impact on patients' satisfaction and as a result benefit healthcare providers (Andaleeb, 1998). Andaleeb (1998) through a research in Pennsylvania indicates that vital attributes emphasized by patients for satisfaction include: communication, staff proficiency, staff attitude, quality facilities, and perceived costs. According to Babic-Banaszak et al. (2001) in Croatia, an effective response towards nurses' kindness, patience, willingness to help, compassion and time management are important to patients. Medical staff politeness, helpfulness, and positive behavior concerning patients will have a thoughtful impact on patients' satisfaction and benefit healthcare providers (Andaleeb, 1998; Musa Thirumoorthi and Doshi, 2012).

## **Availability (Doctor/Medical staff):**

Availability is the probability that a system will be available to perform its function when called upon. Availability of various medical services largely depends on the availability of medical personnel. Lack of adequate medical personnel can adversely affect the availability of various medical services which in turn affects patients' satisfaction.

It is moderately natural that everyone seeking medical treatment overseas imagines the quality of service. The most vital factor of all is receiving round the clock like better care,

availability and accessibility of experienced doctors, medical staffs personalized care, availability of bed/ cabin and visa processing (Andaleeb, Siddique and Khandakar,2007; Drinkert,2015; Siddique and Khandakar,2007).

#### 2.6 Medical Tourists' Satisfaction

Medical Patients' satisfaction is the mental assessment and judgment between what customers predictable to receive and what they actually receive (Suh, and Hwang, 2003). In specific, outbound medical patients' satisfaction is depend on the assessment of their pre-travel hopes, images and perception about the destination and their post-travel experiences and understandings at this destination (Chon, 1989; Chen and Chen, 2010). If the real performance is better than patients' hopes, this leads to high satisfaction and if the real performance is poorer than their hopes, this leads to dissatisfaction. Outbound medical patient satisfaction is very important and it gain attention from the scholars in all over the world. Researchers in the developed countries like Canada, United States (US), Australia and United Kingdom have indicated the significance of patients' satisfaction as the central quality indicator, especially in the health sector. Patient satisfaction is therefore an essential determining factor of the quality of care in the healthcare system. Moreover, patients' satisfaction is known as the patients overall thinking about the quality of particular medical care in the aspect of interpersonal procedure (Akhoondnejad, 2015).

The overall satisfaction of the outbound patients, which typically includes a large proportion of the population of all nations, is nonetheless, ignored to a great extent. Few studies of patient satisfaction with outgoing medical patients in Bangladesh have been undertaken till now. The purpose of this research is consequently, to evaluate the satisfaction of outbound patients with the multiple facets of medical services that may affect the choice of a proper medical tourism destination.

# 2.7 Factors Affecting Outbound Medical Tourism in Bangladesh Context

In the case of Bangladesh, few studies have focused on outbound medical tourism and patients' satisfaction. Table 2.1 provides a summary of this literature.

Table 2.1: Summary of the previous studies conducted in Bangladesh

Reference	Methodology	Findings	Remarks
<b>Outbound</b> Medical	i. The study used	i. The study found that	i. The focus of the
Tourism: The case of	both qualitative and	medical tourism arises	study was very
Bangladesh(Ali,2012)	quantitative	for different reasons	narrow. Because
	approach. Random	especially for	the author did not
	sampling technique	inefficient and less	consider both pre-
	was used to collect	effective care system	travel and post-
	data from 500	in Bangladesh which	travel factors
	respondents of	also had a higher cost,	together.
	Bangladesh,	poor services,	ii. Absence of
	regression analysis	improper treatment	demographic
	was used to analyze	and long waiting time.	information.
	the data collected	Also neighbor	iii.Specialist,
	through	countries improved	junior doctor and
	questionnaire	their new technology	nurses were the
		and skills for better	respondents of the
		medical treatment	study.
		played an important	
		role for medical	

		tourism.	
		tourism.	
-			
Globalization,Medica	i. The study used	The study found that	i. The author
l travel and	both qualitative and	push factors and pull	focused only one
Healthcare	quantitative	factors of medical	country (India) and
Management in	approach. Random	tourist had influenced	selected samples
Bangladesh (Ali and	sampling technique	to travel to India for	from that
Medhekar, 2016)	was used to collect	medical treatment.	particular country.
	data from 1282		
	patients of		ii limited number
	Bangladesh,		of pre and post
	regression analysis		travel factors were
	was used to analyze		briefly discussed
	the collected data		in the study.
	through		
	questionnaire.		
Key reasons for	The study used both	The study found that	i.The author
medical travel from	qualitative and	medical tourists'	focused only one
Bangladesh to India	quantitative	travelled to India for	country (India) and
(Medhekar and Ali	approach. Random	medical treatment due	selected samples
2012)	sampling technique	to pull factors such as:	from that
	was used to collect	the doctors with	particular country.
	data from 1282	special qualities, lower	
	patients of	cost compare to other	ii. The author
	Bangladesh	places, quality nursing	mainly used (Post-
	ii. Regression	care, availability of all	travel) factor for
	analysis was used	type of treatments and	outbound medical
	to analyze the data	technologically	tourism, but
	collected through	advanced treatment.	briefly. As well as
	questionnaire.		they could not
	_		measure the

			satisfaction level
			of medical tourist.
Health care quality	Non-probability	The study found that	i The author
of Bangladesh and	convenient	the outbound medical	focused only one
outbound medical	sampling technique	travel from	country,
travel to Thailand.	was used to collect	Bangladesh to	(Thailand)and
(Ali and Medhekar,	data from 113	Thailand due to less	selected samples
2018)	patients of	waiting time in	from that
	Bangladesh.	surgery, doctors'	particular country.
	ii. Factor analysis	quality of medical	
	and binary logistic	care, state-of-the-art	ii. The author used
	regression analysis	medical facilities, and	(Post-travel)
	were used to	superior healthcare	factors for
	analyze the data	service	outbound medical
	collected through		tourism.
	questionnaire		
Health Tourism: A	i.Non-probability	i. Meager hospital	i. The study had
Demographic Study	judgmental	services, unavailable	used three
on the Outbound	sampling technique	treatment, shortage of	countries (e.g.
<b>Health Tourists from</b>	was used to collect	qualified doctors, poor	India, Thailand
Bangladesh (Hasan	data from 200	quality diagnosis	and
and Hasan, 2013)	patients of	services, and minimal	Singapore).But
	Bangladesh.	treatment costs in	equal samples
	ii.Descriptive	abroad, unavailability	were not collected
	statistics was used	of information	from the three
	to analyze the data	regarding treatment	countries.
	collected through	facilities in home	ii. The author
	questionnaire.	country were the	considered only
		major factors	pre-travel factors
		attracting medical	in this study.
			Besides treatment

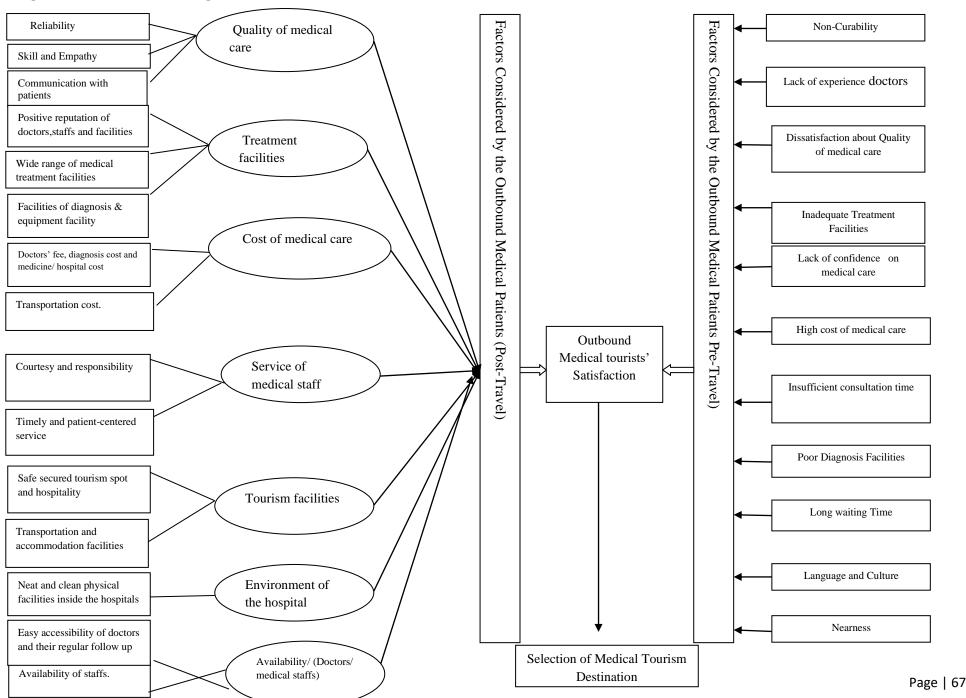
		tourism in abroad.  ii. This study identifies three major elements which contribute to the treatment satisfaction in foreign country. Those are successful treatment, quality of hospital	satisfaction in foreign countries had been briefly discussed.
		services and cost of treatment.	
Patient satisfaction	i.Probability (for	i. The study found that	i. The study
with health services	local hospital) and	doctors' service	mainly focused
in Bangladesh	Non-probability	quality played the	patients'
(Andaleeb, Siddique	(snowball	most important role	satisfaction
and Khandakar,	sampling)	for patients'	towards medical
2007)	technique (for	satisfaction.	service in
	foreign hospital)		Bangladesh.
	was used to collect		ii The author
	data from patients		considered three
	of Bangladesh.		countries(e.g.
	ii. Regression		India, Thailand
	analysis was used		and Singapore) but
	to identify key		patient satisfaction
	factors affecting		towards foreign
	patient satisfaction		medical services
	in the different		briefly discussed
	types of hospitals		in the study
	such as public,		
	private and foreign.		

Comparison of	i. Probability (for	i. The study found that	The study mainly
Services of Public,	local hospital) and	service quality of	focused public and
Private and Foreign	Non-probability	foreign hospitals was	private medical
Hospitals from the	(snowball	better than the private	service in
Perspective of	sampling)	hospitals in	Bangladesh and
Bangladeshi Patients	technique (for	Bangladesh with all	briefly discussed
(Siddiqui and	foreign hospital)	factors.	foreign medical
Khandaker, 2007)	was used to collect		service.
	data from patients of Bangladesh.  ii. Factor analysis was used to identify most important factor.		
Prospects and Problems of Medical Tourism. (Mamun and Andaleeb 2013)	i. Non-probability convenient sampling technique was used to collect data from 99 patients of Bangladesh.	i. India, Singapore and Thailand were well- established medical tourism destinations that have become popular recently due to higher perceived quality of treatment. But similar treatment obtainable cost-effectively in Bangladesh.	i. Sample size was small ii.The author could not measure the satisfaction level of internal and external medical service.

# 2.8 Research Gap

The literature review presented in the earlier sections (books, journals, conference papers, magazines, newspapers and dissertations) identifies a number of pre-travel factors and post-travel factors affecting outbound medical tourism (see Figure 2.1). Most of the studies identified these factors are based on the context of developed countries. The studies conducted in developing countries context, especially Bangladesh context, did not explore many of these factors, and, hence, findings are inconclusive. The earlier studies did not consider both pre-travel and post-travel factors together in detailed. They did not measure the satisfaction level of medical tourists. Thus, there is a gap in this area of research in developing countries, especially in Bangladesh. This study attempts to fill the research gap by examining pre- travel and post-travel attributed to outbound medical tourism, and also by measuring medical tourists' satisfaction level in the context of Bangladesh.

**Figure 2.1: Factors Affecting Outbound Medical Tourism** 



# CHAPTER THREE

# METHODOLOGY

### 3.0 Introduction

This chapter discusses the methodology adopted for data collection including sampling procedure, and the statistical techniques used to analyze the data.

### 3.1 Data

The study mainly uses primary data obtained through interviewing outbound medical tourists. The patients who travelled to India, Singapore and Thailand for treatment purpose were interviewed. Note that majority of the outbound medical tourists travel to these countries. In addition, we have interviewed specialist physicians of different clinical groups for digging down the factors affecting outbound medical tourism from Bangladesh.

## 3.1.1 Sampling Method

There is no data base or list of outbound medical tourists in Bangladesh. Thus, non-probability sampling method, especially convenience and snowball sampling technique were used to collect data from the respondents following the existing studies (Ali and Medhekar, 2018; Sultana et.al, 2014; Hasan and Hasan, 2013; Mamun and Andaleeb, 2013; Jotikasthira, 2010; Andaleeb, Siddique and Khandakar, 2007). The primary source of information regarding the respondents was found from friends, relatives, colleagues and medical agents. Based on the primary information we traced the outbound medical tourists over a 3 months period.

### 3.1.2 Sample Size and Sample Design

There is absolute lack of information regarding the exact number of outbound medical tourists in Bangladesh. As mentioned earlier there is no list or database of outbound medical tourists in Bangladesh. Thus, it is not possible to draw sample through probability sampling procedure. We had to completely depend on non- probability sampling method through making a list by the information found from various sources. A sample of 30 is a statistically permissible sample size for any quantitative analysis. Note that the bigger sample size always gives more precession. Due to resource constraint, we restricted to interview limited number of respondents. We made a list of 150 patients who travelled to each of the three countries (India, Thailand and Singapore) during June 2017 –June 2018. The interview was continued for each country until reaching to 100 respondents. Thus, a total of 300 outbound medical tourists were interviewed from three countries. Data collection was conducted during July to September 2018through asemistructurd questionnaire (see Appendix-1).In addition, we interviewed60 Bangladeshi specialist physicians who provided health care to the medical tourists before their travelling to other country.

### 3.2 Variables Used for Analyzing Pre –Travel Attribute

The variables used in the study were mainly adopted from previous literature (e.g. Medhakar and Ali, 2012; Ali and Medhakar, 2016; Ali and Medhakar, 2018; Jotikasthira, 2010; Nurunnabi and Islam, 2012; Ali, 2012; Hasan and Hasan, 2013; Andaleeb, Siddiqui and Khandakar, 2007). A list of variable has been used for pre-travel attributes such as non-curability, lack of experienced doctors, dissatisfaction about quality of care,

inadequate treatment facilities, lack of confidence in medical treatment, high cost of medical care, insufficient consultation time by doctor, poor diagnosis facilities, long waiting time, language and culture, and nearness. We used these eleven pre-travel variables, which were measured by the Likert scale in five-point (5= strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree). It is worth mentioning that the pre-travel variables were analyzed by descriptive statistics as the nature of this part of the study does not allow using regression analysis, and, hence, there is no need to classify the variables as 'dependent' and 'independent' variables.

## 3.3 Variables Used for Analyzing Post –Travel Attributes

Satisfaction level of the outbound medical tourists is the dependent variable. This has been measured in five point likert scale (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 5= very much dissatisfied). We have used seven independent variables. These variables have been also measured in five point likert scale. A detailed description of these variables is given below.

## **Quality of Medical Care:**

Quality of medical care is mainly related to doctors' reliability, skill and courtesy, communication and empathy. In the present study,10 statements were used measure this variable based on a 5-point Likert-type scale(5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.1 lists the 10 statements employed to measure the variable in this component.

Table 3.1: Statements used to measure quality of medical care

Serial No.	Statements
1	Doctors visited in abroad have heard and understood the symptoms of your
	illness
2	Doctors visited in abroad have answered all the questions related to your
	illness
3	Doctors visited in abroad have examined you with care
4	Doctors visited in abroad have informed you the process of treatment in
	details
5	Doctors visited in abroad have advised you on the basis of your disease's
	symptoms
6	Doctors visited in abroad have clarified you the reasons for giving
	diagnostic tests
7	Doctors visited in abroad are careful and sincere to their patients
8	Doctors visited in abroad keep confidentiality during medical treatment
9	Doctors visited in abroad are capable of identifying your problems
10	Doctors visited in abroad have provided you right medical treatment

## **Cost of Medical Care:**

Cost of medical care included doctors' fee, diagnostic fee, medicine cost/ hospital cost and transportation cost. In the present study, 4 statements were used to measure this variable based on a 5-point Likert-type scale (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.2 lists the 4statementsemployed to measure the variable in this components.

Table 3.2: Statements used to measure cost of medical care

Serial No.	Statements
1	Doctors' fee in abroad are cost-effective
2	Diagnostics fee in abroad are cost-effective
3	Transportation fare in abroad are cost effective
4	Medicine cost/ hospital cost in abroad are low

## **Treatment Facilities:**

Treatment facilities mainly consist of wide range of treatment, equipment facilities, diagnosis, facilities, reputation of medical care, doctor and staff etc. In the present study, 5 statements were used to measure the variable based on a 5-point Likert-type scale. (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.3 lists 5 items employed to measure the variable in this component.

Table 3.3: Statements used to measure medical treatment facilities

Serial No.	Statements
1	There is an opportunity for medical treatment of all kinds of illnesses in
	abroad
2	International standard hospital/ Medical facility reputation
3	The quality of diagnosis is high because of using advanced technology in abroad
4	Positive reputation of Doctors and Staff'
5	Advanced medical equipment/ accessories are available in the hospitals in
	abroad

## **Environment of the Hospital:**

Environment of the hospital refers to physical facilities (such as operation theater, medical equipment, cabin, bed, floor, toilet and bathroom) inside the hospitals. In the present study, 4 statements are used to measure this variable based on a 5-point Likert-type scale. (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.4 lists the 4 statements employed to measure the variable in this component.

Table 3.4: Statements used to measure Environment of the Hospital

Serial No.	Statements
1	Hospitals in abroad are attractive
2	Cabin, bed and floor of hospitals in abroad are clean
3	Toilet and bathroom of hospitals in abroad are clean
4	Operation theater and medical equipment of hospitals in abroad are clean.

#### **Service of Medical Staff:**

The service of medical staff comprises responsibility, sincerity and courtesy. In the present study, 4 statements were used to measure the variable based on a 5-point Likert-scale.(5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.5 lists the 4 statements employed to measure the variable in this component.

Table 3.5: Statements used to measure Service of Medical Staff

Serial No.	Statements
1	Medical staff in abroad are always ready to fulfill the need of patients
2	Medical staff in abroad are gentle and sincere
3	Medical staff in abroad are responsible about their duties
4	Medical staff in abroad perform their duties timely

# **Tourism Facilities:**

Tourism facilities include safe and secured medical tourism spot, political stability, easy transportation, cheap accommodation and amicable hospitality. In the present study, 6 statements were used to measure the variable based on a 5-point Likert-type scale (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.6 lists the 6 statements employed to measure the variable in this component.

Table 3.6: Statements used to measure medical tourism facilities

Serial No.	Statements	
1	Tourism facilities are available together with medical treatment facilities in	
	abroad	
2	Medical Tourism spot are safe and secured in abroad	
3	Political stability prevails in abroad	
4	Transportation is very easy in abroad	
5	Accommodation is cheap in abroad	
6	Local people are friendly and sincere in abroad	

## **Availability (doctor/staff):**

Availability (doctor/staff) refers to the presence of doctor/staffs whenever requires to medical tourist. In the present study, 3 statements were used measure the variable based on a 5-point Likert-type scale (5= very much satisfied, 4= satisfied, 3= neither satisfied nor dissatisfied, 2= dissatisfied, 1= very much dissatisfied). Table 3.7 lists the 6 statements employed to measure the variable in this component.

Table 3.7: Statements used to measure Availability

Serial No.	Statements
1	Experienced doctors are easily accessible in abroad
2	Medical staff are available in abroad
3.	Doctors follow up regularly in abroad

Note that, the post –travel variables were analyzed by descriptive analysis, factor analysis and ordinal logistic regression analysis.

### 3.4 Data Collection Instrument

Semi-structured questionnaire was prepared. The questions include open-ended questions, close-ended questions, multiple-choice questions and questions based on five-point Likert scale. The two sets of questionnaires (see Appendix-A for Patients Questionnaire, and Appendix-B for Doctors Questionnaire) The questionnaire for patients had two parts: part one- demographic profile of the respondents which included gender, age, education level, occupation, and income and part two included medical tour related information.

The instruments enclosed in the Appendices were developed to collect responses for various dimensions of the identified factors. For example, in the first part of the questionnaire (Questionnaire for Patients) the respondents had to select options from the list of available items. In the second part, each item had five rating options from strongly agree (5) to strongly disagree (1) or from very much dissatisfied (1) to very much satisfied (5). The questionnaire of this research had originally been prepared in English and then translated in Bangla as it is the mother tongue of most of the respondents.

The patient questionnaire was piloted on 30 patients and doctor questionnaire on three doctors in September 2017 to check the contents, sequence and language suitability of the questionnaire. Both sets of questionnaire were finalized by incorporating the feedbacks obtained from piloting. The questionnaire was administered by both face-face interview and telephone interview.

### 3.5 Reliability and Validity of Data

Reliability of the data was assessed through the use of Cronbach alpha scores. In the pilot study, the reliability of data was verified to ensure their acceptability. To ensure validity, the questionnaire of the study was chalked out based on the previous studies on the similar ground along with review from an expert panel from University of Dhaka.

### 3.6 Data Analysis

After collecting data, data was checked, verified, edited, entered and analyzed using SPSS software version 20.0 and STATA software version 12.0 through suitable analysis techniques

**Data Editing and Coding:** Data editing was performed through excluding incomplete and disqualified questionnaires. Then coding had been performed by giving values to the respondents' responses.

Missing & Outliers: Before performing statistical analysis, missing values (i.e. any item not answered or missed by chance) were taken care. Subsequently, for outliers, researcher corrected abnormal responses (greater than the likert scale measures of 1 to 5) and data entry errors. Outliers were identified by investigative minimum and maximum values in item-to-item. Influenced outliers were identified from both independent as well as dependent variables and eliminated for valid representation of the population.

## 3.7 Statistical techniques

The statistical techniques employed in the present study for data analysis are described below.

**Descriptive Analysis:** Descriptive analysis (such as frequency, percent, mean, standard deviation etc.) were used to illustrate the demographic characteristics of the respondents as well as medical tour related information

Mann-Whitney U Test: Since the distribution of dependent and independent variables were not normally distributed, Mann-Whitney U Tests was employed in this study to evaluate the differences level in the satisfaction of outbound medical tourist in terms of gender.

**Kruskal-Wallis H Test:** In this study, since the distribution of dependent and independent variables were not normally distributed, the Kruskal-Wallis H test was used

to examine the correlation between medical tourists' satisfaction and each of demographic variables such as age, educational qualification, occupation and income.

Spearman's rank correlation: Upon data analysis, we found the distributions of the dependent variable was not normal, with the variances not equal for each of the independent variables, and most of independent variables were not normally distributed. Based on the skewed nature of the data, we chose nonparametric Spearman Rho correlation as the most appropriate statistical analyses to address the relationship among the variables such as dependent variable (medical tourist's satisfaction) each of seven independent variables (doctors' quality of medical care, cost of medical care, treatment facilities, environmental aspects, tourism facilities, service of medical staff, availability of doctors and staffs and five demographic variables (age, gender, income, education and occupation of medical tourist).

**Factor Analysis :** According to the results of the factor analysis and reliability check, medical tourists' satisfaction in abroad variables were finalized to be: Quality of medical care, Treatment facilities, Cost of medical care, Environment of the hospital, Tourism facilities, Service of medical staff, Availability of doctor and staff. As per the factor analysis, only those factors which have more than 0.50 loadings are considered as animportant element of the variable. Each factor was analyzed using Kaiser's eigen value criterion which have greater than or equal to one .(Costello & Osborne, 2005; Beavers et al., 2013 Pal, 1986; Pal & Bagai, 1978; Hair et al., 2010) to be measured each factor as single factor or not. The communalities value considered the factors were found strong .finally, the factors forming a component were examined for reliability (alpha=0.9 or

greater). Following this procedure, the above-mentioned seven variables of medical tourist satisfaction in abroad were obtained.

Ordinal Logistic Regression Analysis: We used ordinal logistic regression analysis for determining the satisfaction level of medical tourist. At first data was examined to validate principal assumption (the assumption of parallel curves) by applying test Wald Ki Square and likelihood ratio. Pearson chi-square, Cox and Snell R-squared and Nagelkerke R-squared test was used to indicate how well the ordinal logistic regression model fits the data. Thereafter ordinal logistic regression coefficients were estimated using the following model;

log it[P(Y \le j)] = ln 
$$\left[\frac{\pi_1 + \dots + \pi_j}{\pi_{j+1} + \pi_j}\right] = \beta_0 + \beta_1 x_1 + \dots + \beta_7 x_7 \quad j=1,\dots, j-1.$$

Where, Y= Medical Tourist's Satisfaction

 $\beta_0$  = the intercept

 $X_1$  = Doctors' Quality of Medical Cost

 $X_2 = Cost of Medical Care$ 

 $X_3$  = Treatment Facilities

 $X_4$  =Environmental Aspects

X<sub>5</sub>=Tourism Facilities

X<sub>6</sub> =Service of Medical Staff

 $X_7 = Availability.$ 

This regression analysis was supported by previous studies (Chen et al., 2016; Celik, Oktay and Akbaba, 2014). The statistical findings and their significance for interpretation are described in chapter 4.

#### 3.8 Ethical considerations

We received ethical approval from Institutional Review Board of Institute of Health Economics, University of Dhaka. According to Bouma (2000) proposed five ethical principles that should guide researchers in conducting a study. Based on the perspective of current study special attention was given for keeping the privacy of every respondent during conducting this study. For instance, the questionnaire was developed in such a way that identity of the participant could not be traced. The participation of the respondents was both open and well informed. To ensure informed and open participation of the respondents, introductory letter mentioning the purpose and nature of the study (Appendix 1) was sent before data collection. Hard copy of this thesis will be provided in the central library of University of Dhaka and soft copy of the thesis will be uploaded in the university website so that interested researchers can easily access to this study.

# **CHAPTER FOUR**

# **FINDINGS**

### 4.0 Introduction

The chapter starts with the findings of the demographic profile of the respondents and various aspects of outbound medical tourism. Then descriptive analyses of factors affecting outbund medical tourism, patients' satisfaction towards foreign medical service andmedical service in Bangladeshare presented. The results of factor analysis along with the results of the regression analysis are presented in order to identify the influence of different factors on the satisfaction level of outbound medical tourists. Finally, the detailed analysis of open-ended questions and doctors' opinion analysis included in the survey are depicted in order to identify additional insights of the study.

# 4.1 Demographic Profile of the Respondents

This section is designed to give an overview of the demographic characteristics of the respondents.

## Gender:

It is seen from Table 4.1 that more than half of the patients were male (61%) and the rest of them were females (39%). There was male dominance in the case of Singapore and Thailand (64% and 69% respectively) However, the male-female ratio was almost same (51: 49) for India. The components of the male and female seen in Table 4.1 did not reflect much difference in the sex distribution of the outbound medical tourists.

**Table 4.1: Gender Distribution of the Patient** 

Gender	India		Singa	Singapore		Thailand		Total	
	n	%	n	%	N	%	n	%	
Male	51	51	64	64	69	69	184	61%	
Female	49	49	36	36	31	31	116	39%	
Total	100	100	100	100	100	100	300	100.00	

Source: Primary data

# Age:

It is seen from Table 4.2 that, majority of the patients (84%) were in the group of 16 to 55 years. By studying the age of the respondents, it is seen that most of medical patients belonged to working age group (15-65) years. There was no considerable difference in the age group of the outbound medical tourists among the three countries.

**Table 4.2: Age Distribution of the Patients** 

Age	India		Singa	pore	Thailand		Total	
<del>-</del>	n	%	N	%	n	%	n	%
Below 15 years	4	4	6	6	5	5	15	5.00
16-25 years	19	19	23	23	22	22	64	21.33
<b>26-35</b> years	25	25	18	18	28	28	71	23.67
<b>36-45</b> years	19	19	26	26	22	22	67	22.33
46-55 years	20	20	13	13	16	16	49	16.33
Above 56	13	13	14	14	7	7	34	11.34
years								
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# **Educational Qualification:**

It is clear from Table 4.3 shows that (62.67%) of medical tourists had university level education (post- higher secondary education had received at public or private Universities). It is interesting that there was constantly higher tendency of seeing medical tourist outside the country those who have higher level of education. It appears that educated persons took better care of health issues.

Table 4.3: Educational Qualification of the Patients

Educational Qualification	Inc	India		Singapore		Thailand		Total	
	n	%	N	%	N	%	n	%	
Primary	3	3	4	4	3	3	10	3.33	
education									
SSC	8	8	11	11	6	6	25	8.33	
HSC	23	23	25	25	19	19	76	25.33	
University	68	68	60	60	72	72	188	62.67	
level									
Total	100	100	100	100	100	100	300	100.00	

## **Occupation:**

It is clear from table 4.4 that the highest frequency of the patients (30.66%) belonged to the group of businessmen among the three countries (30%, 28% and 34% respectively) followed by the private employees (24.66%). There was no significant difference in the different occupation groups of patients among the three countries.

Table 4.4: Occupational Status of the Patients

Occupational	In	dia	Singa	pore	Thai	land	T	otal
Status	n	%	n	%	N	%	n	%
Government	6	6	13	13	6	6	25	8.33
employee								
Private concern employee	26	26	23	23	25	25	74	24.66
Businessman	30	30	28	28	34	34	92	30.66
Self-employed	4	4	3	3	1	1	8	2.67
Student	12	12	7	7	11	11	30	10.00
Retired person	5	5	5	5	6	6	16	5.33
Housewife	16	16	17	17	15	15	48	16
Unemployed	0	0	1	1	2	2	3	1.00
<b>Child (1-4</b>	1	1	3	3	0	0	4	1.33
years)								
Others	0	0	0	0	0	0	0	0.00
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# **Family Income**

It can be seen from the Table 4.5 that most of the patients selected Singapore and Thailand (50% and 51% respectively) as the medical tourism destinations who had monthly family incomes above 100000 taka. Moreover, 52% of the patients have selected India for medical treatment and their monthly family income was between 50001 to 100000 taka. So, it was clear that, people with higher family income level tend to select

Singapore and Thailand as the medical tourism destination. On the other hand, middle income people prefer India as their medical tourism destination.

**Table 4.5: Family Income Status of the Patients** 

<b>Income Status</b>	India		Singa	Singapore		Thailand		otal
-	n	%	n	%	n	%	n	%
Below 25000	5	5	1	1	2	2	8	2.67
25001 - 50000	15	15	7	7	8	8	30	10
50001 - 75000	27	27	19	19	20	20	56	22
75001- 100000	35	35	23	23	20	20	88	30.33
<b>Above 100000</b>	18	18	50	50	51	51	119	39.67
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

#### **Financial Condition of Patients**

It is shown in Appendix- A1 that more than half of the patients' (89.33%) financial condition belonged to rich, upper middle class and middle class. Very few of the respondents (11.34%) belonged to lower middle class and poor. Comparatively rich (51%) and upper-middle class patients (50%) choose Singapore and Thailand for medical treatment. However, half of the middle-class patients' (50%) received medical care in India. Therefore, it is not surprising that the patient's financial condition determines in which country he/she should seek treatment.

## Main Sources of Income of Patients' Family:

Appendix A-2 presents that most of the patients' main source of income was business (42.33%) followed by service (38.33%). There was business dominance in the case of Singapore and Thailand (45% and 54% respectively) than patients' of India (28%). Moreover, there was no significant difference among the respondents in three countries whose sources of income were reported as service.

## **4.2** Medical Tour related Information of Respondents

This section is designed to give an overview of some of the most important information related to medical tour of the respondents.

## **Purpose of Visit:**

The distribution of the purposes of visit is shown in Table 4.6. More than (85%) patients travel for medical treatment purpose and very few of patients (6%) travel for vacation and other purpose. So, it is clear that the patients' main purpose for visiting abroad was to obtain medical treatment.

**Table 4.6: Purpose of Visit** 

Purpose of Visit	India		Singa	Singapore		Thailand		otal
	n	%	n	%	N	%	n	%
Medical	89	89	85	85	90	90	264	88.00
treatment								
Business	7	7	0	0	2	2	9	3.00
Vacation	3	3	7	7	8	8	18	6.00
Fair/Exhibition	0	0	4	4	0	0	4	1.33
Others	1	1	4	4	0	0	5	1.67
Total	100	100	100	100	100	100	300	100.00

Source: Primary Data

### **Sources of Medical Treatment Information:**

It is seen from the Table 4.7 that more than half of the respondents (59.34%) found information about the hospitals from the reference of old patients, family and relatives. It is also illustrating that doctors' from home country reference was also significant source of information (14%). But a few respondents' (12%) got the information from their friends. It is clear from the table that those patients who were willing to seek their medical treatment in abroad not always derived by their own decision, there were some key players motivating them to take foreign health care facilities

**Table 4.7: Sources of medical treatment information** 

Sources	Inc	India		apore	Thai	land	Total	
-	n	%	n	%	N	%	n	%
Old patients	30	30	16	16	43	43	89	29.67
Friends	18	18	9	9	15	15	42	14.00
<b>Doctors from</b>	14	14	25	25	9	9	48	12.67
home country								
<b>Doctors from</b>	1	1	1	1	1	1	3	1.00
abroad								
Internet	12	12	5	5	0	0	17	5.67
Family and	22	22	37	37	30	30	89	29.67
relatives								
<b>Hospital agents</b>	2	2	2	2	2	2	6	2.00
Papers/Magazines	1	1	2	2	0	0	3	1.00
Others	0	0	3	3	0	0	3	1.00
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# **Types of VISA:**

Types of visa are shown in the Appendix A-3. The study shows that the highest proportion (69.33%) of patients had chosen medical visa and the lowest proportion (30.67%) of patients had chosen other types of visas.

# **Types of Hospital Visited in Abroad:**

The distribution of the types of hospitals visited in abroad is shown in Table-4.8. Almost 75% respondents had visited private hospital in abroad for medical treatment and rest of them (25.33%) visited other hospitals. The highest number of patients (82%) had visited

private hospitals in Thailand and India followed by patients (60%) in Singapore.

Table 4.8: Types of Hospital Visited in abroad for Medical Treatment

Type of	India		Singa	Singapore		Thailand		Total	
Hospital	n	%	n	%	N	%	n	%	
Public	12	12	35	35	17	17	64	21.33	
Private	82	82	60	60	82	82	224	74.67	
NGO	6	6	5	5	1	1	12	4.00	
Total	100	100	100	100	100	100	300	100.00	

Source: Primary Data

# **Factors Considered for Choosing Hospitals in Abroad Countries**

The mean scores of the 8 items of respondents' evaluation of the reasons for factors considered for choosing hospitals in abroad countries are presented in Table 4.9

Table 4.9: Mean Score and Standard Deviation of respondents' evaluation of the Factors Considered for Choosing Hospitals in Abroad Countries

Items	Inc	lia	Singa	pore	Thailand		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Experienced doctors	4.06	.365	4.44	.592	4.49	.541	
Low medical treatment cost	4.06	.827	2.50	.904	2.75	1.057	
The quality for diagnosis of	4.03	.319	4.43	.590	4.39	.633	
disease is high							
Various facilities are available	3.96	.413	4.06	.693	4.21	.640	
while taking medical treatment							
Quality medical service	3.93	.639	4.39	.510	4.43	.623	
Doctors provide sufficient time	4.16	.530	4.34	.606	4.37	.562	
to patients							

Less waiting time		3.83	.530	3.61	.815	3.70	.915
The quality of medical	care is	4.30	.534	4.50	.559	4.48	.594
good							

Note:Items measured on a 5-point Likert-type scale. 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree" and 5 = "Strongly Agree".

The results of the mean score indicates that in case of Indian patients the highest rated item was "The quality of medical care is good" (M = 4.30) with a standard deviation of .534. The detailed result showed that 62% of the respondents agreed whilst 33% strongly agreed that the quality of medical care is good is the most influential factors for choosing hospitals in abroad. A smaller percentage of respondents (3%) were neutral whereas those who disagreed and strongly disagreed with the statement compose of 2% and 0% respectively. On the other hand, the lowest rated item was "less waiting period" (M = 3.38) with a standard deviation .530. The detailed result showed 39% of the respondents agreed whilst 5% strongly agreed that the less waiting period are the least influential factors for choosing hospitals in abroad. 39% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 16% and 1% respectively.

In case of Singapore patients, the highest rated item was "The quality of medical care is good" (M = 4.50) with a standard deviation .559. The detailed result showed that 56% of the respondents agreed whilst 41% strongly agreed that the quality of medical care is good is the most influential factors for choosing hospitals in abroad. A smaller percentage of respondents (3%) were neutral whereas those who disagreed and strongly disagreed with the statement compose of 1% and 0% respectively. The lowest rated item was "Low

medical treatment cost" (M = 2.50) with a standard deviation .904. The detailed result showed that 14% of the respondents agreed whilst 1% strongly agreed with the statement. 25% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 54% and 6% respectively.

In case of Thailand patients, the highest rated item was "Quality medical service" (M = 4.49) with a standard deviation .541. The detailed result showed that 50% of the respondents agreed whilst 41% strongly agreed that quality medical service is the most influential factors for choosing hospitals in abroad. A smaller percentage of respondents (8%) were neutral whereas those who disagreed and strongly disagreed with the statement compose of 1% and 0% respectively. Lowest rated item was "Low medical treatment cost" (M = 2.75) with a standard deviation 1.057. The detailed result showed that 18% of the respondents agreed whilst 3% strongly agreed with the statement. 36% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 38% and 5% respectively.

The overall analysis of 300 patients suggests that the highest rated item and the strongest influential factor for choosing hospital in abroad are "The quality of medical care is good. According to the opinion of the respondents, the mean of this item is 4.42 with a standard deviation of .56. The detailed result showed that 50% of the respondents agreed whilst 36% strongly agreed that "quality of medical care is good" is the most influential factors for choosing hospitals in abroad abroad.10% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 3% and 1% respectively. On the other hand, the lowest rated item was "Low medical treatment cost". According to the opinion of the respondents, the mean of this item was 3.10 with a

standard deviation of 0.929. The detailed result showed that 23% of the respondents agreed whilst 4% strongly agreed with the statement, 42% of respondents were neutral where as those who disagreed and strongly disagreed with the statement compose of 22% and 8% respectively.

# **Types of Diseases of the Medical Tourists:**

The distribution of the types of diseases of the medical tourists is shown in Table 4.10. This study shows that, mainly people took foreign medical services for Cardio vascular disease (16.33%). The next important item performed outside was Orthopedic (11%), cancer (10.99%). Liver (9%) and Neurology (8.9%). The other treatments include Gastroenterology, Urology, ENT, General surgery, Comprehensive medical check-up, Gynecology and Dental.

Table 4.10: Types of diseases of the medical tourist

<b>Types of Diseases</b>	In	dia	Singa	apore	Thai	iland	Total	
	n	%	n	%	N	%	n	%
Cardiovascular	25	25	8	8	16	16	49	16.33
Orthopedic	10	10	10	10	13	13	33	11.00
Cancer	6	6	15	15	11	11	32	10.99
Liver	9	9	14	14	11	11	27	9.00
Neurology	6	6	12	12	8	18	26	8.9
Gastroenterology	6	6	8	8	5	5	19	6.35
Urology	5	5	9	9	3	3	17	5.67
ENT	6	6	5	5	3	3	14	4.67
EYE	3	3	2	2	2	2	7	2.3
<b>General Surgery</b>	4	4	4	4	6	6	14	4.2

Gynecology	5	5	2	2	5	5	12	3.67
Dental	0	0	2	2	5	5	7	2.33
<b>Plastic Surgery</b>	0	0	0	0	1	1	1	.33
<b>Cosmetic Surgery</b>	0	0	0	0	0	0	0	0.00
Comprehensive Medical Checkup	4	4	3	3	7	7	14	4.67
Mental	2	2	1	1	2	2	5	1.67
Therapy	2	2	2	2	1	1	5	1.67
Obesity	1	1	0	0	3	3	4	1.33
Wellness evaluation	0	0	0	0	0	0	0	0.00
Others	6	6	3	3	5	5	14	4.2
Total	100	100	100	100	100	100	300	100.00

Source: Primary Data

# **Categories of the Treatment Sought:**

Appendix A-4 shows that (54.67%) of the outgoing patients from Bangladesh took treatment as inpatient and remaining (45.33%) as outpatient. There was no significant difference in the types of treatment of the outbound medical patients among the three countries.

# **Number of Times Visited Abroad for Medical Care:**

It is seen from the Table 4.11 that most of the medical tourists (47.67%) had visited second time for medical care purpose. However, the proportion of second time visiting patients was quite large in Singapore and Thailand (58% and 52% respectively) than India (33%) The study noted that if the medical tourists are highly satisfied with the services of abroad, which ultimately influence the number of visiting times.

Table 4.11: Number of Times Visited Abroad for Medical Care

Number of	Inc	lia	Singa	apore	Thailand		Total	
Times Visited	n	%	n	%	N	%	n	%
1 time	33	31	23	23	30	30	84	28.00
2 times	31	33	58	58	52	52	143	46.68
3 times	22	22	14	14	9	9	45	15.00
4 times or	14	14	5	5	9	9	28	9.33
above								
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# **Length of Stay in Other Country for Medical Care:**

Table-4.12 represents that the highest proportion of patients (50%) had stayed from 11 to 20 days among the three countries (45%, 56% and 49% respectively). On the other hand, 32% respondents had stayed less than 10 days. The lowest proportion of the patients (8.67%) had stayed more than 30 days.

Table 4.12: Length of Stay in Other Country for Medical Care

Length of Stay	In	dia	Singapore		Thailand		Total	
	n	%	n	%	n	%	n	%
Less than 10 days	41	41	25	25	30	30	96	32
11-20 days	45	45	56	56	49	49	150	50
21-30 days	8	8	11	11	9	9	28	9.33
More than 30 days	6	6	8	8	12	12	26	8.67
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# **Average Length of Stay:**

It is shown in Appendix A-5. The patients' average length of stay in India was 15.29

days (minimum 3 days and maximum 120 days); average length of stay in Singapore was 16.82 days (minimum 7 days and maximum 90 days) and average length of stay in Thailand was 17.81 days (minimum 3 days and maximum 100 days). So, the average length of stay in Thailand was slightly higher than the same in Singapore and India.

# **Waiting Time before Taking Medical Care:**

It is seen from the Table 4.13 that almost half of the respondents waited 1 day before taking medical care in abroad. The proportion of the patients who waited 1 day among the three countries was almost same (50%, 49% and49% respectively). On the other hand, 30% of the respondents waited for 2 days. Very few of the respondents (4.67%) waited for 5 days and above. It was interesting that, most of the patients enjoyed less waiting time in abroad.

**Table 4.13: Waiting Time before Taking Medical Care** 

<b>Waiting Time</b>	In	dia	Singa	pore	Thai	land	To	otal
	n	%	n	%	N	%	n	%
No waiting time	0	0	0	0	0	0	0	0.00
1 day	51	51	48	48	49	49	148	49.33
2 days	26	26	29	29	35	35	90	30
3 days	20	20	10	10	11	11	41	13.67
4 days	2	2	8	8	4	4	14	4.67
5 days and above	3	3	3	3	1	1	7	2.3
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

# Medical Care Taken in Bangladesh:

It is seen from the Table 4.14 .Majority of the respondents (90%) had taken medical care in Bangladesh before going abroad. However, this statistics was little bit large (96%) for patients visiting in India compared to Thailand and Singapore (88% and 86% respectively).

**Table 4.14: Medical Care Taken in Bangladesh** 

Medical	In	India		Singapore		Thailand		Total	
Treatment Taken in Pangladash	n	%	n	%	n	%	n	%	
Bangladesh Yes	96	96	86	86	88	88	270	90.00	
No	4	4	14	14	12	12	30	10.00	
Total	100	100	100	100	100	100	300	100.00	

# **Types of Hospital Selected in Bangladesh for Medical Care:**

The result of the types of hospitals selected in Bangladesh is shown in Table 4.15. Majority of the patients' (76.33%) selected Private hospital in Bangladesh and rest of them (23%) selected others. However, the number of patients' selected private hospital was almost same among the three countries (77%, 77% and 75% respectively).

Table 4.15: Types of Hospital Selected in Bangladesh for Medical Care

Type of	Inc	dia	Singa	apore	Thailand		Total	
Hospital	N	%	n	%	n	%	n	%
Public	21	21	21	21	25	25	67	22.33
Private	77	77	77	77	75	75	229	76.33
NGO	2	2	2	2	0	0	4	1.34
Total	100	100	100	100	100	100	300	100.00

Source: Primary Data

# **Average Cost of the Entire Trip (Amount in BDT):**

The survey showed that average cost of the entire trip for an outpatient and inpatient. It is seen from the t

Table 4.16 and 4.17. Average cost of the entire trip for an inpatient and outpatient was much lower for India compared due to transportation cost and cheap accommodation to other country. It is interesting that, in Singapore and Thailand, the cost of entire trip was higher due to luxuries hospital service, accommodation, entertaining facilities and shopping.

**Table 4.16: Outpatient Average Cost of the Entire Trip (per patient)** 

Country	Median (Amount in BDT	Average cost (Amount in BDT	n	Range Amount in BDT	Min Amount in BDT	Max Amount in BDT
India	60000	75000	100	120000	30000	150000
Singapore	252456	330568	100	270000	230000	500000
Thailand	170520	292520	100	240000	145000	385000

Source: Primary Data

**Table 4.17: Inpatient Average Cost of the Entire Trip (per patient)** 

Country	Median (Amount in BDT)	Average cost N (Amount		Range (Amount in BDT)	Min (Amount in BDT)	Max (Amount in BDT)
	<b>DD1</b> )	in BDT)		<i>DD</i> 1)	m DD1)	m <i>DD</i> 1)
India	160000	250768	100	1175000	125000	1300000
Singapore	890500	1174367	100	9515000	485000	10000000
Thailand	684732	894520	100	4625000	375000	5000000

Source: Primary Data

# Taking Treatment from Outside of the Home Country in Future

The distribution of opinion regarding taking treatment from outside of the home country in future is shown in Appendix A-6. In this study, majority of the respondents (87%) agreed on taking treatment from outside of the home country in future.

# **Opinion about Bearing Medical Care Cost**

The respondents were asked to comment about whether it was difficult or easy for them to bear the cost of medical care. It is shown in Appendix A-7. Almost 50% of the patients opined that bearing medical care cost in abroad was neither easy nor difficult for them.

#### **Sources of Medical Care Cost:**

The respondents were asked about the sources of medical care cost. The distribution of sources of medical treatment cost is shown in Appendix A-8. Almost 38% of the patients' sources of medical treatment cost belong to savings followed by income (31.33%) and family and friends (12.33%).

### Adequateness of medical care in Bangladesh:

AppendixA-9 represents that the respondents were asked about the adequateness of medical care in Bangladesh. Majority of the respondents (94%) stated that medical treatment in Bangladesh was not adequate.

# **Problems Faced in Abroad During Taking Medical Treatment:**

The distribution of the answers of the question related to whether the patients faced any problem during taking medical treatment are presented in Table 4.18The results indicate

that the majority of the respondent's (87.67%) had no problem in abroad for taking treatment and 12.33% had some problem.

**Table 4.18: Problems Faced in Abroad During Taking Medical Treatment** 

Problems			Sing	Singapore		Thailand		Total	
faced in abroad	N	%	N	%	N	%	N	%	
Yes	10	10%	13	13%	14	14%	37	12.33%	
No	90	90%	87	87%	86	86%	263	87.67	
Total	100	100	100	100	100	100	300	100.00	

# **4.3 Factors Affecting Outbound Medical Tourism (Pre-travel)**

The mean scores of the 11 pre –travel variables that affecting outbound medical tourism are presented in Table 4.19.

Table 4.19: Mean Score and Standard Deviation of respondents' evaluation of the variables that affecting outbound medical tourism.

Variables	Ind	lia	Singa	pore	Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Non-Curability	4.13	.747	3.88	.844	4.07	.573
Lack of experienced doctor	3.89	.634	3.93	.555	3.83	.698
Dissatisfaction about the quality	4.11	.506	4.14	.426	4.23	.430
of medical care						
Inadequate treatment facilities.	4.02	.635	4.01	.649	4.06	.365
Lack of confidence on medical	4.16	.530	4.26	.449	4.15	.609
care						
High cost of medical care	4.23	.679	4.12	.935	4.00	.948

Insufficient consultation time by	4.12	.747	4.23	.430	4.28	.682
the doctor.						
Poor diagnosis facilities	4.07	.573	4.05	.479	4.30	.534
Long Waiting time	4.27	.617	3.89	.649	4.01	.822
Language and culture	2.72	.851	2.63	.991	2.62	1.108
Nearness	3.00	.782	2.57	.934	2.67	1.095

Note: Items measured on a 5-point Likert-type scale. 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree" and 5 = "Strongly Agree".

In case of Indian patients, the highest rated item and was "Long Waiting time". According to the opinion of the respondents, the mean of this item was 4.27 with a standard deviation of .617. The detailed result showed that 61% of the respondents agreed whilst 34% strongly agreed that waiting time in Bangladesh is the most influential factor for going abroad. A smaller percentage of respondents (3%) were neutral whereas those who disagree and strongly disagree with the statement compose of 2% and 0% respectively. On the other hand, the lowest rated item was "language and culture" (M = 2.72). According to the opinion of the respondents, the mean of this item was 2.72 with a standard deviation of .851. The detailed result showed that 16% of the respondents agreed whilst 5% strongly agreed that the language and culture is the least influential factor for going abroad. 36% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 22% and 21% respectively.

In case of Singapore patients, the highest rated item was "Lack of confidence on medical care". According to the opinion of the respondents, the mean of this item was 4.26 with a standard deviation of .449. The detailed result showed that 41% of the respondents agreed whilst 39% strongly agreed that lack of confidence on medical care process in

Bangladesh was the most influential variable for going abroad. 15% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 5% and 0% respectively. On the other hand, the lowest rated item was "nearness" (M = 2.57). According to the opinion of the respondents, the mean of this item was 2.57 with a standard deviation of .934. The detailed result showed that 12% of the respondents agreed whilst 3% strongly agreed that the advantage of nearness is the least influential variable for going abroad. 34% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 41% and 10% respectively.

In case of Thailand patients, the highest rated item was "Poor diagnosis facilities". According to the opinion of the respondents, the mean of this item was 4.30 with a standard deviation of .534. The detailed result showed that 54% of the respondents agreed whilst 36% strongly agreed that poor diagnosis facilities was the most influential variable for going abroad. 10% of respondents were neutral. On the other hand, the lowest rated item was "language and culture". According to the opinion of the respondents, the mean of this item is 2.62 with a standard deviation of 1.108. The detailed result showed that 17% of the respondents agreed whilst 4% strongly agreed that the nearness is the least influential variable for going abroad. 36% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 23% and 20% respectively.

The overall analysis of 300 patients, suggests that the highest rated item was "Insufficient consultation time by the doctors". According to the opinion of the respondents, the mean of this item was 4.21 with a standard deviation of .619. The detailed result showed that 50% of the respondents agreed whilst 36% strongly agreed that "Insufficient consultation

time by the doctors "was the most influential variable for going abroad. 10% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 3% and 1% respectively. On the other hand, the lowest rated item was "language and culture". According to the opinion of the respondents, the mean of this item was 2.86 with a standard deviation of 1.039. The detailed result showed that 25% of the respondents agreed whilst 4% strongly agreed that the language and culture are the least influential reason for going abroad. 34.3% of respondents were neutral whereas those who disagreed and strongly disagreed with the statement compose of 26% and 10.7% respectively.

# 4.3.1 Ranking of the Pre- Travel Variables from Highest to Lowest (Overall analysis):

The mean scores of the 11 pre –travel variables from highest to lowest are presented in Table 4.20.

Table 4.20: Mean Scores of the 11 variables of the respondents' (overall analysis)

Variables	Mean	Rank
Insufficient consultation time by the doctors	4.21	1 <sup>st</sup>
Lack of confidence on medical care	4.19	$2^{\rm nd}$
Dissatisfaction about quality of medical care.	4.16	$3^{\rm rd}$
Poor diagnosis facilities	4.14	$4^{ m th}$
High cost of medical care	4.11	5 <sup>th</sup>
Long Waiting time	4.05	$6^{ ext{th}}$
Inadequate treatment facilities	4.03	$7^{ m th}$
Non-curability	4.02	$8^{th}$

Lack of experienced doctor	3.88	9 <sup>th</sup>
Nearness	2.75	$10^{th}$
Language and culture	2.65	$11^{th}$

The overall analysis of medical tourists' suggests that the highest rated item and the strongest influential variable for going abroad was "Insufficient consultation time by the doctors followed by lack of confidence on medical care in Bangladesh and the Dissatisfaction about quality of medical care.

# 4.4 Satisfaction Level of Medical Tourists' towards Medical service in Abroad (Post- travel)

To examine the satisfaction level of patients towards medical service in abroad. 36 Likert scale statements based on a five-point scale were used where 1 = "Very much dissatisfied", 2 = "dissatisfied", 3 = "Neither satisfied nor dissatisfied", 4 = "Satisfied" and 5 = "Very much Satisfied". A higher score means that respondents were more satisfied and motivated by the item. The results of each post –travel variables is given below

# **Quality of Medical Care**

The mean scores of the 10 items of respondents' evaluation of doctors' quality of medical care is presented in Appendix A-10. The results of the mean scores fell into higher than 3 which mean that respondents were satisfied toward doctors' quality of medical care.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Doctors visited in abroad have careful and sincere to their patients". According

to the opinion of the respondents, the mean of this item was 4.39 with a standard deviation of .498. The detailed result showed that 61% of the respondents satisfied whilst 39% very much satisfied with the statement. On the other hand, the lowest rated item was "Doctors' visited in abroad have provided you right medical treatment". According to the opinion of the respondents, the mean of this item was 3.86 with a standard deviation of .698. The detailed result showed that 50% of the respondents satisfied whilst 18% very much satisfied with the statement. 32% of respondents were neither satisfied nor dissatisfied with the statement.

In case of Singapore patients, the highest rated item was "Doctors visited in abroad have examined you with care". According to the opinion of the respondents, the mean of this item was 4.49 with a standard deviation of .557. The detailed result showed that 46% of the respondents satisfied whilst 52% very much satisfied with the statement. 1% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1% and 0% respectively. On the other hand, the lowest rated item was "Doctors visited in abroad keep confidentiality during medical treatment". According to the opinion of the respondents, the mean of this item was 4.04 with a standard deviation of .827. The detailed result showed that 41% of the respondents satisfied whilst 33% very much satisfied with the statement. 23% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 3% and 0% respectively.

In case of Thailand patients, the highest rated item was "Doctors visited in destination abroad have heard and understood symptom of your disease". According to the opinion of the respondents, the mean of this item was 4.39 with a standard deviation of .510. The

detailed result showed that 59% of the respondents satisfied whilst 40% very much satisfied with the statement. Only 1% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Doctors visited in abroad have clarified you the reasons for giving pathological test". According to the opinion of the respondents, the mean of this item was 3.84 with a standard deviation of .800. The detailed result showed that 55% of the respondents satisfied whilst 19% very much satisfied with the statement. 19% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 7% and 0% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Doctors visited in abroad have examined you with care". According to the opinion of the respondents, the mean of this item was 4.35 with a standard deviation of .537. The detailed result showed that 60.0% of the respondents satisfied whilst 37.3% very much satisfied with the statement. 2.0% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of .7% and 0% respectively. On the other hand, the lowest rated item was "Doctors visited in abroad have clarified you the reasons for giving pathological test". According to the opinion of the respondents, the mean of this item was 4.09 with a standard deviation of .716. The detailed result showed that 57% of the respondents satisfied whilst 27.3% very much satisfied with the statement. 12.3% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 3.4% and 0% respectively.

### Cost of Medical Care

The mean scores of the 4 items of respondents' evaluation of cost of medical care are presented in Appendix A-11. The results of the mean scores fell into higher than 3 which mean that respondents were satisfied toward cost of medical care.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Transportation fare in abroad are cost-effective". According to the opinion of the respondents, the mean of this item was 4.21 with a standard deviation of .714. The detailed result showed that 50% of the respondents satisfied whilst 33% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied whereas those who very much dissatisfied with the statement compose of 6%. On the other hand, the lowest rated item was "Diagnostic fee in abroad are cost effective" (M = 3.92). According to the opinion of the respondents, the mean of this item was 3.64 with a standard deviation of 1.000. The detailed result showed that 47% of the respondents satisfied whilst 16% very much satisfied with the statement. 13% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 17% and 7% respectively.

In case of Singapore patients, the highest rated item was "Doctors' fee in abroad are cost-effective". According to the opinion of the respondents, the mean of this item was 4.10 with a standard deviation of .898. The detailed result showed that 68% of the respondents satisfied whilst 14% very much satisfied with the statement. 9% of respondents were neither satisfied nor dissatisfied with the statement and 9 % very much dissatisfied with the statement.

On the other hand, the lowest rated item was "Transportation fare in abroad was cost effective". According to the opinion of the respondents, the mean of this item was 3.84 with a standard deviation of .851. The detailed result showed that 56% of the respondents satisfied whilst 26% very much satisfied with the statement. 10% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 7% and 1% respectively.

In case of Thailand patients, the highest rated item was "Diagnostics fee in abroad was cost-effective". According to the opinion of the respondents, the mean of this item was 4.17 with a standard deviation of .573. The detailed result showed that 57% of the respondents satisfied whilst 26% very much satisfied with the statement. 10% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 4% and 3% respectively. On the other hand, the lowest rated item was "Transportation fare in abroad are cost effective". According to the opinion of the respondents, the mean of this item was 3.87with a standard deviation of .948. The detailed result showed that 44% of the respondents satisfied whilst 20% very much satisfied with the statement. 15% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 13% and 8% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Doctors fee in abroad are cost-effective". According to the opinion of the respondents, the mean of this item is 4.08 with a standard deviation of .825. The detailed result showed that 58% of the respondents satisfied whilst 26.0% very much satisfied with the statement. 12% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and

very much dissatisfied with the statement compose of 3% and 1% respectively. On the other hand, the lowest rated item was "Medicine cost in abroad are low". According to the opinion of the respondents, the mean of this item was 3.61 with a standard deviation of 0.837. The detailed result showed that 57% of the respondents satisfied whilst 20% very much satisfied with the statement. 10.0% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much satisfied with the statement compose of 7.0% and 6% respectively.

### **Treatment Facilities:**

The mean scores of the 5 items of respondents' evaluation of treatment facilities are presented in Appendix A-12. The result of the mean score fell into higher than 3which mean the respondents were satisfied towards treatment facilities.

The results of the mean score indicate that in case of Indian patients the highest rated item was "The quality of disease diagnosis is high because of using advanced technology in abroad". According to the opinion of the respondents, the mean of this item was 4.28 with a standard deviation of .514. The detailed result showed that 66% of the respondents satisfied whilst 31% very much satisfied with the statement. 3% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Medical facility reputation" (M = 4.05). According to the opinion of the respondents, the mean of this item was 4.05 with a standard deviation of .479. The detailed result showed that 77% of the respondents satisfied whilst 14% very much satisfied with the statement. 9% of respondents were neither satisfied nor dissatisfied with the statement.

In case of Singapore patients, the highest rated item was "The quality of disease diagnosis is high because of using advanced technology in abroad". According to the opinion of the respondents, the mean of this item was 4.39 with a standard deviation of .548. The detailed result showed that 42% of the respondents satisfied whilst 55% very much satisfied with the statement. 3% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "There is an opportunity for medical treatment of all kinds of disease in abroad". According to the opinion of the respondents, the mean of this item was 4.12 with a standard deviation of .755. The detailed result showed that 64% of the respondents satisfied whilst 27% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 2% respectively.

In case of Thailand patients, the highest rated item was "Advanced medical equipment's/accessories are available in the hospitals of abroad". According to the opinion of the respondents, the mean of this item was 4.42 with a standard deviation of .622. The detailed result showed that 47% of the respondents satisfied whilst 48% very much satisfied with the statement. 4% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1% and 0% respectively. On the other hand, the lowest rated item was "Positive reputation of physicians and staffs in abroad" (M = 4.11). According to the opinion of the respondents, the mean of this item was 4.11 with a standard deviation of .694. The detailed result showed that 57% of the respondents satisfied whilst 28% very much satisfied with the statement. 13% of respondents were neither satisfied nor

dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 0% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Advanced medical equipment are available in the hospitals of abroad". According to the opinion of the respondents, the mean of this item was 4.34 with a standard deviation of .621. The detailed result showed that 51.0% of the respondents satisfied whilst 41.7% very much satisfied with the statement. 7.0% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of .3% and 0% respectively. On the other hand, the lowest rated item was "Positive reputation of physicians and staffs in abroad". According to the opinion of the respondents, the mean of this item was 4.13 with a standard deviation of .637. The detailed result showed that 63.0% of the respondents satisfied whilst 25.7% very much satisfied with the statement. 9.6% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1.7% and 0% respectively.

### **Environment of the hospital:**

The mean scores of the 4 items of respondents' evaluation of environmental aspects are presented in Appendix A-13. The results of the mean score fell into higher than 3 which mean the respondents more satisfied towards Environmental aspects.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Cabin, bed and floor of hospitals in abroad are clean". According to the opinion of the respondents, the mean of this item was 4.31 with a standard deviation of

.464. The detailed result showed that 69% of the respondents satisfied whilst 31% very much satisfied with the statement. On the other hand, the lowest rated item was "Hospitals in abroad are attractive" (M = 3.92). According to the opinion of the respondents, the mean of this item was 3.92 with a standard deviation of .661. The detailed result showed that 80% of the respondents satisfied whilst 10% very much satisfied with the statement. 2% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 8% and 0% respectively.

In case of Singapore patients, the highest rated item was "Toilet and bathroom of hospitals in abroad are clean" and (M=4.34) According to the opinion of the respondents, the mean of this item was 4.34 with a standard deviation of .669. The detailed result showed that 44% of the respondents satisfied whilst 45% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Hospitals in abroad are attractive" (M=4.17). According to the opinion of the respondents, the mean of this item was 4.17 with a standard deviation of .739. The detailed result showed that 54% of the respondents satisfied whilst 33% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1% and 1% respectively.

In case of Thailand patients, the highest rated item was "Toilet and bathroom of hospitals in abroad are clean." According to the opinion of the respondents, the mean of this item was 4.39 with a standard deviation of .734. The detailed result showed that 45% of the respondents satisfied whilst 48% very much satisfied with the statement. 6% of

respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1% and 0% respectively. On the other hand, the lowest rated item was "Hospitals in abroad are attractive" (M = 4.27). According to the opinion of the respondents, the mean of this item was 4.27 with a standard deviation of .750. The detailed result showed that 53% of the respondents satisfied whilst 39% very much satisfied with the statement. 6% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and strongly disagreed with the statement compose of 0% and 2% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Cabin, bed and floor of hospitals in abroad are clean". According to the opinion of the respondents, the mean of this item was 4.33 with a standard deviation of .586. The detailed result showed that 55.7% of the respondents satisfied whilst 39.0% very much satisfied with the statement. 5.0% of respondents' were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 0.3% and 0% respectively. On the other hand, the lowest rated item was "Hospitals in abroad are attractive". According to the opinion of the respondents, the mean of this item was 4.12 with a standard deviation of .731. The detailed result showed that 62.3% of the respondents satisfied whilst 27.3% very much satisfied with the statement. 6.4% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and strongly very much dissatisfied with the statement compose of 3.0% and 1.0% respectively.

### **Tourism Facilities:**

The mean scores of the 6 items of respondents' evaluation of tourism facilities are presented in Appendix A-14. The results of the mean score fell into higher than 3 which mean the respondents were satisfied towards tourism facilities.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Transportation is very easy in abroad". According to the opinion of the respondents, the mean of this item was 4.15 with a standard deviation of .609. The detailed result showed that 64% of the respondents satisfied whilst 26% very much satisfied with the statement. 9% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1% and 0% respectively. On the other hand, the lowest rated item was "Tourism facilities are available together with medical treatment facilities in abroad" (M = 3.93). According to the opinion of the respondents, the mean of this item was 3.93 with a standard deviation of .794. The detailed result showed that 64% of the respondents satisfied whilst 19% very much satisfied with the statement. 8% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 9% and 0% respectively.

In case of Singapore patients, the highest rated item was "Medical Tourism spot are safe and secured in abroad" (M = 4.29) According to the opinion of the respondents, the mean of this item was 4.29 with a standard deviation of .686. The detailed result showed that 48% of the respondents satisfied whilst 41% very much satisfied with the statement. 10% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and

very much dissatisfied with the statement compose of 1% and 0% respectively. On the other hand, the lowest rated item was "Accommodation is cheap in abroad" (M = 3.47). According to the opinion of the respondents, the mean of this item was 3.47 with a standard deviation of .904. The detailed result showed that 46% of the respondents satisfied whilst 9% very much satisfied with the statement. 30% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 13% and 2% respectively.

In case of Thailand patients, the highest rated item was "Medical Tourism facilities are available together with medical treatment facilities in abroad" (M = 4.34). According to the opinion of the respondents, the mean of this item was 4.34 with a standard deviation of .639. The detailed result showed that 48% of the respondents satisfied whilst 43% very much satisfied with the statement. 9% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Accommodation is cheap in abroad" (M = 3.54). According to the opinion of the respondents, the mean of this item was 3.54 with a standard deviation of 1.104. The detailed result showed that 37% of the respondents satisfied whilst 20% very much satisfied with the statement. 20% of respondents were neither satisfied nor dissatisfied neutral whereas those who dissatisfied and very much dissatisfied with the statement compose of 18% and 3% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Tourism facilities are available together with medical treatment facilities in abroad". According to the opinion of the respondents, the mean of this item was 4.18 with a standard deviation of .709. The detailed result showed that 56.7% of the respondents satisfied whilst 32.3%

very much satisfied with the statement. 7.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 3.3% and 0% respectively. On the other hand, the lowest rated item was "Accommodation is cheap in abroad". According to the opinion of the respondents, the mean of this item was 3.65 with a standard deviation of .894. The detailed result showed that 54.7% of the respondents satisfied whilst 12.3% very much satisfied with the statement. 19.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 11.0% and 2.3% respectively.

### **Service of Medical Staff:**

The mean scores of the 4 items of respondents' evaluation of the service of medical staff are presented in Appendix A-15. The results of the mean score fell into higher than 3which mean the respondents were satisfied towards service of medical staff'.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Medical staff in abroad is gentle and sincere". According to the opinion of the respondents, the mean of this item was 4.21 with a standard deviation of .498. The detailed result showed that 71% of the respondents satisfied whilst 25% very much satisfied with the statement. 4% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Medical staff in abroad are always ready to fulfill the need of patients". According to the opinion of the respondents, the mean of this item was 4.07 with a standard deviation of .436. The detailed result showed that 79% of the respondents satisfied whilst 13% very much

satisfied with the statement 6% of respondents were neither satisfied nor dissatisfied with the statement.

In case of Singapore patients, the highest rated item was "Medical staff are responsible about their duties". According to the opinion of the respondents, the mean of this item was 4.28 with a standard deviation of .604. The detailed result showed that 56% of the respondents satisfied whilst 36% very much satisfied with the statement. 8% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Medical staff in abroad are always ready to fulfill the need of patients" (M = 4.10). According to the opinion of the respondents, the mean of this item was 4.10 with a standard deviation of .559. The detailed result showed that 68% of the respondents satisfied whilst 21% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied with the statement.

In case of Thailand patients, the highest rated item was "Medical staffs in abroad are gentle and sincere". According to the opinion of the respondents, the mean of this item was 4.35 with a standard deviation of .715. The detailed result showed that 43% of the respondents satisfied whilst 47% very much satisfied with the statement. 8% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 0% respectively. On the other hand, lowest rated item was "Medical staffs in abroad are always ready to fulfill the need of patients" (M = 4.18). According to the opinion of the respondents, the mean of this item was 4.18 with a standard deviation of .743. The detailed result showed that 56% of the respondents satisfied whilst33% very much satisfied with the statement. 8% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and

very much dissatisfied with the statement compose of 2% and 1% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Medical staffs in abroad are gentle and sincere". According to the opinion of the respondents, the mean of this item is 4.27 with a standard deviation of .588. The detailed result showed that 60.0% of the respondents satisfied whilst 34.0% very much satisfied with the statement. 5.3% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 0.7% and 0% respectively. On the other hand, the lowest rated item was "Medical staff in abroad are always ready to fulfill the need of patients". According to the opinion of the respondents, the mean of this item was 4.12 with a standard deviation of .594. The detailed result showed that 67.7% of the respondents satisfied whilst 22.3% very much satisfied with the statement. 8.3% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 1.0% and 0.7% respectively.

### **Availability (Doctor and Medical staff):**

The mean scores of the 3 items of respondents' evaluation of availability (Doctor and Medical staff) presented in Appendix A-16. The results of the mean score fell into higher than 3which mean the respondents were satisfied towards Availability (Doctor/ Medical staff).'

The results of the mean score indicates that in case of Indian patients the highest rated item was "Experienced doctors are easily accessible" (M = 4.31) According to the opinion of the respondents, the mean of this item was 4.31 with a standard deviation of

.563. The detailed result showed that 59% of the respondents satisfied whilst 36% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied with the statement. On the other hand, the lowest rated item was "Adequate number of Medical staff are available" (M = 4.17). According to the opinion of the respondents, the mean of these item was 4.17 with a standard deviation of .427 and .450 respectively. The detailed result showed that 40% of the respondents satisfied whilst 41% very much satisfied with the statement. 16% of respondents were neither satisfied nor dissatisfied neutral whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 1% respectively.

In case of Singapore patients, the highest rated item was "Medical staff are available". According to the opinion of the respondents, the mean of this item was 4.24 with a standard deviation of .637. The detailed result showed that 60% of the respondents satisfied whilst 33% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 0% respectively. On the other hand, the lowest rated item was "Experienced doctors are easily accessible" (M = 4.05). According to the opinion of the respondents, the mean of this item was 4.05 with a standard deviation of .796. The detailed result showed that 52% of the respondents satisfied whilst 29% very much satisfied with the statement. 14% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 5% and 0% respectively.

In case of Thailand patients, the highest rated item was "Experienced doctor are easily available" (M = 4.29) According to the opinion of the respondents, the mean of this item

was 4.29 with a standard deviation of .700. The detailed result showed that 52% of the respondents satisfied whilst 40% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 3% and 0% respectively. On the other hand, the lowest rated item was "Adequate number of Medical staff are available" (M = 4.18). According to the opinion of the respondents, the mean of this item was 4.18 with a standard deviation of .808. The detailed result showed that 41% of the respondents satisfied whilst 40% very much satisfied with the statement. 16% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 3% and 0% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Experienced doctor are easily available". According to the opinion of the respondents, the mean of this item was 4.21 with a standard deviation of 0.57. The detailed result showed that 50.7% of the respondents satisfied whilst 35.0% very much satisfied with the statement.11.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2.6% and 0% respectively. On the other hand, the lowest rated item was Medical staff are available" (M = 4.19). According to the opinion of the respondents, the mean of this item was 4.19 with a standard deviation of .60. The detailed result showed that 40% of the respondents satisfied whilst 41% very much satisfied with the statement. 15% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 4% and 0% respectively.

# **4.4.1** Overall Satisfaction Level of Medical Tourists' towards Medical Services in Abroad (Post-travel):

The result indicates from the Table 4.21 that almost (99%) of the patient satisfaction level towards foreign medical service belonged to the proportion of satisfied (49.33%) and very much satisfied (49.66%).

Table 4.21: Frequency distribution of satisfaction level of Medical Tourist' towards

Medical Services in Abroad

Satisfaction	India Si		Singa	apore	Thailand		Total	
level	N	%	N	%	N	%	N	%
Very much	49	49	49	49	50	50	148	49.33
satisfied								
Satisfied	50	50	50	50	49	49	149	49.66
Neither satisfied nor dissatisfied	1	1	1	1	1	1	0	1
Dissatisfied	0	0	0	0	0	0	0	0
Very much dissatisfied	0	0	0	0	0	0	0	0

# 4.5 Satisfaction Level of Medical Tourists' towards Medical Service in Bangladesh:

# **Quality of Medical Care:**

The mean scores of the 10 items of respondents' evaluation of doctors' quality of medical care is presented in Appendix A-17. The results of the mean score fell into less than 3which mean the respondents were dissatisfied towards Doctors' quality of medical care.'

The results of the mean score indicate that in case of Indian patients the highest rated item was "Doctors in Bangladesh keep confidentiality during medical treatment". According to the opinion of the respondents, the mean of this item was 2.61 with a standard deviation of .973. The detailed result showed that 14% of the respondents satisfied whilst 7% very much satisfied with the statement. 12% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied with the statement compose of 67%. On the other hand, the lowest rated item was "Doctors in Bangladesh have answered all the questions related to your disease". According to the opinion of the respondents, the mean of this item was 2.13 with a standard deviation of .661. The detailed result showed that 2% of the respondents satisfied whilst 2% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 77% and 8% respectively.

In case of Singapore patients the highest rated item was "Doctors in Bangladesh keep confidentiality during medical treatment". According to the opinion of the respondents, the mean of this item was 3.06 with a standard deviation of 1.052. The detailed result showed that 28% of the respondents satisfied whilst 7% very much satisfied with the statement. 38% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 18% and 9% respectively. On the other hand, the lowest rated item was "Doctors in Bangladesh have answered all the questions related to your disease". According to the opinion of the respondents, the mean of this item was 2.54 with a standard deviation of .770. The detailed result showed that 14% of the respondents satisfied with the statement. 29% of

respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 54% and 3% respectively.

In case of Thailand patients the highest rated item was "Doctors in Bangladesh are capable of identifying your problems". According to the opinion of the respondents, the mean of this item was 2.71 with a standard deviation of .987. The detailed result showed that 18% of the respondents satisfied whilst 4% very much satisfied with the statement. 31% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 39% and 8% respectively. On the other hand, the lowest rated item was "Doctors in Bangladesh have examined you with care" According to the opinion of the respondents; the mean of this item was 2.07 with a standard deviation of .607. The detailed result showed that 22% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 63% and 15% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Doctors in Bangladesh keep confidentiality during medical treatment". According to the opinion of the respondents, the mean of this item was 2.67 with a standard deviation of .960. The detailed result showed that 14.3% of the respondents satisfied whilst 5.3% very much satisfied with the statement. 27.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 48.0% and 4.7% respectively. On the other hand, the lowest rated item was "Doctors in Bangladesh have answered all the questions related to your disease". According to the opinion of the respondents, the mean of this item was 2.32 with a standard deviation of .694. The detailed result showed that 6% of the respondents satisfied whilst 7% very

much satisfied with the statement. 23% of respondents were neutral whereas those who dissatisfied and very much dissatisfied with the statement compose of 65% and 5% respectively.

#### **Cost of Medical Care:**

The mean scores of the 4 items of respondents' evaluation of medical treatment cost in Bangladesh are presented in Appendix A-18. The results of the mean score fell into less than 3which mean the respondents were dissatisfied towards cost of medical care.'

The results of the mean score indicates that in case of Indian patients the highest rated item was "Transportation fare in Bangladesh is cost effective" According to the opinion of the respondents, the mean of this item was 2.15 with a standard deviation of .687. The detailed result showed that 7% of the respondents satisfied whilst 1% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 80% and 7% respectively. On the other hand, the lowest rated item was "Diagnostics fee in Bangladesh are cost-effective". According to the opinion of the respondents, the mean of this item was 1.99 with a standard deviation of .541. The detailed result showed that 2% of the respondents satisfied whilst 1% very much satisfied with the statement. 2% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 85% and 10% respectively.

In case of Singapore patients the highest rated item were "Transportation fare in Bangladesh in cost effective". According to the opinion of the respondents, the mean of this item was 2.86 with a standard deviation of 1.044. The detailed result showed that

26% of the respondents satisfied whilst 4% very much satisfied with the statement. 32% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 28% and 10% respectively. On the other hand, the lowest rated item was "Diagnostics fee in Bangladesh is cost-effective". According to the opinion of the respondents, the mean of this item was 2.50 with a standard deviation of .846. The detailed result showed that 14% of the respondents satisfied whilst 1% very much satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 54% and 6% respectively.

In case of Thailand patients the highest rated item was "Medicine cost in Bangladesh is low". According to the opinion of the respondents, the mean of this item was 2.31 with a standard deviation of .837. The detailed result showed that 10% of the respondents satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 51% and 14% respectively. On the other hand, the lowest rated item was "Diagnostics fee in Bangladesh is cost-effective" According to the opinion of the respondents, the mean of this item was 2.24 with a standard deviation of .854. The detailed result showed that 6% of the respondents satisfied whilst 3% very much satisfied with the statement. 15% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 64% and 12% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Transportation fare in Bangladesh is cost effective". According to the opinion of the respondents, the mean of this item was 2.43 with a standard deviation of .946. The

detailed result showed that 14.0% of the respondents satisfied whilst 2.7% very much satisfied with the statement. 17.7% of respondents were neither satisfied nor dissatisfied where as those who dissatisfied and very much dissatisfied with the statement compose of 55.3% and 10.3% respectively. On the other hand, the lowest rated item was "Diagnostics fee in Bangladesh are cost-effective". According to the opinion of the respondents, the mean of this item was 2.24 with a standard deviation of .787. The detailed result showed that 7.3% of the respondents satisfied whilst 1.7% very much satisfied with the statement. 11.0% of respondents were neither satisfied nor dissatisfied neutral whereas those who dissatisfied and very much dissatisfied with the statement compose of 67.7% and 9.3% respectively.

#### **Treatment Facilities:**

The mean scores of the 5 items of respondents' evaluation of medical treatment facilities are presented in Appendix A-19. The results of the mean score fell into less than 3which mean the respondents were dissatisfied towards treatment facilities in Bangladesh. According to the opinion of the respondents, the highest rated item was "Advanced medical equipment are available in the hospital of Bangladesh" the mean of this item was 2.34 with a standard deviation of .806. The detailed result showed that 8% of the respondents satisfied whilst 1% very much satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 56% and 10% respectively. On the other hand, the lowest rated item was "There is an opportunity for medical treatment of all kinds of disease in Bangladesh". According to the opinion of the respondents, the mean of this item was 2.06 with a standard deviation of .488. The detailed result showed

that 1% of the respondents satisfied whilst 1% very much satisfied with the statement. 6% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 87% and 5% respectively.

In case of Singapore patients the highest rated item was "Advanced medical equipment are available in the hospitals of Bangladesh". According to the opinion of the respondents, the mean of this item is 2.76 with a standard deviation of .911. The detailed result showed that 18% of the respondents satisfied whilst 3% very much satisfied with the statement. 36% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 38% and 5% respectively. On the other hand, the lowest rated item was "Positive reputation of physicians and staff in Bangladesh". According to the opinion of the respondents, the mean of this item was 2.33 with a standard deviation of .829. The detailed result showed that 11% of the respondents satisfied with the statement. 23% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 54% and 12% respectively.

In case of Thailand patients the highest rated item was "Advanced medical equipment's/accessories are available in the hospitals of Bangladesh". According to the opinion of the respondents, the mean of this item was 2.53 with a standard deviation of .979. The detailed result showed that 16% of the respondents satisfied whilst 2% very much satisfied with the statement. 28% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 41% and 13% respectively. On the other hand, the lowest rated item was "The quality of disease diagnosis is high because of using advanced technology in

Bangladesh". According to the opinion of the respondents, the mean of this item was 2.12 with a standard deviation of .867. The detailed result showed that 7% of the respondents satisfied whilst 1% very much satisfied with the statement. 17% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 53% and 22% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Advanced medical equipment's/ accessories are available in the hospitals of Bangladesh". According to the opinion of the respondents, the mean of this item was 2.54 with a standard deviation of .915. The detailed result showed that 14.0% of the respondents satisfied whilst 2.0% very much satisfied with the statement. 29.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 45.0% and 9.3% respectively. On the other hand, the lowest rated item was "Positive reputation of physicians and staff in Bangladesh". According to the opinion of the respondents, the mean of this item was 2.24 with a standard deviation of .802. The detailed result showed that 5.7% of the respondents satisfied whilst 1.3% very much satisfied with the statement. 22.0% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 57.7% and 13.3% respectively.

# **Environment of the hospital:**

The mean scores of the 4 items of respondents' evaluation of environmental aspects are presented in Appendix A-20. The results of the mean score fell into less than 3which mean the respondents were dissatisfied towards Environmental aspects.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Operation Theater and medical equipment's of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.72 with a standard deviation of .910. The detailed result showed that 24% of the respondents satisfied whilst 1% very much satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 46% and 4% respectively. On the other hand, the lowest rated item was "Toilet and bathroom of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.57 with a standard deviation of 1.046. The detailed result showed that 28% of the respondents satisfied whilst 1% very much satisfied with the statement. 9% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 51% and 11% respectively.

In case of Singapore patients the highest rated item was "Operation Theater and medical equipment's of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.92 with a standard deviation of .971. The detailed result showed that 23% of the respondent satisfied whilst 4% very much satisfied with the statement. 42% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 22% and 8% respectively. On the other hand, the lowest rated item was "Toilet and bathroom of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.47 with a standard deviation of .940. The detailed result showed that 11% of the respondents satisfied whilst 3% very much satisfied with the statement.

27% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 11% respectively.

In case of Thailand patients the highest rated item was "Operation Theater and medical equipment's of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.43 with a standard deviation of .956. The detailed result showed that 15% of the respondents satisfied whilst 5% very much satisfied with the statement. 34% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 37% and 9% respectively. On the other hand, the lowest rated item was "Toilet and bathroom of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.01 with a standard deviation of .846. The detailed result showed that 11% of the respondents satisfied whilst 3% very much satisfied with the statement. 27% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 11% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Operation Theater and medical equipment's of hospitals in Bangladesh are clean". According to the opinion of the respondents, the mean of this item was 2.86 with a standard deviation of .954. The detailed result showed that 23.3% of the respondents satisfied whilst 3.0% very much satisfied with the statement. 36.3% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 30.0% and 6.7% respectively. On the other hand, the lowest rated item was "Toilet and bathroom of hospitals in Bangladesh are clean". According to the opinion of

the respondents, the mean of this item was 2.51 with a standard deviation of .975. The detailed result showed that 16.7% of the respondents satisfied whilst 2.3% very much satisfied with the statement. 21.0% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 48.3% and 11.0% respectively.

#### **Tourism Facilities:**

The mean scores of the 6 items of respondents' evaluation of tourism facilities are presented in Appendix A-21. The results of the mean scores fell into less than 3 which mean the respondents were dissatisfied towards tourism facilities.

The results of the mean score indicate that in case of Indian patients the highest rated item was "Local people are friendly and sincere in Bangladesh". According to the opinion of the respondents, the mean of this item was 2.34 with a standard deviation of .806. The detailed result showed that 8% of the respondents satisfied whilst 1% very much satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 56% and 10% respectively. On the other hand, lowest rated item was "Tourism spot are safe and secured in Bangladesh" (M = 1.99). According to the opinion of the respondents, the mean of this item is 1.99 with a standard deviation of .541. The detailed result showed that 2% of the respondents satisfied whilst 1% very much satisfied with the statement. 2% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 85% and 10% respectively.

In case of Singapore patients, the highest rated item was "Transportation was very easy in Bangladesh" (M = 2.32) According to the opinion of the respondents, the mean of this item was with a standard deviation of .672. The detailed result showed that 6% of the respondents satisfied whilst 1.7% very much satisfied with the statement. 23.7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 64.6% and 5% respectively.

On the other hand, the lowest rated item was "Medical Tourism spot are safe and secured in Bangladesh" (M = 2.13). According to the opinion of the respondents, the mean of this item was 2.13 with a standard deviation of .661. The detailed result showed that 2% of the respondents satisfied whilst 2% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 77% and 8% respectively.

In case of Thailand patients, the highest rated item was "Transportation are very easy in Bangladesh" (M = 2.31) According to the opinion of the respondents, the mean of this item was 2.31 with a standard deviation of .834. The detailed result showed that 10% of the respondents satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 51% and 14% respectively. On the other hand, the lowest rated item was "Political stability prevails in Bangladesh" According to the opinion of the respondents, the mean of this item was 2.24 with a standard deviation of .765. The detailed result showed that 6% of the respondents satisfied whilst 3% very much satisfied with the statement. 15% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 64%

and 12% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Local people are friendly and sincere in Bangladesh". According to the opinion of the respondents, the mean of this item was 2.27 with a standard deviation of .827. The detailed result showed that 11% of the respondents satisfied whilst 0% very much satisfied with the statement. 22% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 20% respectively. On the other hand, the lowest rated item was "Medical Tourism spot are safe in Bangladesh" According to the opinion of the respondents, the mean of this item was 2.13 with a standard deviation of .681. The detailed result showed that 2% of the respondents satisfied whilst 2% very much satisfied with the statement. 11% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 77% and 8% respectively.

#### **Service of Medical Staff:**

The mean scores of the 4 items of respondents' evaluation of the service of medical staff are presented in Appendix A-22. The results of the mean scores fell into less than 3 which mean the respondents were dissatisfied towards Service of medical staff'. The results of the mean score indicate that in case of Indian patients the highest rated item was "Medical staff in Bangladesh are always ready to fulfill the need of patients". According to the opinion of the respondents, Medical staff in Bangladesh was always ready to fulfill the need of patients the mean of this item was 2.60 with a standard deviation of 498. The detailed result showed that 14% of the respondents satisfied whilst

7% very much satisfied with the statement. 12% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied with the statement compose of 67%. On the other hand, the lowest rated item was "Medical staff are responsible about their duties". According to the opinion of the respondents, the mean of this item was 2.11 with a standard deviation of .436. The detailed result showed that 7% of the respondents satisfied whilst 1% very much satisfied with the statement. 17% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 53% and 22% respectively.

In case of Singapore patients, the highest rated item was "Medical staff are responsible about their duties". According to the opinion of the respondents, the mean of this item was 2.37 with a standard deviation of .604. The detailed result showed that 6% of the respondents satisfied whilst 8% very much satisfied with the statement23.7% of respondents are neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 64.6% and 4% respectively. On the other hand, the lowest rated item was "Medical staffs performs their duties timely" (M = 2.03). According to the opinion of the respondents, the mean of this item is 2.03 with a standard deviation of .547. The detailed result showed that 2% of the respondents satisfied whilst 1% very much satisfied with the statement. 7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 79% and 11% respectively.

In case of Thailand patients, the highest rated item was "Medical staff in Bangladesh are gentle and sincere". According to the opinion of the respondents, the mean of this item was 2.57 with a standard deviation of .715. The detailed result showed that 43% of the

respondents satisfied whilst 47% very much satisfied with the statement.8% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 2% and 0% respectively. On the other hand, lowest rated item was "Medical staff in Bangladesh are always ready to fulfill the need of patients" (M = 2.01). According to the opinion of the respondents, the mean of this item was 2.01 with a standard deviation of .664. The detailed result showed that 11% of the respondents satisfied whilst 3% very much satisfied with the statement. 27% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 11% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Medical staff in Bangladesh are always ready to fulfill the need of patients". According to the opinion of the respondents, the mean of this item was 2.31 with a standard deviation of 1.114. The detailed result showed that 10% of the respondents satisfied with the statement. 25% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 51% and 14% respectively. On the other hand, the lowest rated item was "Medical staffs performs their duties timely" According to the opinion of the respondents; the mean of this item was 2.16 with a standard deviation of .585. The detailed result showed that 7% of the respondents satisfied whilst 1% very much satisfied with the statement. 5% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 80% and 7% respectively.

### **Availability (Doctor/Staff):**

The mean scores of the 3 items of respondents' evaluation of Availability are presented in Appendix A- 23. The results of the mean scores fell into less than 3 which mean the respondents were dissatisfied towards Availability.

The results of the mean score indicate that in case of Indian patients the highest rated item was "medical staff are available". According to the opinion of the respondents, the mean of this item was 2.63 with a standard deviation of 1.021. The detailed result showed that 25% of the respondents satisfied whilst 2% very much satisfied with the statement. 16% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 48% and 9% respectively. On the other hand, the lowest rated item was "Experienced doctors are easily accessible". According to the opinion of the respondents, the mean of this item was 2.11 with a standard deviation of .633. The detailed result showed that 2% of the respondents satisfied whilst 1% very much satisfied with the statement. 7% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 79% and 11% respectively.

In case of Singapore patients, the highest rated item was "Experienced doctors are easily accessible". According to the opinion of the respondents, the mean of this item was 2.44 with a standard deviation of .902. The detailed result showed that 8% of the respondents satisfied whilst 0% very much satisfied with the statement. 42% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 39% and 11% respectively.

On the other hand, the lowest rated item was "Adequate number of medical staffs are available" According to the opinion of the respondents, the mean of this item was 2.24 with a standard deviation of .900. The detailed result showed that 11% of the respondents satisfied whilst 0% very much satisfied with the statement. 22% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 20% respectively.

In case of Thailand patients, the highest rated item was "Experienced doctors are easily accessible". According to the opinion of the respondents, the mean of this item was 2.51 with a standard deviation of 1.019. The detailed result showed that 18% of the respondents satisfied whilst 2% very much satisfied with the statement. 24% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 41% and 15% respectively. On the other hand, the lowest rated item was "Adequate number of medical staffs are available". According to the opinion of the respondents, the mean of this item is 2.30 with a standard deviation of .915. The detailed result showed that 13% of the respondents satisfied whilst 0% very much satisfied with the statement. 22% of respondents were neither satisfied very much dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 47% and 18% respectively.

The overall analysis of 300 patients suggests that the highest rated item was "Adequate number of medical staff are available". According to the opinion of the respondents, the mean of this item was 2.39 with a standard deviation of .959. The detailed result showed that 16.3% of the respondents satisfied whilst 7% very much satisfied with the statement. 20.0% of respondents were neither satisfied nor dissatisfied whereas those who

dissatisfied and very much dissatisfied with the statement compose of 47.3% and 15.7% respectively. On the other hand, the lowest rated item was "Experienced doctors are easily accessible". According to the opinion of the respondents, the mean of this item was 2.35 with a standard deviation of 0.945. The detailed result showed that 10.3% of the respondents satisfied whilst 2.7% very much satisfied with the statement. 13.3% of respondents were neither satisfied nor dissatisfied whereas those who dissatisfied and very much dissatisfied with the statement compose of 63.0% and 10.7% respectively.

# 4.5.1 Overall Satisfaction level of Medical Tourists' towards Medical Services in Bangladesh:

The result indicates from the Table 4.22 that almost (99.9%) of the patients' satisfaction level towards medical service in Bangladesh belonged to the proportion of dissatisfied (49.6%) and very much dissatisfied (50.3%).

**Table 4.22**: Frequency distribution of satisfaction level of outbound medical tourists towards medical services in Bangladesh

Satisfaction	In	dia	Singa	apore	Thai	land	To	tal
level	N	%	N	%	N	%	N	%
Very much	0	0	0	0	0	0	0	0
satisfied								
Satisfied	0	0	0	0	0	0	0	0
Neither	1	1	0	0	0	0	0	1
satisfied nor dissatisfied								
Dissatisfied	50	50	49	49	50	50	149	49.6
Very much dissatisfied	50	50	51	51	50	50	151	50.3

#### 4.6 Satisfaction Level of Outbound Medical Tourist in terms of Gender

The difference in the satisfaction level of outbound medical tourist in terms of gender Mann-Whitney U Test was used.

Table 4.23: Results of Mann-Whitney U Test in terms of Gender

Group	N	Mean Rank	P-value
Male	184	55.63	Mann-Whitney U=1234.000
Female	116	78.20	P=0.923

A summary of the test of differences in terms of gender is tabulated in Table 4.23. The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of gender amounts more than 5%, respectively p=0.923, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the gender of the respondents.

# 4.7 Satisfaction Level of Outbound Medical Tourist in terms of Age

The differences in the satisfaction level of outbound medical tourist were explored in terms of age using Kruskal-Wallis test.

Table 4.24: Results of the Kruskal-Wallis Test in terms of age

Age Group	N	Mean Rank	P-value
Below 15 years	15	30.45	
16-25 years	64	88.12	2 –1 227
<b>26-35 years</b>	71	85.30	$\chi 2 = 1.227$
<b>36-45 years</b>	67	76.12	p=0.120
46-55 years	49	63.34	
Above 56 years	34	51.90	
Total			

The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of age amounts more than 5%, respectively p=0.120, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the age of the respondents.

# **4.7.1 Satisfaction Level of Outbound Medical Tourist in terms of Educational Qualification:**

Table 4.25: Results of the Kruskal-Wallis Test in terms of Educational Qualification

Educational	N	Mean Rank	P-value
Qualification			
Primary education	10	25.12	$\chi 2 = 21.342$
SSC	26	43.31	p=0.827
HSC	76	90.67	
<b>University level</b>	188	99.90	

The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of educational qualification amounts more than 5%, respectively p=0.827, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the educational qualification of the respondents.

# 4.7.2 Satisfaction Level of Outbound Medical Tourist in terms of Occupation:

Table 4.26: Results of the Kruskal-Wallis Test In terms of occupation

Occupational Status	N	Mean Rank	P-value
Government employee	25	33.09	
Private concern employee	77	87.56	
Businessman	75	83.06	
Self-employed	8	18.34	$\chi 2 = 17.963$
Student	30	41.72	p=0.227
Retired person	16	23.90	
Housewife	62	72.34	
Unemployed	3	11.81	
Child (1-4 years)	4	13.41	

The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of occupational status amounts more than 5%, respectively p=0.227, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the occupational status of the respondents.

### 4.7.3 Satisfaction level of Outbound Medical Tourist in terms of Income level:

Table 4.27: Results of the Kruskal-Wallis Test in terms of income level

Income level	N	Mean Rank	P-value
<b>Below 25000</b>	8	16.23	
25001 - 50000	30	45.90	$\chi 2 = 22.120$
50001 - 75000	56	63.57	p=0.139
75001- 100000	88	95.23	
<b>Above 100000</b>	119	98.11	

The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of income level amounts more than 5%, respectively p=0.139, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the income level of the respondents.

#### 4.7.4 Satisfaction Level of Outbound Medical Tourist in terms of Country:

The differences in the satisfaction level of outbound medical tourist in terms of country Kruskal-Wallis Test was used.

Table 4.28: Results of the Kruskal-Wallis Test in terms of country

Country	N	Mean Rank	P-value
India	100	63.67	$\chi 2 = 5.004$
Singapore	100	71.32	P=0.209
Thailand	100	67.90	

The results indicate that the level of significance for the satisfaction of outbound medical tourist in terms of country amounts more than 5%, respectively p=0.209, which means that with the reliability of 95% it can be concluded that there was no statistically significant difference for the satisfaction of outbound medical tourist considering the country of the respondents. This finding clearly indicates that the satisfaction level of outbound medical tourist did not vary country wise.

# 4.8 Correlation between Dependent Variable (medical tourist's satisfaction) and Independent Variables

Spearman's rank correlation was used to examine the probable correlation between patients' satisfaction and independent variables. It is seen from the following table 4.29thatMTS = Medical Tourist's Satisfaction, DQMC = Doctors' Quality of Medical Care, CMC = Cost of Medical Care, TF = Treatment Facilities, EA = Environmental Aspects, TF = Tourism Facilities, SMS = Service of Medical Staff, AV = Availability of Doctor and Medical Staff. The results indicates that all independent variables had a significant relationship (P<0.05) with medical tourists' satisfaction.

Table 4.29: Correlation between Medical Tourist's Satisfaction and Independent variables

	MTS	DQMC	CMC	TF	EA	TF	SMS	AV
MTS	1.000							
<b>DQMC</b>	.875*	1.000						
CMC	.672*	.529	1.000					
TF	.739*	.576	.420	1.000				
EA	.633*	.660*	.521	.403	1.000			
TF	.599*	.449	.399	.635*	.402	1.000		
SMS	.610*	.678	.395	.455	.620*	.305	1.000	
$\mathbf{AV}$	.510*	.375	.533	.607*	.589	.441	.509*	1.000

Note: \* All the correlations are significant at the 0.05 level (2- tailed).

# 4.8.1 Correlation between Dependent variable (medical tourist's satisfaction) and Socio-Demographic Variables

Spearman's rank correlation was used to examine the probable correlation between patients' satisfaction and Socio-demographic variables such as Gender, Age, Education and Income It is seen from the following table 4.30indicate that Gender, Age, education, Occupation and income factors of Socio-demographic variables had no significant relationship (p>0.05) with Medical Tourists' satisfaction.

Table 4.30: Correlation between Medical Tourist Satisfaction and Demographic factors

	Medical Tourists' Satisfaction	Gender	Age	Education	Income	Occupation
Medical Tourists' Satisfaction Gender	.014	1.000				
Age	.083	.012	1.000			
Education	.132	.219	.186	1.000		
Occupation	.123	.124	.028	.275	1.000	
Income	.177	.147	.076	.075	.145	1.000

# 4.9 Factors Affecting Medical Tourists' Satisfaction towards Medical Service in Abroad (Post -travel).

This section is discussed to identify the influence of factors related to post –travel on the satisfaction level of outbound medical tourists, which ultimately influenced selection of medical tourism destination. A5-point likert scale questionnaire (Very much dissatisfied

1 to very much satisfied 5) with 42 variables was developed for finding the important post -travel factors regarding the foreign medical service. Out of 42 variables a set of 36 variables resulted in very low multi-collinearity by excluding 6 variables (Appendix A-24). The excluded variables was: 1) You feel safe to the doctors in abroad, 2) Doctors are present during visiting hours, 3)Yard of hospital in abroad are clean4) Doctors are clean in appearance5) Medical staff are clean in appearance and 6) Availability of hospital beds. These 6 variables were less essential elements in order to describe the medical tourists' satisfaction level.

Exploratory Factor analysis was conducted to identify most important factors that affecting outbound medical tourists' satisfaction from the 300 sample medical patients regarding 36 variables which account for their iner-correlation. A Principal Factor Analysis with an orthogonal rotation (Varimax) using the statistical package was performed on the survey data to identify the factors. Seven factors were derived from this analysis.

These seven factors had explained 79.07% variability of the data. The factor analysis of 36 variables with 300 sample was found adequate (KMO test result =  $0.8 \ge 0.5$ ) and valid (Bartlett's test of sphericity indicates a significance level of 0.000). Since the positive factor loading value of 0.5 or greater was considered as significant in factor analysis. The communalities of the variables were found strong which indicates vigorous relationships among the variables. The Cronbach's Alpha coefficient 0.9 or higher indicating items internally consistent and shows good relation among the variables. The factor analysis showed that to mitigate outbound medical tourism from Bangladesh, we need to focus on

the following seven factors with eigen value greater than one. Results of the factor analysis of seven factors are presented below.

#### **Quality of Medical Care:**

The first principal factor was Quality of Medical Care mainly related to doctors' reliability, skill, empathy and interpersonal communication with patients. It is seen from the Table 4.31the variable explained 23% of the variability. High variance (23%) of this factor indicates there was a strong association between doctors' quality of medical care and underlying following variables. The strong correlation among the variables indicates doctors' quality of medical care. Positive factor loading of the variable indicates that physician's reliability, skilled, empathy and patient centered service improves doctors' quality of medical care. So the underlying dimension of the following variables proves that there was a strong association between patients' satisfaction and doctors' quality of medical care.

Table 4.31: Results from Factor Analysis- Quality of Medical Care

Variables	Factor	Communaliti
	Loadings	es
Doctors visited in abroad have heard and understood	.821	.740
symptom of your disease		
Doctors visited in abroad have answered all the	.705	.825
questions related to your disease		
Doctors visited in abroad have examined you with	.965	.683
care		
Doctors visited in abroad have informed you the	.939	.833
process of treatment in details		

Doctors visited in abroad have advised you on the	.844	.747				
basis of your disease's symptom						
Doctors visited in abroad have clarified you the	.821	.798				
reasons for giving pathological test						
Doctors visited in abroad are careful and sincere to	.751	.625				
their patients						
Doctors visited in abroad keep confidentiality	.907	.894				
during medical treatment						
Doctors visited in abroad are capable of identifying	.948	.800				
your problems						
Doctors visited in abroad have provided you right	.836	.736				
medical treatment						

(Kaiser-Meyer-Olkin = .824, Bartlett's Test of Sphericity Sig = .000, Variance explained=23%, Cronbach's Alpha .908, Eigen value=4.167

#### **Treatment Facilities**

The second principal factor was Treatment Facilities mainly consists of reputation of medical care/ doctors and staffs, equipment and diagnosis facilities, and wide range of treatment facilities. Table 4.32 shows that the variable explained 16.24% of the variability. High variance (16.24%) of this factors indicates that there was a strong association between treatment facilities and its underlying variables. Positive factor loading signify that treatment facilities positively correlated with availability of medical equipment, accurate diagnosis of diseases, world standard medical facilities, availability of treatment and reputation of medical staff. Therefore, the underlying dimension of the following variables prove that treatment facilities were highly involved with patient satisfaction.

**Table 4.32: Results from Factor Analysis- Treatment Facilities** 

Variables	<b>Factor Loadings</b>	Communalities
There is an opportunity for medical treatment of all	.834	.728
kinds of disease in abroad		
Recognized/International accredited hospital/	.868	.774
positive reputation of medical facility		
The quality of disease diagnosis is high because of	.961	.844
using advanced technology in abroad		
Positive reputation of Physicians and medical	.854	.702
staffs in abroad		
Advanced medical equipment are available in the	.922	.839
hospitals of abroad		

(Kaiser-Meyer-Olkin = .909, Bartlett's Test of Sphericity Sig = .000, Variance explained=16.24%, Cronbach's Alpha .902, Eigen value=3.207.

### **Cost of Medical Care:**

Cost of medical care was the third factor includes doctors' fee, diagnostic fee, medicine cost, and transportation cost. Table 4.33 shows that the factor explains 11.33% of the variability. High variance (16.24%) of this factors indicates that there was a strong association between cost of medical care and underlying variables. The strong correlation among the variables indicates cost of medical care. Positive factor loading signify that the cost of medical care closely correlated with consultation fee of doctors, price of diagnosis test, medicine cost, transportation fare. Therefore, the underlying dimensions of the following variables prove that cost of medical care was highly involved with patient satisfaction.

Table 4.33: Results from Factor Analysis- Cost of Medical Care

Variables	Factor Loadings	Communalities
Doctors' fee in abroad are cost-effective	.939	.731
Diagnostics fee in abroad are cost-effective	.938	.852
Transportation fare in abroad are cost effective	.876	.733
Medicine cost in abroad is low	.822	.872

(Kaiser-Meyer-Olkin = .834, Bartlett's Test of Sphericity Sig = .000, Variance explained=11.33%, Cronbach's Alpha .911, Eigenvalue=2.23

### **Environment of the Hospital:**

The fourth principal factor was Environmental aspects mainly related to cleanliness of the physical facilities and clam environment of the hospital. Table 4.34 shows that this factor explains almost 9.75% of the variance. Positive factor loading signify that environment of the hospital closely correlated with cleanliness of hospital physical facilities and clam environment. Therefore, the underlying dimension of the following variables prove that environment of the hospitals was highly involved with patient satisfaction.

**Table 4.34: Results from Factor Analysis- Environmental Aspects** 

Items	Factor	Communalities
	Loadings	
Hospitals in abroad are attractive	.875	.729
Cabin, bed and floor of hospitals in abroad are clean	.923	.853
Toilet and bathroom of hospitals in abroad are clean	.818	.722
Operation theater and medical equipment of hospitals	.944	.862
in abroad are clean		

(Kaiser-Meyer-Olkin = .915, Bartlett's Test of Sphericity Sig = .000, Variance explained=9.75%, Cronbach's Alpha .928, Eigen Value= 1.525.

### Service of Medical Staff (Nurse/ caregiver):

Service of medical staff was the fifth principal factor mainly consists of patient centered, timely manner, courtesy, and sincerity of the medical staff in the foreign hospital. It is seen from the table 4.35 total 4 items are loaded under this factor explained almost 7.25% of the variance. Positive factor loading signify that service of medical staffs' closely correlated with staffs' courtesy, sincerity, responsibility and punctuality. The closely correlated variables indicates service of medical staff. Therefore, the underlying dimension of the following variables proves that service of medical staff was highly involved with patient satisfaction.

Table 4.35: Results from Factor Analysis- Service of Medical Staff

Items	Factor	Communalitie
	Loadings	S
Medical staff in abroad are always ready to fulfill	.912	.847
the need of patients		
Medical staff in abroad are gentle and sincere	.745	.626
Medical staff are responsible about their duties	.892	.733
Medical staff performs their duties timely	.765	.643

(Kaiser-Meyer-Olkin = .867, Bartlett's Test of Sphericity Sig = .000, Variance explained=7.25%, Cronbach's Alpha .923, Eigen Value = 1.323.

#### Availability (Doctor/ Medical staff):

Table 4.36 shows that the sixth factor Availability occupies 6.35% of total variance consist of three variables availability and accessibly of experienced doctor and staff. The positive factor loading signify that all variables positively correlated with each other. Therefore, the underlying dimension of the following variables prove that availability was highly involved with patient satisfaction.

Table 4.36: Results from Factor Analysis- Availability

Items	Factor Loadings	Communalities
Experienced doctor are easily accessible	.963	.722
Medical staff are available	.847	.747
Doctor follow up treatment regularly	.856	.721

(Kaiser-Meyer-Olkin = .895, Bartlett's Test of Sphericity Sig = .000, Variance explained= 6.35%, Cronbach's Alpha .914).

#### **Tourism Facilities:**

It is seen from the Table 4.37 shows that the seventh principal factor was tourism Facilities consists of attractive medical tourism destination, cheap accommodation and amicable hospitality account for 5.15% of the total variable. Positive factor loading signify that tourism facilities closely correlated with each variable. So the underlying dimension of the following variables prove that availability was highly involved with patient satisfaction.

**Table 4.37: Results from Factor Analysis- Tourism Facilities** 

Items	Factor	Communalitie	
	Loadings	S	
Tourism facilities are available together with	.846	.731	
medical treatment facilities in abroad			
Tourism spot are safe and secured in abroad	.981	.877	
Political stability prevails in abroad	.833	.752	
Transportation is very easy in abroad	.959	.859	
Accommodation is cheap in abroad	.840	.732	
Local people are friendly and sincere in abroad	.823	.724	

(Kaiser-Meyer-Olkin = .857, Bartlett's Test of Sphericity Sig = .000, Variance explained=5.153%, Cronbach's Alpha .937, Eigen value= 1.406.

# 4.10 Ordinal Logistic Regression of Factors Affecting Medical Tourists Satisfaction towards Medical Service in Abroad (Post –travel).

An ordinal logistic regression model was used to measure the impact of independent variables on the medical patients' satisfaction derived from the factor analysis. The variables (Independent and Dependent) of post travel attributes of the study, as illustrate in chapter three. In the present study, ordinal logistic regression was used to answer the research question and discover which variables included in the model have the most significant effect on the dependent variable

Considering the seven factors as independent variables ( $x_i$ .for i=1-7) and establishing medical tourist's satisfaction as the dependent variable (Y) that belongs to the ordinal in nature (ranging from Very much dissatisfied=1 to Very much satisfied=5). This analysis is useful to investigate the association between the predictors and the response variable.

The ordinal logistic model being fitted does not violate the parallel lines assumption. The likelihood ratio test for model  $\chi 2$ =441.13, P<0.05 indicated that the regression equations were significant. In other words, it indicates that as a minimum one of the regression coefficients included in the model is not equal to zero. The goodness-of-fit operation showed a good model fit through the following measures: Pearson  $\chi 2$  =32664.90 (P<0.05), Cox and Snell  $R^2$  = 0.73, and Nagelkerke  $R^2$  = 0.89, where Y is the medical tourist's satisfaction ( $Y \le j$ , for j=1–7). The values of -7.32, -6.41, -6.26, -4.22, -3.43, -3.17, -2.32, are the estimated values of the constant terms ( $\beta_{0j}$ , for j = 1 – 7) for each of the seven equations, respectively, which means that when all the independent variables are equal to 0,  $P(Y \le j) = e^{\beta 0j/(1+e\beta 0j)}$ . Concerning the independent variables ( $x_i$  for i=1–7),  $x_1$  represents doctors' quality of medical care,  $x_2$  represents cost of medical care,  $x_3$  represents treatment facilities,  $x_4$  represents environmental aspects,  $x_5$  represents tourism facilities,  $x_6$  represents service of medical staff,  $x_7$  represents availability. Finally, seven regression equations were established as:

$$Logit (P) (Y \le 1) = -7.32 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (1)

$$Logit (P) (Y \le 2) = -6.41 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (2)

Logit (P) 
$$(Y \le 3) = -6.26 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (3)

Logit (P) 
$$(Y \le 4) = -4.22 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (4)

Logit (P) 
$$(Y \le 5) = -3.43 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (5)

Logit (P) 
$$(Y \le 6) = -3.17 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (6)

Logit (P) 
$$(Y \le 7) = -2.32 + 0.82x_1 + 1.19x_2 + 0.89x_3 + 1.29x_4 + 0.71x_5 + 1.28x_6 - 0.31x_7$$
 (7)

**Table 4.38: Results of the Ordinal Regression Analysis** 

Independent		De	pendent Va	riable (Y)	OR	
variables (x)	Estimate	SE	Wald x <sup>2</sup>	P-value	OR	(95% CI)
<b>Doctors'</b> quality	0.82	0.08	159.63	0.002	2.94	2.22- 2.76
of medical care						
$(\mathbf{x}_1)$						
Cost of medical	1.19	0.07	129.21	0.005	2.26	2.92 - 3.15
care (x <sub>2</sub> )						
Treatment	0.89	0.04	175.47	0.0032	2.30	2.38- 2.92
facilities (x <sub>3</sub> )						
Environmental	1.29	0.06	109.74	0.004	2.23	2.39-2.88
aspects (x4)						
Tourism facilities	0.71	0.07	98.55	0.006	1.30	1.40- 2.02
( <b>x</b> 5)						
Service of	1.28	0.07	138.89	0.012	1.45	1.91- 2.56
$medical\ staff\ (x_6)$						
Availability(x7)	0.87	0.08	113.09	0.0234	1.42	1.70-2.24

**Notes:** Estimate is the value of partial regression coefficients. Reference: medical tourist's satisfaction = 5 (completely satisfied). Link function: logit.

**Abbreviations:** OR= Odds Ratio; SE= Standard Error; CI= Confidence Interval.

Table 4.38 shows that the outcome of ordinal logistic analysis shows all seven independent predictors ( Quality of medical care, Cost of medical care , Treatment facilities, Environmental aspects, Tourism facilities, Service of medical staff, and Availability (Doctor /Staff) had significant impacts ( $P \le 0.05$ ) on dependent variable, with odds ratios of 2.94, 2.30, 2.26, 2.23, 1.45, 1.42, 1.30 respectively. The interpretation of the results was accomplished based on the proportional odds ratios quality of medical

care was the most significant variable of patient satisfaction with the largest odds ratio (OR =2.94; 95% CI = 2.22 - 2.76, p < .05). It implies that a unit increase in respondents' quality of care, 2.94 increase in the log-odds of being a higher satisfaction level given all of the other variables remain constant. Correspondingly, the patients' were 2.30 times very much satisfied than other combined satisfaction levels, in terms of treatment facilities (OR = 2.30; 95% CI = 2.38 - 2.92, p < .05) of the hospital. The estimation results showed that patients cost of medical care (OR = 2.26; 95% CI=2.92 - 3.15 p < .05) were 2.26 times very much satisfied compared to other satisfaction levels given the other variables were constant. However, Environmental aspects (OR = 2.23; 95% CI = 2.39 – 2.88, p < .05) were two times more very much satisfied. Service of medical staff (OR = 1.45; 95% CI = 1.91 - 2.56, p < .05 were approximately one times more very much Availability (Doctor/ Medical staff) increases the possibility of patient satisfied. satisfaction (OR = 1.42; 95% CI = 1.70-2.24, p < .05). Moreover, patients were (OR = 1.30; 95% CI = 1.40-2.02, p < .05) one times more very satisfied in visited countries tourism facilities. The regression analysis shows that in order to be more competitive. We need to emphasize on the significant seven factors with (OR > 1; p < .05).

#### 4.11 Additional Analysis

# 4.11.1 Open ended question

The questionnaire contained four qualitative and open-ended questions. Open-ended questions asked the patients and doctors to share elaborately their opinions on a variety of issues concerning medical tourism. The specific four open-ended questions were:

- 1. What are the reasons behind high satisfaction towards medical services in abroad?
- 2. What are the reasons behind high dissatisfaction towards medical services in Bangladesh?
- 3. What are the ways to improve the medical condition in Bangladesh?
- 4. From doctors evaluation- What strategies will you recommend to reduce seeking treatment from abroad?

The answers of these questions are discussed in detail below.

#### Reasons behind high satisfaction towards medical services in abroad:

The patients were asked to rank the reasons (from most important to least important) behind high satisfaction towards medical services in abroad. Most patients provided more than one reasons but some patients provided simply one reason.

The distribution of the opinion of 300 patients regarding the reasons behind high satisfaction towards medical services in abroadis shown in Table 4.39.

Table 4.39: Reasons behind high satisfaction towards medical services in abroad

Reasons behind high satisfaction towards medical services in abroad	Number of Patients	Rank (From most important to least important)
An experienced, gentle, reliable and honest	250	1 <sup>st</sup>
doctor deals with patient.		
First and accurate diagnosis and world	240	$2^{\rm nd}$
standard medical facilities.		
Reasonable cost	230	3 <sup>rd</sup>
Quality nursing care	200	$4^{ ext{th}}$
Less Waiting time	178	5 <sup>th</sup>
Safe and secured environment inside the	150	6 <sup>th</sup>
hospitals		
Others	50	$7^{ m th}$

The table 4.39 reveals that three major reasons behind high satisfaction towards medical services in abroad were, "Experienced, gentle, reliable and honest doctors.", "First and accurate diagnosis and world standard medical facility" and Reasonable cost of treatment.

# Reasons Behind High Dissatisfaction Towards Medical Services in Bangladesh:

The patients were asked to list the primary reasons (from most important to least important) behind high dissatisfaction towards medical services in Bangladesh. Most patients provided more than one reasons but a few gave only one reason.

The distribution of the opinion of 300 patients regarding the reasons behind high dissatisfaction towards medical services in Bangladeshis shown in Table 4.40.

Table 4.40: Reasons behind high dissatisfaction towards medical services in Bangladesh

Reasons behind high dissatisfaction	Number of	Rank (From most
towards medical services in abroad	<b>Patients</b>	important to least
		important)
Insufficient time paid by the doctors to	270	1 <sup>st</sup>
their patients		
Unnecessary test and poor diagnosis	260	$2^{\rm nd}$
Lack of modern medical technology	210	3 <sup>rd</sup>
High treatment cost	200	$4^{th}$
Long waiting time	174	5 <sup>th</sup>
Impolite behavior of Medical staff	153	6 <sup>th</sup>
Unhygienic environment of the	150	$7^{ m th}$
hospitals		
Corruption	50	$8^{th}$
Others	27	9 <sup>th</sup>

The table 4.40 reveals that three major reasons behind high dissatisfaction towards medical services in Bangladesh were "Insufficient time paid by the doctors to their patients", "Unnecessary test and poor diagnosis" and "Lack of modern medical technology".

# Ways to Improve Medical Care Condition in Bangladesh:

The patients were asked to list the ways (from most important to least important) to improve medical care condition in Bangladesh. Most patients provided more than one recommendation but a few gave only one recommendation.

The distribution of the opinion of 300 patients regarding the ways (from most important to least important) to improve medical treatment condition in Bangladeshis shown in Table 4.41.

Table 4.41: Ways to improve medical care condition in Bangladesh

Ways to improve medical care condition in Bangladesh	Number of Patients	Rank (From most important to least important)
Doctors should increase sincerity to their	206	1 <sup>st</sup>
patients.		
Unnecessary test and commission of	154	$2^{\rm nd}$
doctors from diagnostic center should be		
stopped.		
Hospitals and diagnostic center of	122	$3^{\rm rd}$
international quality should be established		
through public and private investment		
Sufficient numbers of trained and skilled	92	4 <sup>th</sup>
doctors, nurses, ward boys should be		
appointed		
Infrastructure for medical treatment	72	5 <sup>th</sup>
should be developed through public and		
private investment.		
Modern medical equipment should be	70	6 <sup>th</sup>
increased		
Corruption prevailing in public and	66	$7^{ m th}$
private hospitals should be stopped		
Doctors with false certificate should be	61	$8^{th}$
punished		

Modern and quality training should be	43	9 <sup>th</sup>
arranged for doctors, medical staff and		
effective management should be ensured		
in the hospitals		
Proper monitoring of health care system	41	$10^{\rm th}$
by ministry of health.		
High quality should be maintained during	23	11 <sup>th</sup>
production and distribution of medicine		
Others	13	12 <sup>th</sup>

The table 4.41 reveals that three major recommendations to improve medical treatment condition in Bangladesh were "Doctors should increase sincerity to their patients", "Unnecessary pathological test and commission of doctors from diagnostic center should be stopped" and "Hospitals and diagnostic center of international quality should be established through public and private investment."

# **Strategies to Reduce Seeking Treatment from Abroad by the Patients:**

The doctors were asked to list the strategies (from most important to least important) to reduce seeking treatment from abroad by the patients. Most doctors provided more than one strategy but a few gave only one strategy.

The distribution of the opinion of 60 doctors regarding the strategies (from most important to least important) to reduce seeking treatment from abroad by the patients is shown in Table 4.42.

Table 4.42: Strategies to reduce seeking treatment from abroad by the patients

Strategies to reduce seeking treatment from abroad by the patients	Number of doctors	Rank (From most important to least important)
Doctors should give adequate time and	56	1 <sup>st</sup>
attention to every patient as needed		
Counseling of the patient regarding	46	$2^{\rm nd}$
home treatment facility should be started.		
Public -private stage partnership to build	45	$3^{\rm rd}$
up infrastructure for healthful living, well		
equip machineries and world class		
diagnostic facilities in the home country		
with minimum cost for the patient		
benefit.		
Publicity of medical facilities, Patients'	36	4 <sup>th</sup>
knowledge regarding their disease and		
confidence to native doctors should be		
improved		
Sufficient post- graduate doctors should	31	5 <sup>th</sup>
be increased		
Number of hospitals and logistic support	29	6 <sup>th</sup>
will be increased as well as cancellation		
of corruption of medical college.		
Cost-effective surgeries should be started	25	$7^{ ext{th}}$
Screening of outgoing patients	22	8 <sup>th</sup>
Recommendation by the home country		
doctor is required) as well as government		
should make rules to whom and when to		
send patient abroad.		
Training conducted by national and	20	9 <sup>th</sup>

international doctors should be arranged

for young doctors

Waiting time should be reduced 17 10<sup>th</sup>

Yellow journalism about health care in 15 11<sup>th</sup>

home country should be stopped

The table 4.42 reveals that three major recommendations to improve medical treatment condition in Bangladesh were "Doctors should give adequate time and attention to every patient as needed", "Counseling of the patient regarding home treatment facility should be started." and "To build up infrastructure for healthful living, well equip machineries and world class diagnostic facilities in the home country with minimum cost for the patient benefit.

# 4.11.2 Doctors' Opinion Analysis

To get in-depth picture of the medical treatment condition in Bangladesh, the opinion of 60 Bangladeshi doctors (conveniently chosen) are evaluated.

#### Type of Disease for which Patients Seek Medical Treatment in Abroad:

The distribution of type of disease for which patients seek medical treatment in abroad (according to the opinion of Bangladeshi doctors) is shown in Table 4.43

Table 4.43: Summary of Disease for which Patients Seek Medical Treatment in Abroad

Type of Disease	Patients (%)
Cancer	21.00
Cardiovascular	18.00
Orthopedic	6.00
Cosmetic surgery	9.00
Fertility/ IVF	13.00
ENT	3.00
Lasik	2.00
Obesity	2.00
General surgery	1.00
Neurology	4.00
Gastroenterology	2.00
Dental	0.00
Liver diseases	6.00
Urology	2.00
Psychological	0.00
Therapy	2.00
<b>Wellness Evaluation</b>	2.00
Comprehensive	1.00
Medical checkup	1.00
Others	5.00

Source: Primary data

The study shows that the majority of the outbound patients seek medical treatment for disease like Cancer, Cardiovascular and Fertility/ IVF in abroad countries.

# **Factors of Bangladeshi Patients to Seek Treatment from Abroad:**

The mean scores of the 9 items of doctors' evaluation of the factors of Bangladeshi patients to seek treatment from abroad are presented in Table 4.44.

Table 4.44: Mean Score and Standard Deviation of doctors' evaluation of the factors of Bangladeshi patients to seek treatment from abroad

Items	Mean	S.D.
Lack of experienced doctors in home country	1.78	.922
High cost of treatment in home country	1.95	.981
Proper medical facilities are not available in home country	2.60	1.181
Better services are not provided in home country	2.73	1.071
Poor diagnosis facilities are provided in home country	4.10	1.178
Doctors do not spend sufficient time for patient in home country	3.78	.980
High waiting time than other countries	2.51	1.142
Lack of confidence in the treatment of Bangladesh	3.96	.505
The patients of the home country is not cured from medical	2.28	1.249
treatment		

Note: Items measured on a 5-point Likert-type scale. 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree" and 5 = "Strongly Agree".

The results of the mean score indicates that the highest rated item and the most influential factor is "Poor diagnosis facilities are provided in home country" (M = 4.10) followed by Lack of confidence in the treatment of Bangladesh (M=3.96) and the lowest rated item is "Lack of experienced doctors in home country" (M=1.78).

#### **Overall Satisfaction towards Health Service Management System in Bangladesh:**

The mean scores of 60 doctors' evaluation of health service management system in Bangladesh are presented in Table 4.45.

Table 4.45: Mean Score and Standard Deviation of doctors' evaluation of health service management system in Bangladesh

Overall Satisfaction	Mean	S.D.
	2.80	1.111

The results indicate that doctors were dissatisfied towards health service management system in Bangladesh.

### **CHAPTER FIVE**

## **DISCUSSIONS AND CONCLUSIONS**

#### 5.0 Introduction

The chapter provides a discussion on the key findings on doctrinal and practical implication, which can be considered as new inputs or contribution on medical tourism research arena.

## **5.1 Discussion on Key Findings**

This study analyzed the factors (pre-travel and post –travel) responsible for outbound medical tourism from the perspective of Bangladeshi patient in exhaustive manners. Comparison of satisfaction level of medical service in Bangladesh with foreign medical service derived from this study.

The study found that medical tourists from Bangladesh travel to different medical tourism destinations to obtain medical care. The medical tourism destination was determined on (e.g. income, financial condition, sources of information and nature of the disease). The major treatments of the medical tourist were cardiovascular treatments, orthopedic, cancer and liver diseases. The research discovered that most of the medical tourist prefers to travel abroad for pre-travel factor in their home country. The first most important pre-travel factor for going abroad for medical treatment was insufficient consultation time by doctors. Most of the patients in our country complained that the physicians did not listen to the patients' problem and gave insufficient time. Qualified physicians in our country

serve several private hospitals and clinic; so they were incapable of giving sufficient time and proper concentration to patients expectation This was found by the existing literature (Andaleeb, Siddiqui and Khandaker 2007; Siddiqui and Khandaker;Rahman et al. 2002). The second most influential factor was lack of trust and faith on medical care by providing doctor, nurse, and hospital treatment procedure in Bangladesh and third was dissatisfaction about quality of medical care by providing doctors, nurses and hospitals in Bangladesh. On the other hand, we have found seven significant post travel drivers (associated with satisfaction) that affect outbound medical tourism. The findings of each driver are given below.

Quality of medical care: The study highlights the significance of quality of medical care in determining the medical tourists' satisfaction level. The quality medical care of doctor was a prominent factor for treatment. The criteria for assessing the quality care of doctors in this regard were professional excellence, skill and knowledge, empathy and interpersonal communication with patient. The more satisfied a patient is with doctors' quality of care, the overall satisfaction is more. Existing literature also found similar evidence by (Chen et al., 2016; Celik, Oktay and Akbaba, 2014; Andaleeb, Siddiqui and Khandaker 2007; Tung and Chang 2009). Majority of the patients visited abroad had shown their positivity about the health service provided by the doctor. According to the patients under the survey, the doctors were more professional, sincere and trustworthy to their work such as they had explained problems of the patient and gave information about their health related issue. The waiting time in abroad was considerable. Existing literature also found similar evidence by (Ali and Medhekar, 2018; Celik, Oktay and Akbaba, 2014; Koermer and Kilbane; 2008). In any circumstances patient can contact their respective

doctor through skype and email. Sincerity and trustworthy service of doctors had increased patients' satisfaction in abroad. On the other hand, the less satisfied a patient is with doctors' quality of care, the overall satisfaction is lower. Usually in Bangladesh, patients' experiences on the factor doctors' quality of care in terms of professional excellence, empathy, skill, communication to patient were not satisfactory compared to abroad. Moreover, Doctors in Bangladesh should not give adequate time and attention to every patient as needed.

**Treatment facilities**: The second prominent factor in abroad was treatment facilities mainly consist of reputation of medical care and staff, equipment facility, accurate diagnosis facilities and wide range of treatment facilities. In this study, the treatment facilities had been found to have a positive impact on patient satisfaction. Previous studies (Drinkert, 2015) had reported that treatment facilities were significantly associated with quality of service. Majority of the medical tourists under the survey stated that, hospitals in abroad were capable of handling any complex case of patients' disease because they had well trained medical staffs, highly experienced doctors studying in world class medical institutions and had advanced medical technology. Accurate diagnosis of disease was possible into short period of time due to use of up-to-date and modern medical technology and expertise. International accredited hospitals had ensured patient safety and quality of health care as well as creating opportunity for all kinds of treatment. Similar findings were reached by (Ali and Medhekar2018). In abroad, all the private and public hospitals share all kind of information in the web page. So, patients can get overview about the services, treatment, doctor information etc. On the other hand, generally in Bangladesh, patients' experiences on the factor regarding treatment facilities

were not satisfactory compared to foreign hospital due to unreliable pathological and diagnostic tests, lack of availability of all type of treatment, medical technology, absence of specialty, lack of updated information about services, treatment and doctors information and "unethical or inhumane professional practices of doctors and administrative staffs. Evidence is also found in existing studies (Ali and Medhekar,2018; Ali,2012, Medhekar and Ali, 2012; Medhekar and Haq,2015).

Cost of Medical Care: Cost of medical care consists of doctor's fee, diagnostic cost, hospital cost, transportation fare and it was also significantly influenced patients' satisfaction. Similar findings were found by the existing literature (Chen et al., 2016; Sultana et al., 2014; Drinkert, 2015). Andaleeb, Siddique and Khandaker, (2007) found that cost of medical care was insignificant to patient satisfaction. Majority of the patients under the survey states that in abroad treatment cost of private healthcare services arose to be more cost effective (price and quality balance) than private healthcare services in Bangladesh. Easy transportation, essential diagnostic test, reasonable fee for expertise, transparency in medical treatment cost and bills in foreign hospital reduces extra cost of patients which also increased patient satisfaction. Conversely, the findings of the study indicate that most of the patients had taken treatment in private hospital in Bangladesh. The existing medical practices among the private medical service providers charge high price on limited quality care. Unnecessary test, excessive fees by doctors, ambiguous hospital cost, higher medical expense in accredited hospital high medicine cost, price discrimination of different private hospitals and clinics raises additional cost of treatment. This was also found by the existing literature (Andaleeb, Siddique and Khandaker, 2007, Vanhoof et al., 2005; Medhekar and Ali, 2012).

Environment of the hospital: In this study, the environment of hospital leaves a positive impact on patient satisfaction. Similar conclusions were reached by the existing literature (Abdellah, Levine and Levine 1986;Siddiqui and Khandaker 2007;Chen et al., 2016) concerning environmental aspects and patient satisfaction. The hospital environment usually comprisesphysical facilities inside the hospitals (such as operation theater, medical equipment, cabin, bed, floor, toilet and bathroom). According to the patients' opinion under the survey, in abroad hospital calm environment, hygienic and clean equipment, toilet, bed, cabin, operation theater basically protects the patient from infection. Conversely, the unhygienic physical facilities, crowded environment were the main reason for the dissatisfaction of the patient.

Service of the medical staff (Nurse / Caregiver): Similar to doctor's quality, service of medical staff plays a major role in patients' satisfaction. Service of medical staffs can greatly affect patient satisfaction. Previous studies (Chen et al., 2016; Andaleeb, Siddiqui and Khandaker, 2007) found that services of medical staff were significantly associated with patients' satisfaction. Bangladeshi patients found that medical staffs' in abroad were gentle, sincere and dedicated to the patients, their professional and technical behavior attracted all. Behaviors of nurse positively affect patients' satisfaction. So, the patients who got treatment from abroad had higher level of satisfaction. In addition, patients' experiences on the service of the nurse in Bangladesh were not satisfactory compared to abroad, because of their misbehave and insincerity. This should stimulate the attention of health department in Bangladesh.

**Availability**: The present study has also emphasized the significance of availability of experienced doctors and medical staffs in determining the medical tourists' satisfaction

level. The more satisfied a patient is with availability of doctor and staff, the overall satisfaction is more. Similar evidence is also found in other studies (Drinkert, 2015; Siddiqui and Khandaker, 2007). According to the patients under the survey in abroad experienced doctors and medical staffs' were accessible at any time when patient required and doctors follow up inpatient regularly. Conversely private practice of physicians, excess patient supervision and lay off medical staff were basically the main reasons for being unavailable. Unfortunately, there is a limitation of nurses in Bangladesh on health care delivery system. According to Dhaka Tribune (2019c) noted that, currently there are only 3.06 nurses for 10000 people in Bangladesh compared to 21.07 in India and 21.15 in Sri Lanka.

Tourism facilities: The study found that tourism facilities also increased patient's satisfaction. Similar conclusions were also reached by previous researcher (Drinkert, 2015; Sultana et al, 2014) concerning tourism facilities. According to the patient under the survey, in abroad clam and pleasant surroundings in hospital premises, staff friendliness, transportation facilities, quality and cheap accommodation near to the hospital. Besides recreational place (i.e restaurant, theme park, hotel and motel which increased the satisfaction of the patient. This is also found by the existing literature (Abdellah, Levine and Levine, 1986; Mamun and Andaleeb,2013)).In case of Bangladesh crowded and noisy atmosphere, shortageof good quality hotel and accommodation near to the hospital ,lack of transportation facilities, discourteous behavior of staff, which reduced patients' satisfaction scores. Similar conclusion were reached by (Ali and Medhekar, 2012).

This study has several limitations, i.e. there is no data base or list of outbound medical tourists in Bangladesh. Thus, non-probability sampling method, especially convenience and snowball sampling technique were used to collect data from the respondents as opposed of probability sampling. The study attempted to interview only outbound medical patients and doctors in Bangladesh. But other patients who seek treatment in the country and do not go outside, and attendants of the patients have not been captured in the study. Besides critical or very serious patients and non- curable patients were excluded from the study on ethical grounds and as advised by treating physicians. This would have confounded some results of the present study. The strength of the study is to attempt to find out the factors responsible for outbound medical tourism. Subsequently, it provides some significant insights for the government of Bangladesh so that they can take necessary steps and make strong improvisation efforts to improve the medical industry of the country. Therefore, the study is helpful for health departments to scrutinize the actual practice of medical care within home and abroad hospitals.

#### **5.2 Recommendations of the Study**

A set of recommendations, based on the key findings, has been put forward so that government can take necessary measures to reduce outbound medical tourism from Bangladesh through improving the health system of the country.

The policy makers should instigate continuous technical and behavioral training and an evaluation programmed for physicians. Besides, the government should provide scholarships to the practitioners to get higher medical education and expertise from abroad. With that facility, doctors in Bangladesh can develop their academic standards

and experience that will help to handle any complex case regarding patients' disease. At the same time, to satisfy the medical patients, the number of patients visited or supervised by a doctor in a day should be limited in both private and public hospital (Suppose 20-25 patient per physician daily) and fixing up amount of time to be spent for single patient. Doctors should give adequate time and attention to every patient as needed. Additionally, the strategies will be implemented to minimize waiting time.

Private sector and foreign direct investment need to be encouraged to investment in medical treatment facilities in Bangladesh. Modern Diagnostic centers and international accredited hospital should be established so that local patient can receive better medical care in the home country. However, enormous investments from the private and public sectors are necessary for medical infrastructural development and human capital development, such as doctors, nurses, and medical staff.

In the present time poor diagnosis facilities create dissatisfaction towards the medical service in Bangladesh. So government should take action against the hospital by mobile court for using expired reagent in its laboratory and for selling unapproved drugs. In addition, modern and quality training should be arranged for doctors, staff in targeted areas such as diagnosis, pathological and radiological investigation and using of latest medical technology. Doctors, medical staff and effective management should be ensured in the hospital. It is evident from the present study that patients who travel abroad mainly go for Cancer, Cardiovascular, Orthopedic, and liver diseases. Budgets need to be increased for specialized hospitals in medical field by purchasing required technology and surgical equipment. If the hospital provide satisfactory and effective quality facilities such as well -resourced laboratory, surgical equipment, experienced manpower, and good

communication according to patients' expectation, then patient will be reluctant to go abroad.

The findings of the study indicate that most of the patients had taken treatment in private hospital in Bangladesh. The existing medical practices among the private medical service providers charge high price on limited quality care. Besides, the patients in Bangladesh not getting good quality service by spending more money. Government should take appropriate measures by monitoring the prices of private hospital as well as fix the charges of services provided by private hospitals and health clinic.

All hospitals and diagnostic centers in the country should take the active measurement for the better development of the overall environment. However, these comprehensive systems need public and private cooperation and management.

There is a severe problem of ineffectual medical staff in Bangladesh. For that reason, professional training should be needed in the field of patient safety, patient care and clinical efficiency for the medical staff. To meet the patient's needs and improve nurses' services, health departments in the home country should deliver better medical packages, higher salaries, equipment accessibility, and stringent supervision. Moreover, the development of a vigorous performance management system is required to assess medical staffs performance at all levels repeatedly.

It is essential to create health sector policies that will enforce higher standards of safety and security should be maintained in hospitals. Moreover, an useful public and private partnership approach could be developed and implemented in Bangladesh to augment the government's effort in improving countless services in hospitals such as pharmacies near

hospitals, proper management of all schedules to avoid misbehavior, Moreover, hotels and restaurants of international customary near hospitals, airports pick-up and drop-up services need to be upgraded to attract more domestic medical tourists. Which would help the country earn valuable foreign exchanges.

By implementation these recommendations, Bangladesh could rapidly improve the quality of medical care in the country. This would help reduce outbound medical tourism from Bangladesh significantly, which will generate a vast earning for the country. However, to achieve high-quality health outcomes in Bangladesh, all stakeholders' concerted effort is required.

#### **5.3 Implication for Future Research**

Future studies can be carried out to further investigate these areas:

- The study has been conducted to examine the views of only outbound medical tourists. Hence, future researches can be directed to explore the views of both inbound and outbound medical tourists.
- ii. The study was done based on 300 respondents only. If the sample size of the study can be increased, then it will definitely give more realistic findings and understanding of the reasons behind rise of outbound medical tourism from Bangladesh.
- iii. Quality of care, access and affordability of healthcare in both public and private hospitals of Bangladesh should be explored in future studies.

iv. One of the areas which can be addressed in the future studies is that the research should be carried out in different parts of the country; so that the findings can be generalized.

#### **5.4 Conclusions**

The main purpose of the study was to identify the factors that influence outbound medical tourism and to measure the satisfaction level of outbound medical tourists of Bangladesh. The findings of the study shows that the people from Bangladesh travelling to neighboring countries (India, Thailand and Singapore) due to various pre-travel factors in their home country, such as insufficient consultation time by doctor, lack of confidence on medical treatment, dissatisfaction of quality of care. Apart from these factors, some post-travel factors (e.g. excellent service quality of doctors and medical staff, advanced treatment facilities, cost-effective treatment, cleanliness of hospitals, and tourism facilities in abroad countries have played an important role in patients' satisfaction as well as the expansion of medical tourism. From the study we have found empirical evidence that people who travel for getting health care to India, Thailand and Singapore gets better satisfaction and quality services. The findings indicated that all the factors related to medical service in abroad (quality of medical care, Treatment facilities, medical cost, environment of the hospital, service of medical staff', tourism facilities and availability of doctors/ medical staffs) significantly influenced outbound medical patients satisfaction. Quality of medical care is the most influential factors on patients satisfaction followed by treatment facilities and cost of medical care. Moreover, the overall satisfaction level of patients towards medical services in abroad is satisfactory. On the other hand, the overall satisfaction level of patients towards medical services in

Bangladesh is dissatisfactory. The major reasons as found are: insufficient consultation time by the doctors, unnecessary test and poor diagnosis, lack of modern medical facilities. If Bangladeshi stakeholders address such factors and solve the problems then the percentage of patients going abroad will be reduced. Most importantly, all of the research findings would assist relevant stakeholders of healthcare industries to formulate and implement effective strategies in order to attract and retain outbound medical tourists in Bangladesh.

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**Appendix A: Questionnaire for Patients** 

(It is notified that the Institute of Health Economics of Dhaka University has been

conducting a research on "Factors affecting outbound medical tourism from Bangladesh".

The main purpose of the research is to identify the reasons of the patients for travelling

foreign countries for medical purposes and to specify the diseases for which the people of

our country are travelling to abroad. Apart from these, the research will also assess the

satisfactory level of the patients those who have visited foreign countries for medical

reason about their treatments in abroad. The present obstacles of our health sector will

also be represented at the same time. Your valuable information will play a significant

role in establishing policies for this sector. To ensure acceptability of the research, only

those patients who have visited in 2017 will be interviewed for data collection. It is

humble request to you to provide information if you have visited foreign countries in

2017 for medical purposes. It is promised that the information will only be used in

research purposes.)

Are you interested in providing information for the research?

Yes

• No (If not, then give him/her thanks and end the conversation)

• Stand By (Will be reached later)

Name of the Respondent:

Name of the Patient:

Name of the Interviewer:

Date of the Interview:

Is respondent and patient the same person?

Yes

No

# **Part One: Personal Questions**

# (Give a Tick mark in any of them)

1) Name of the patient:

2)	Phone number of the patient:	
3)	) Sex of the patient:	
	o Male	
	o Female	
4)	Age of the patient:	
5)	Educational Qualification of the patient:	
6)	Educational Qualification of the respondent:	
7)	Profession of the patient:	
	1. Government Employee	
	2. Private Employee	
	3. Business	
	4. Self employed	
	5. Student	
	6. Retired	
	7. Farmer	
	8. Housewife	
	9. Unemployed	
	10. Children (5-10 Years)	
	11. If others please mention	
8) Mo	onthly income of the patient(N	Not mandatory for student,
unemp	aployed, retired and housewife)	
9) <b>M</b> oi	onthly income of the family	
10) Inc	ncome sources of the family (multiple sources can	be taken)
1)	) Employment	
2)	) Business	

	3)	Remittance
	4)	Pension
	5)	Farming
	6)	Self-employment
	7)	Other, Please mention
11)	Ac	cording to you, define your financial condition
	1)	Rich
	2)	Upper middle class
	3)	Middle class
	4)	Lower middle class
	5)	poor
		Part Two: Survey Questionnaire
		(Give tick mark in any of them from the following)
1) ]	Froi	(Give tick mark in any of them from the following)  m which country you have taken medical treatment recently?
1) ]	Froi	
1) ]	1.	m which country you have taken medical treatment recently?
1)	1.	m which country you have taken medical treatment recently?  India
1)]]	<ol> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	m which country you have taken medical treatment recently?  India  Thailand
	<ol> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	m which country you have taken medical treatment recently?  India  Thailand  Singapore
	<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>Ty</li> </ol>	India Thailand Singapore pes of the hospital Public
	<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>Ty</li> <li>1.</li> </ol>	India Thailand Singapore  pes of the hospital  Public Private
	<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>Ty</li> <li>2.</li> <li>3.</li> </ol>	India Thailand Singapore  pes of the hospital  Public Private
	<ol> <li>1.</li> <li>2.</li> <li>3.</li> <li>Ty</li> <li>2.</li> <li>3.</li> <li>4.</li> </ol>	India Thailand Singapore  pes of the hospital  Public Private NGO hospital

4) The	main purpose for you to visit the country was
1.	Medical treatment
2.	Business
3.	Leisure
4.	Conference/ Exhibition
5.	If others, please mention
5) For	which disease you have visited foreign countries?
1.	Cancer
2.	Cardiovascular
3.	Neurology
4.	Orthopedic
5.	Liver diseases
6.	Gynecology
7.	Urology
8.	LASIC (Eyelet)
9.	Nose/ ear/ throat
10.	Obesity (obesity)
11.	General Surgery
12.	Dental
13.	Plastic Surgery
14.	Cosmetic surgery
15.	Comprehensive medical checkup
16.	Mental illness
17.	Therapy
18.	Gastroenterology
19.	Wellness Evaluation
20.	If others please mention

3. If others please mention\_\_\_\_\_

2. Tourist

6) Types of medical treatment you have taken in other country
1. In-patient
2. Outpatient
3. Both
7) How many times you have travelled to a particular country for your treatment?
Times
8) Do you take medical treatment in Bangladesh before traveling abroad?
1. Yes
2. No
9) If the answer is "Yes", then what type of hospital you had visited
1. Public
2. Private
3. NGO
10) How many days you have stayed in foreign country for medical purposes?
Days
11) How many days did it require to start your medical checkup after reaching the country?
Days
12) Did you take any kind of suggestion about medical services of a country before
traveling to that country?
1. Yes
2. No
13) If the answer is "Yes", then who did help you?

1	$\Omega$ 1d	patients
1.	Olu	patients

- 2. Friends
- 3. Doctors from home country
- 4. Doctors from abroad
- 5. Internet
- 6. Family/relatives
- 7. Hospital agent
- 8. Paper/ magazine
- 9. If others, then please mention\_\_\_\_\_

14) For which factor you have visited foreign country to have medical treatment?

(Please provide marks in the following questions according to your opinion)

Strongly	Disagree	Neutral	Agree	Strongly Agree
Disagree				
1	2	3	4	5

1	Non-curability	1	2	3	4	5
2	Lack of experienced doctors in Bangladesh.	1	2	3	4	5
3	Dissatisfaction about quality of medical care			3	4	5
4	Inadequate treatment facilities	1	2	3	4	5
5	Lack of confidence on medical care in Bangladesh	1	2	3	4	5
6	Cost-Ineffectiveness	1	2	3	4	5
7	Insufficient consultation time by the doctors	1	2	3	4	5

8	Poor diagnosis facilities	1	2	3	4	5
9	Long Waiting time	1	2	3	4	5
10	Language and culture	1	2	3	4	5
11	Nearness.	1	2	3	4	5

15) What factor was essential for you in selecting hospitals in the foreign country?

(Please provide marks in the following questions according to your opinion)

Strongly	Disagree	Neutral	Agree	Strongly Agree
Disagree				
1	2	3	4	5

1	Experienced doctors	1	2	3	4	5
2	Low medical treatment cost	1	2	3	4	5
3	The quality for diagnosis of disease is high	1	2	3	4	5
4	Various facilities are available while taking medical treatment	1	2	3	4	5
5	Quality medical service	1	2	3	4	5
6	Doctors provide sufficient time	1	2	3	4	5
7	Low waiting time	1	2	3	4	5
8	The quality of medical treatment is good.	1	2	3	4	5

16. Are you satisfied about the quality care of the doctors in abroad. Kindly provide information about the quality of the doctors you have faced in getting medical treatment

(Please provide marks in the following questions according to your opinion)

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied

		dissatisfied		
1	2	3	4	5

1	Doctors visited in abroad have heard and understood symptom of your disease	1	2	3	4	5
2	Doctors visited in abroad have heard and understood symptom of your disease	1	2	3	4	5
3	Doctors visited in abroad have examined you with care	1	2	3	4	5
4	Doctors visited in abroad have informed you the process of treatment in details	1	2	3	4	5
5	Doctors visited in abroad have advised you on the basis of your disease's symptom	1	2	3	4	5
6	Doctors visited in abroad have clarified you the reasons for giving pathological test	1	2	3	4	5
7	Doctors visited in abroad are careful and sincere to their patients	1	2	3	4	5
8	Doctors visitedin abroad keep confidentiality during medical treatment	1	2	3	4	5
9	Doctors visited in abroad are capable of identifying your problems	1	2	3	4	5
10	Doctors visited in abroad have provided you right medical treatment	1	2	3	4	5
11.	You feel safe to the doctors in abroad	1	2	3	4	5

Are you satisfied about the cost of medical care in abroad. Kindly provide information about the cost of medical care you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Doctors' fees in abroad are cost effective.	1	2	3	4	5
2	Diagnostic test in abroad are cost effective.	1	2	3	4	5
3	Transportation fare in abroad are cost effective	1	2	3	4	5
4	Medicine cost/ hospitals cost in abroad are cost-effective	1	2	3	4	5

Are you satisfied about the treatment facilities in abroad. Kindly provide information about the treatment facilities you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	There is an opportunity for medical treatment of all kinds of				4	5
	disease in abroad					
2	Recognized hospital/ Medical facility reputation	1	2	3	4	5
3	The quality of disease diagnosis is high because of using advanced technology in abroad	1	2	3	4	5
4	Advanced medical equipment's are available in the hospitals of abroad	1	2	3	4	5
5	Positive reputation of physicians and staffs in abroad.	1	2	3	4	5

Are you satisfied about the hospital environment in abroad. Kindly provide information about the hospital environment you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Hospitals in abroad are attractive.	1	2	3	4	5
2	The cabin, the bed and the floor in abroad are clean.	1	2	3	4	5
3	Toilets and the bathroom in abroad are clean.	1	2	3	4	5
4	Operation theater and equipment in abroad clean enough.	1	2	3	4	5
5.	Yard of hospitals in abroad are clean	1	2	3	4	5
6.	Doctors are clean in appearance	1	2	3	4	5
7	Medical staff are clean in appearance					

Are you satisfied about the tourism facilities in abroad. Kindly provide information about the tourism facilities you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Tourism facilities are available together with medical treatment	1	2	3	4	5
	facilities in abroad					
2	Tourism spot are safe and secured in abroad	1	2	3	4	5
3	Political stability prevails in abroad	1	2	3	4	5

4	Accommodation is cheap in abroad	1	2	3	4	5
5	Transportation is very easy in abroad	1	2	3	4	5
6	Local people are friendly and sincere in abroad	1	2	3	4	5

Are you satisfied about the service of medical staff in abroad. Kindly provide information about the service of medical staff you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Medical staffs in abroad are always ready to fulfill the need of		2	3	4	5
	patients					
2	Medical staffs in abroad are gentle and sincere	1	2	3	4	5
3	Medical staffs are responsible about their duties	1	2	3	4	5
4	Medical staffs performs their duties timely	1	2	3	4	5

Are you satisfied about the Availability (doctor and staff) in abroad. Kindly provide information about the (doctor and staff) you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Experienced doctors are easily accessible	1	2	3	4	5
2	Doctors follow up treatment regularly	1	2	3	4	5
3	Adequate number of staffs are available	1	2	3	4	5
4.	Availability of bed /cabin	1	2	3	4	5
5.	Doctors are present during visiting hours	1	2	3	4	5

17) Are you satisfied with the foreign medical services and why?

(Please share your opinion thorough tick mark)

Very much	Dissatisfied	Neither	Satisfied	Very much
Dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1.			

18) Are you satisfied about the quality care of the doctors in Bangladesh. Kindly provide information about the quality of the doctors you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Doctors in Bangladesh have heard and understood symptom of your disease	1	2	3	4	5
2	Doctors in Bangladesh have answered all the questions related to your disease	1	2	3	4	5
3	Doctors from Bangladesh have examined you with care	1	2	3	4	5
4	Doctors in Bangladesh have informed you the process of treatment in details	1	2	3	4	5
5	Doctors in Bangladesh have advised you on the basis of your disease's symptom	1	2	3	4	5
6	Doctors in Bangladesh have clarified you the reasons for giving pathological test	1	2	3	4	5
7	Doctors in Bangladesh are careful and sincere to their patients	1	2	3	4	5
8	Doctors in Bangladesh keep confidentiality during medical treatment	1	2	3	4	5
9	Doctors in Bangladesh are capable of identifying your problems	1	2	3	4	5
10	Doctors in Bangladesh have provided you right medical treatment	1	2	3	4	5

Are you satisfied about the cost of medical carein Bangladesh. Kindly provide information about the cost of medical care you have faced in getting medical treatment

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Doctors' fees are cost effective.	1	2	3	4	5
2	Diagnostic test costs are cost effective.	1	2	3	4	5

3	Transportation fare is cost effective.	1	2	3	4	5
4	Medicine costs/ hospitals cost are low.	1	2	3	4	5

Are you satisfied about the Treatment facilities in the domestic hospital where you have taken medical services specify your opinion (tick mark)

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	There is an opportunity for medical treatment of all kinds of disease in Bangladesh	1	2	3	4	5
	C					
2	Recognized hospital/ Medical facility reputation	1	2	3	4	5
3	The quality of disease diagnosis is high because of using advanced technology in Bangladesh	1	2	3	4	5
	advanced technology in Dangiadesh					
4	Advanced medical equipments/ accessories are available in the hospitals of Bangladesh	1	2	3	4	5
5	Positive reputation of physicians and staffs in a Bangladesh.	1	2	3	4	5

Are you satisfied about the hospital environment in domestic hospital. Kindly provide information about the domestic hospital you have faced in getting medical treatment.

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Hospitals in Bangladesh are attractive	1	2	3	4	5

2	Cabin, bed and floor of hospitals in Bangladesh are clean	1	2	3	4	5
3	Toilet and bathroom of hospitals in Bangladesh are clean.	1	2	3	4	5
4	Operation theater and medical equipments of hospitals in	1	2	3	4	5
	Bangladesh are clean					

Are you satisfied about the Service of Medical Staff in the domestic hospital where you have taken medical services specify your opinion (tick mark)

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Medical staffs in Bangladesh are always ready to fulfill the need of patient	1	2	3	4	5
2	Medical staffs in Bangladesh are gentle and sincere	1	2	3	4	5
3	Medical staffs are responsible about their duties	1	2	3	4	5
4	Medical staffs performs their duties timely	1	2	3	4	5

Are you satisfied about tourism facilities in Bangladesh apart from medical services where you have taken the services (Please provide your opinion through tick mark)

1	Tourism facilities are available together with medical treatment	1	2	3	4	5
	facilities in Bangladesh					
2	Tourism spot are safe and secured in Bangladesh	1	2	3	4	5
3	Political stability prevails in Bangladesh	1	2	3	4	5
4	Accommodation is cheap in Bangladesh	1	2	3	4	5
5	Transportation is very easy in Bangladesh	1	2	3	4	5

6	Local people are friendly and sincere in Bangladesh	1	2	3	4	5

Are you satisfied Availability in the domestic hospitals from where you have taken healthcare services (Please share your opinion thorough tick mark)

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfied
		dissatisfied		
1	2	3	4	5

1	Experienced doctors are easily accessible	1	2	3	4	5
2	Doctors follow up treatment regularly	1	2	3	4	5
3	Adequate number of staffs are available	1	2	3	4	5

19) Are you satisfied with the domestic medical services and why?

(Please share your opinion thorough tick mark)

Very much	Dissatisfied	Neither	Satisfied	Very much
dissatisfied		satisfied nor		satisfie
		dissatisfied		
1	2	3	4	5

1.			
			_

<sup>2.</sup> \_\_\_\_\_

20) How much money did you spend in abroad for y	your medical care?
21) Pleases provide the details of your spending in f	foreign country for medical purpose
Statement	Cost (Taka)
1. Travel costs (Plane hire / bus / train	
2. Doctor's fees	
3. Hospital cost	
4. Medical costs	
5 Savings Charge	
6 operation costs	
7. Examination costs	
8.Hotel cost	
9. Food costs	
10. Internal travel costs	
11. Other (Specify)	
Total	
22) Do you want to go in foreign countries for medi	ical care in near future?
1. Yes	
2. No	
23) Was it easy for you to bear the cost of medical	treatment?
1. Very easy	
2. Easy	
3. Neither easy nor difficult	
4. Difficult	
5. Very difficult	

24) What were the sources of your medical expe	enses? (give the tick any one of them)
1. Household Income	
2. Savings	
3. Borrowings with loan	
4. Borrowings without loan	
5 family / friends	
6 Donation / assistance	
7. Health insurance	
8. Sold assets	
9. Mortgage	
10. Other (specify)	
25) Are you satisfied with the medical services of	of foreign nation?
1. Yes	
2. No	
26) Did you face any obstacle in the foreign cou	ntry?
1. Yes	
2. No	
27) Do you agree that Bangladesh has adequate	medical arrangements?
1. Yes	
2. No	
28) In your opinion, how to improve the medica Bangladesh.	l system and services center in
1	
2	
3	
4	

# **Appendix B: Questionnaire for Physicians**

(Greetings! My name is Munira Sultana. I am the PhD fellow at the Institute of Health Economics of the University of Dhaka. I am conducting a research on "Outbound Medical Tourism from Bangladesh". I request you to give the answer of some question in this regard. This will take few minutes.)

1. Name:
2. Qualification (highest one):
3. Experience:
4. Designation:
5. What type of medical aid do patients seek whilst to a different country?
1. Cancer
2. Cardiovascular
3. Orthopedic
4. Cosmetic surgery
5. Fertility/ IVF
6. ENT
7. Lasik
8. Obesity
9. General surgery
10. Neurology
11. Gastroenterology

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12. Dental

country

	13. Liver di	iseases							
	14. Urology	/							
	15. Psychol	ogical							
	16. Therapy	7							
	17. Wellnes	ss Evaluation							
	18. Compre	ehensive							
	19. Medical	l checkup							
	20. Others:	specify							
6. In	your opinion,	what are the face	tors that affect Bar	ngladeshi p	oatier	nts to	seek	treatr	nent
from	abroad?								
D1		.1 6.11							
Plea	ase response to	the following sta	tements at Likert s	scale.					
	Strongly	Disagree	Neutral	Agre	ee	S	Strong	ly A	gree
	Disagree								
	1	2	3	4				5	
01	Lack of expe	rienced doctors ir	n home country		1	2	3	4	5
02	-	treatment in home			1	2	3	4	5
03			re not available	in-home	1	2	3	4	5
0.5	country	icui iuciiiico u		in nome					
								4	5
04	Better service	es are not provide	d in home country		1	2	3	4	5
04		<del>-</del>	d in home country ovided in home co		1	2 2	3	4	5

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07	High waiting time than other countries	1	2	3	4	5
08	Lack of confidence in the treatment of Bangladesh	1	2	3	4	5
09	The treatment of the home country cannot cure the	1	2	3	4	5
	patients.					

7. Are you satisfied with the health service management system in Bangladesh?

Strongly	Disagree	Neutral	Agree	Strongly Agree
Disagree				
1	2	3	4	5

8. What strategies will you recommend to reduce seeking treatment from abroad?
·
. <u> </u>
i <u> </u>
·

# **Appendix-C:** Excluded Table

Appendix -A-1: Financial Condition of the Patients (self –reported)

Financial	Inc	dia	Singa	pore	Thai	iland	Total		
Condition _	n	%	N	%	n	%	n	%	
Rich	13	13	51	51	26	26	90	30	
Upper middle	16	16	27	27	52	52	95	31.66	
class									
Middle class	50	50	19	19	14	14	83	27.67	
Lower middle	16	16	2	2	8	8	26	8.67	
class									
Poor	5	5	1	1	2	2	8	2.67	
Total	100	100	100	100	100	100	300	100.00	

Source: Primary data

**Appendix A-2: Sources of Income of** 

**Patients' Family** 

Sources of Income	India	Singapore	Thailand	Total
_	%	%	%	%
Service	44	34	37	38.33
Business	28	45	54	42.33
Remittance	4	1	2	2.33
Pension	11	5	3	6.33
Agriculture	2	1	0	1.00
Self-employment	5	6	4	5.00
Others	6	8	0	4.67

Appendix A-3: Types of Visa System used by the Bangladeshi Medical Patients

Type of Visa	India		Singapore		Thailand		Total	
	n	%	N	%	n	%	n	%
Medical	71	71	71	71	66	66	208	69.33
Tourist	26	26	23	23	34	34	83	27.67
Others	3	3	6	6	0	0	9	3.00
Total	100	100	100	100	100	100	300	100.00

Source: Primary Data

**Appendix A-4: Types of the Medical Treatment in Other Country** 

Type of	Inc	dia	Singa	apore	Thai	iland	Total		
Medical Treatment	n	%	N	%	n	%	n	%	
In patient	60	60	50	50	54	54	164	54.67	
Out patient	40	40	50	50	46	46	136	45.33	
Both	0	0	0	0	0	0	0	0	
Total	100	100	100	100	100	100	300	100.00	

Source: Primary Data

Appendix A-5: Average length of Stay in Other Country for Medical Treatment

Length of stay	India	Thailand	Singapore
Average	15.29	17.81	16.82
Minimum	3	7	7
Maximum	120	100	90

**Appendix A-6: Taking Treatment from Outside of the Home Country in Future** 

Taking	Ind	lia	Singa	apore	Thai	land	T	otal
treatment in	N	%	N	%	N	%	N	%
future out of								
country								
Yes	90	90	85	85	86	86	261	87
No	10	10	15	15	14	14	39	13
Total	100	100	100	100	100	100	300	100.00

Source: Primary data

Appendix A-7: Opinion about Bearing Medical Treatment Cost

<b>Opinion about</b>	In	dia	Singa	apore	Thai	iland	T	otal
<b>Bearing Medical</b>	N	%	N	%	N	%	N	%
<b>Treatment Cost</b>								
Very Easy	4	4	5	5	8	8	17	5.67
Easy	24	24	20	20	32	34	78	26.00
<b>Neither Easy nor</b>	66	66	50	50	34	32	148	49.33
Difficult								
Difficult	6	6	21	21	22	22	49	16.33
Very difficult	0	0	4	4	4	4	8	2.67
Total	100	100	100	100	100	100	300	100.00

**Appendix A-8: Sources of Medical Treatment Cost** 

Sources of Medical	India	Singapore	Thailand	Total
<b>Treatment Cost</b>	%	%	%	%
Income	30	18	36	28.00
Savings	44	35	35	38.00
<b>Borrowings with interest</b>	3	4	2	3.00

<b>Borrowings without interest</b>	4	9	1	4.67
Family/Friends	11	20	16	15.67
<b>Donations</b>	6	4	2	4.00
<b>Health Insurance</b>	0	1	1	0.67
<b>Sold Property</b>	2	8	7	5.67
<b>Mortgaged Property</b>	0	1	0	0.33
Others	0	0	0	0.00

Source: Primary data

Appendix A-9: Adequateness of medical treatment in Bangladesh

Medical	In	dia	Singa	apore	Thai	land	T	otal
Treatment	n	%	n	%	n	%	n	%
Taken in								
Bangladesh								
Yes	04	04	10	10	04	04	18	6.00
No	96	96	90	90	96	96	282	94.00
Total	100	100	100	100	100	100	300	100.00

AppendixA-10: Mean Score and Standard Deviation of respondents' evaluation of quality of medical care

Items	India		Singa	pore	Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Doctors visited in abroad have	4.06	.253	4.34	.516	4.39	.510
heard and understood symptom						
of your disease						
Doctors visited in abroad have	4.20	.664	4.21	.591	4.17	.682
answered all the questions related						
to your disease						

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Doctors visited in abroad have	4.23	.430	4.49	.577	4.34	.574
examined you with care						
Doctors visited in abroad have	4.23	.430	4.24	.621	4.09	.683
informed you the process of						
treatment in details						
Doctors visited in abroad have	4.26	.449	4.33	.551	4.28	.682
advised you on the basis of your						
disease's symptom						
Doctors visited in abroad have	4.30	.595	4.15	.672	3.84	.800
clarified you the reasons for						
giving pathological test						
Doctors visited in abroad are	4.39	.406	4.25	.505	4.30	.581
careful and sincere to their						
patients						
Doctors visited in abroad keep	4.26	.639	4.04	.827	4.00	.840
confidentiality during medical						
treatment						
Doctors visited in abroad are	4.23	.430	4.25	.557	4.26	.690
capable of identifying your						
problems						
Doctors visited in abroad have	3.83	.698	4.17	.620	4.27	.651
provided you right medical						
treatment						

Appendix A-11: Mean Score and Standard Deviation of respondents' evaluation of Cost of medical care

Items	India		Singa	pore	Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Doctors' fee in abroad are cost-	4.13	.613	4.10	.898	4.12	.965
effective						
Diagnostics fee in abroad are	3.92	1.00	4.05	.649	4.17	.573
cost-effective						
Transportation fare in abroad	4.21	.714	3.84	.851	3.97	.948
are cost effective						
Medicine cost/ hospitals cost in	3.93	.555	4.00	.839	4.05	.479
abroad are low						

AppendixA-12: Mean Score and Standard Deviation of respondents' evaluation of treatment facilities

Items	India		Singa	apore	Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
There is an opportunity for medical	4.11	.423	4.12	.755	4.24	.653
treatment of all kinds of disease in						
abroad						
Recognized hospital/ Medical facility	4.05	.479	4.26	.548	4.28	.697
reputation						
The quality of disease diagnosis is	4.28	.514	4.39	.690	4.39	.649
high because of using advanced						
technology in abroad						
Positive reputation of physicians and	4.14	.426	4.13	.747	4.11	.694
staffs in abroad.						
Advanced medical equipments are	4.20	.587	4.32	.649	4.42	.622
available in the hospitals of abroad						

Appendix A-13: Mean Score and Standard Deviation of respondents' evaluation of environmental aspects

Items	India		Singa	pore	Thailand	
·	Mean	S.D.	Mean	S.D.	Mean	S.D.
Hospitals in abroad are attractive	3.92	.661	4.17	.739	4.27	.750
Cabin, bed and floor of hospitals in	4.31	.464	4.31	.662	4.38	.615
abroad are clean						
Toilet and bathroom of hospitals in	4.13	.463	4.34	.669	4.39	.649
abroad are clean						
Operation theater and medical	3.97	.626	4.26	.629	4.31	.734
equipments of hospitals in abroad						
are clean						

Appendix A-14: Mean Score and Standard Deviation of respondents' evaluation of tourism facilities

Items	India		Singapore		Thailand	
	Mean	S.D.	Mean	S.D.	Mea	S.D.
					n	
Tourism facilities are available together	3.93	.794	4.27	.617	4.34	.639
with medical treatment facilities in						
abroad						
Tourism spot are safe and secured in	3.99	.577	4.29	.686	4.02	.765
abroad						
Political stability prevails in abroad	4.07	.432	3.97	.892	3.94	.814
Transportation is very easy in abroad	4.15	.609	4.23	.633	3.99	.834
Accommodation is cheap in abroad	3.95	.500	3.47	.904	3.54	1.104
Local people are friendly and sincere in abroad	4.08	.544	3.69	.747	3.83	.943

Appendix A-15: Mean Score and Standard Deviation of respondents' evaluation of the service of medical staff

Items	India		Singa	pore	Thailand	
-	Mea	S.D.	Mean	S.D.	Mea	S.D.
	n				n	
Medical staffs in abroad are always ready	4.07	.436	4.10	.559	4.18	.743
to fulfill the need of patients						
Medical staffs in abroad are gentle and	4.21	.498	4.26	.524	4.35	.715
sincere						
Medical staffs are responsible about their	4.15	.500	4.28	.604	4.27	.664
duties						
Medical staffs performs their duties	4.15	.500	4.27	.547	4.32	.708
timely						

Appendix A-16: Mean Score and Standard Deviation of respondents' evaluation of Availability (Doctor/ Medical staff)

Items	India		Singa	pore	Thailand	
	Mea	S.D.	Mean	S.D.	Mean	S.D.
	n					
Experienced doctors are easily accessible	4.31	.427	4.05	.635	4.29	.664
Adequate number of Medical staffs are available	4.17	.450	4.24	.637	4.18	.700
Doctors follow up treatment regularly	4.19	.750	4.19	.573	4.19	.789

Appendix A-17: Mean Score and Standard Deviation of respondents' evaluation of quality of medical care

Items	Ind	lia	Sing	apore	Tha	iland
	Mean	S.D.	Mea	S.D.	Mean	S.D.
			n			
Doctors in Bangladesh have heard and	2.18	.557	2.66	.713	2.29	.728
understood symptom of your disease						
Doctors in Bangladesh have answered all	2.13	.661	2.54	.770	2.31	.580
the questions related to your disease						
Doctors in Bangladesh have examined	2.15	.575	2.81	.917	2.07	.607
you with care						
Doctors in Bangladesh have informed	2.18	.672	2.70	.846	2.29	.913
you the process of treatment in details						
Doctors in Bangladesh have advised you	2.20	.696	2.63	.949	2.37	.799
on the basis of your disease's symptom						
Doctors in Bangladesh have clarified you	2.22	.732	2.57	.923	2.33	1.005
the reasons for giving pathological test						
Doctors in Bangladesh are careful and	2.42	.793	2.70	.904	2.43	.912
sincere to their patients						
Doctors in Bangladesh keep	2.61	.973	3.06	1.052	2.36	.689
confidentiality during medical treatment						
Doctors in Bangladesh are capable of	2.16	.563	2.83	.899	2.71	.987
identifying your problems						
Doctors in Bangladesh have provided	2.15	.687	2.64	.810	2.24	.726
you right medical treatment						

AppendixA-18: Mean Score and Standard Deviation of respondents' evaluation of cost of medical care

Items	India		Singapore		Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Doctors' fee in Bangladesh are cost-	2.09	.604	2.73	.839	2.27	.750
effective						
Diagnostics fee in Bangladesh are cost-	1.99	.541	2.50	.846	2.24	.854
effective						
Transportation fare in Bangladesh are	2.15	.687	2.86	1.04	2.29	.924
cost effective				4		
Medicine cost/ hospitals cost in	2.13	.661	2.68	.874	2.31	.837
Bangladesh are low						

Appendix A-19: Mean Score and Standard Deviation of respondents' evaluation of treatment facilities

Items	In	dia	Singapore		Thailand	
	Mea S.D.		Mean	S.D.	Mea	S.D.
	n				n	
There is an opportunity for medical	2.06	.488	2.48	.893	2.28	.853
treatment of all kinds of disease in						
Bangladesh						
Recognized hospital / Medical facility	2.25	.719	2.71	.913	2.17	.899
reputation						
The quality of disease diagnosis is high	2.21	.671	2.52	.881	2.12	.867
because of using advanced technology in						
Bangladesh						
Positive reputation of physicians and staff	2.19	.630	2.33	.829	2.20	.921
in Bangladesh						

Advanced medical equipments are 2.34 .806 2.76 .911 2.53 .979 available in the hospitals of Bangladesh

Appendix A-20 Mean Score and Standard Deviation of respondents' evaluation of environmental aspects

Items	In	dia	Singapor		re Thailan	
	Mean	S.D.	Mean	S.D.	Mea	S.D.
					n	
Hospitals in Bangladesh are attractive	2.66	1.036	2.73	.897	2.07	.607
Cabin, bed and floor of hospitals in	2.63	1.021	2.70	.989	2.12	.685
Bangladesh are clean						
Toilet and bathroom of hospitals in	2.57	1.046	2.47	.940	2.01	.846
Bangladesh are clean						
Operation theater and medical	2.72	.910	2.92	.971	2.43	.956
equipments of hospitals in						
Bangladesh are clean						

Appendix A-21: Mean Score and Standard Deviation of respondents' evaluation of tourism facilities

Items	Ind	ia	Singapo		pore Thail:	
-	Mean	S.D.	Mean	S.D.	Mea	S.D.
					n	
Tourism facilities are available together	2.09	.604	2.18	.557	2.27	.639
with medical treatment facilities in						
Bangladesh						
Tourism spot are safe and secured in	1.99	.541	2.13	.661	2.29	.814
Bangladesh						
Political stability prevails in	2.15	.687	2.15	.575	2.24	.765
Bangladesh						

Transportation	is ver	y easy	in	2.13	.661	2.32	.672	2.31	.834
Bangladesh									
Accommodation	is	cheap	in	2.06	.488	2.20	.696	2.26	1.104
Bangladesh									
Local people are	friendly	and sincer	e in	2.34	.806	2.22	.732	2.25	.943
Bangladesh									

AppendixA-22: Mean Score and Standard Deviation of respondents' evaluation of the service of medical staff

Items	In	India S		Singapore		iland
	Mean	S.D.	Mean	S.D.	Mea	S.D.
					n	
Medical staffs in Bangladesh are	2.60	.498	2.18	.696	2.15	.664
always ready to fulfill the need of						
patients						
Medical staffs in Bangladesh are	2.11	.436	2.24	.646	2.57	.715
gentle and sincere						
Medical staffs are responsible about	2.27	.500	2.37	.604	2.01	.664
their duties						
Medical staffs performs their duties	2.30	.500	2.03	.547	2.25	.708
timely						

Appendix A-23 Mean Score and Standard Deviation of respondents' evaluation Availability (doctor/medical staff).

Items	Inc	dia	Singapore		oore Thailand	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Experienced doctors are	2.11	.633	2.44	.902	2.40	1.058
easily accessible						

Adequate	number	of	2.63	1.021	2.24	.900	2.30	.915
medical staf	f are availal	ole						
Doctors	follow	up	2.48	.768	2.27	.935	2.32	.814
treatment re	gularly							

# Appendix A-24: Variables used in the study

No.	Original Variables	Communalities (Foreign)
1	Doctors visited in abroad have heard and understood symptom of your disease	.740
2	Doctors visited in abroad have answered all the questions related to your disease	.825
3	Doctors visited in abroad have examined you with care	.683
4	Doctors visited in have informed you the process of treatment in details	.833
5	Doctors visited in abroad have advised you on the basis of your disease's symptom	.747
6	Doctors visited in abroad have clarified you the reasons for giving pathological test	.798
7	Doctors visited in abroad are careful and sincere to their patients	.625
8	Doctors visited in abroad keep confidentiality during medical treatment	.894
9	Doctors visited in abroad are capable of identifying your problems	.800

	Doctors visited in abroad have provided you right medical	.736
10	treatment	
11	Doctors' fee in abroad are cost-effective	.731
12	Diagnostics fee in abroad are cost-effective	.852
13	Transportation fare in abroad are cost effective	.733
14	Medicine cost/ hospitals cost in abroad are low	0.872
15	There is an opportunity for medical treatment of all kinds of disease in abroad	0.728
16	Recognized hospital / Medical facility reputation	0.774
	The quality of disease diagnosis is high because of using	0844
17	advanced technology in abroad	
18	Positive reputation of physicians and staff in abroad	.702
19	Advanced medical equipments/medical accessories are available in the hospitals of abroad	.839
20	Hospitals in abroad are attractive	0.729
21	Cabin, bed and floor of hospitals in abroad are clean	0.853
22	Toilet and bathroom of hospitals in abroad are clean	0.722
23	Operation theater and medical equipments of hospitals in	.862
23	abroad are clean	
24	Yard of hospitals in abroad are clean*	-
25	Doctors are clean in appearance*	<u>-</u>
26	Medical staffs are clean in appearance*	-

	Medical staffs in abroad are always ready to fulfill the need of	.847
27	patients	
28	Medical staffs in abroad are gentle and sincere	.626
29	Medical staffs are responsible about their duties	.733
30	Medical staffs performs their duties timely	.643
31	Tourism facilities are available together with medical treatment facilities in abroad	.731
32	Tourism spot are safe and secured in abroad	.877
33.	Political stability prevails in abroad	.752
34	Transportation is very easy in abroad	.859
35	Accommodation is cheap in abroad	.732
36	Local people are friendly and sincere in abroad	.724
37	Experienced doctors are easily accessible	.722
38	Medical staffs are available	.747
39	Availability of bed/ Cabin*	
40	.Doctors are present during visiting hours*	-
41	Doctors follow up treatment regularly	.721
42	You feel safe to the doctors in abroad*.	-

<sup>\*</sup> Variables Excluded for high multi collinearity