REASONS FOR THE WITHDRAWAL OF FOREIGN SPECIALIST DOCTORS FROM PUBLIC HEALTH FACILITIES IN THE ISLANDS OF MALDIVES

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NOVEMBER, 2013

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A project submitted in partial fulfillment of the requirements for the degree
Of Bachelors in Primary Health Care

Faculty of Health Sciences
The Maldives National University
NOVEMBER, 2013

DECLARATION

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I hereby declare that this Project is the result of my own work, except for quotations and summaries which have been dully acknowledged.

Signature Date

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ABSTRACT

Maldives is facing the problem of local human resource problem and currently the lack of medical specialist shortage crisis reached epidemic level. This cross sectional study aims to probe the reasons for withdrawing specialist doctors to work in the islands of Maldives. The subjects for this study were all specialist foreign doctors who work at the public health facilities of all islands of Maldives excluding the capital male' city. A total (n= 14, 28.57%) subjects were (11 males, 3 females) participated voluntarily in this study.

Even though there was good association between salary and the problem, insecure working environment was found to be the main cause of the problem from this study. This study also reveals that there were other contributing factors that needed to be probed including poor transportation system and lack of internet and other technologies in the islands.

Key Words:

Brain drain

ACKNOWLWDGE MENTS

All praise to be Allah and with his blessings I am able to complete this wonderful work. I am thankful to Dean Mrs. Aishath Shaaheen Ismail, HOD Mr.Muthaau Shaheem, Co-ordinator Mrs. Aisthath Niyaf, Lecturer Mr. Mohamed Zaid for their continuous guiding efforts throughout the study. I am also extremely thankful to my dear supervisor for her personal commitment and academic guidance to bring this study a reality.

List of Abbreviations

AAAH-Alif Alif Atoll Hospital

AAAC- Alif Alif Atoll Council

HAAH- Haa Alif Atoll Hospital

HAAC- Haa Alif Atoll Council

KRU- Kuludufushi Regional Hospital

HDHAC- Haa Dhhaal Atoll Council

SHAH- Shaviyani Atoll Hospital

SHAC- Shaviyani Atoll Council

NAH- Noonu Atoll Hospital

NAC- Noonu Atoll Council

URH- Ungoofaaru Regional Hospital

RAC- Raa Atoll Council

BAH- Baa Atoll Hospital

BAC- BaaAtoll Council

LHAH- Lhaviyani Atoll Hospital

LHAC- Lhaviyani Atoll Council

Vaavu- Vaavul Atoll Hospital

VAC- Vaavu Atoll Council

MRH- Muli Regional Hospital

MAC- Meemu Atoll Council

FAH- Faaf Atoll Hospital

FAC-Faaf Atoll Council

DAH- Dhaall Atoll Hospital

DAC- Dhaal Dhaal Atoll Council

THAH- Thaa Atoll Hospital

THAC- Thaa Atoll Council

GRH- Gan Regional Hospital

LAC- Laam Dhaal Atoll Council

GAAH- Gaaf ALif Atoll Hospital

GAAC- Gaaf Alif Atoll Council

DRSMH- Dr.Samad Memorial l Hospital

GDAC- Gaaf Dhaal Atoll Council

HRH- Hithadhoo Regional Hospital

ACC -Addu City Council

GNAH- Ghaviyani Atoll Hospital

GNAC- Ghaviyani Atoll Council

MOH- Ministry of Health

WHO- World Health Organization

MNU- Maldives National University

FHS- Faculty of Health Sciences

Contents

CHAPTER 1

INTRODUCTION

This dissertation project is about the reasons for the withdrawal of foreign doctors (specialist) from the public health facilities in the atolls of Maldives. The main purpose of this project is to study the elementary reasons why foreign specialist doctors leave government health facilities in the islands of Maldives.

This project is divided mainly to five chapters. Chapter one contains background to the study, the problem statement, objectives, research questions, hypothesis, significance of the study, scope and the definitions of terms. Chapter two has the review of literature, theoretical frame -work, previous studies and the methodological issues arise in the study. Chapter three contains research method, research design, population and sampling, instrumentation, the data collection techniques and data analysis frame work.

Chapter four contains analysis and the display of results.

Chapter five has the summary of main findings, discussion, implications, limitations and the direction for future research in the topic.

1.1 Background to the Study

The process of brain drain is a universal phenomena and a global concern. Maldives is a country depending on foreign professionals in each filed of work. Brain Drain of health professionals is a global problem and especially medical doctors a much crucial problem for the survival of vulnerable health systems. The establishment of technical education was very slow in the Maldives, making school leavers to go abroad for their higher studies. The Maldives National University (MNU) is the only institution to train health professionals within the nation and till today there is no medical school or MBBS program to start. The oldest faculty or even the oldest institution in the Nation is said to be the Faculty of Health Sciences (FHS). Maldives Allied Health Sciences was born in 1980. There is strong unwillingness to work in island health facilities by the foreign trained local doctors. The unequal distribution of the population in 184 inhabited islands in a total of 20 atolls makes it more difficult for the policy makers to provide primary health care and cater for the demands of the population. For these

reasons Maldives have to rely on foreign health professionals especially Doctors. This study aims to probe the reasons for the withdrawal of foreign doctors from public health facilities in the islands of Maldives.

1.2 Problem Statement

The process of brain drain is a universal phenomenal. Maldives is a country depending on foreign professionals in each filed of work. The establishment of technical education was very slow in the nation making school leavers to go abroad for their higher studies. The Maldives national university (MNU) is the only institution to train health professionals within the nation and till today there is no medical school or MBBS program to start. There is strong unwillingness to work in island health facilities by the foreign trained local doctors. The unequal distribution of the population in 196 inhabited islands in a total of 26 atolls makes it more difficult for the policy makers to provide primary health care and cater for the demands of the population. For these reasons Maldives have to rely on foreign health professionals especially Doctors. This study aims to probe the reasons for the withdrawal of foreign doctors from public health facilities in the islands of Maldives.

Maldives is a country having scarcity of resources especially we do not have adequate facilities or our own human resources within the country. We are forced to go overseas for higher education and training. When we talk about training health care work force, we have the capacity to train nurses to Bachelors level, lab technicians to diploma level, pharmacist to diploma, primary health care workers to bachelor level. Most importantly till today we do not have any medical school which provides MBBS course within the country and further more for post graduate studies also we have to go abroad.

When talking about the issues of doctors in the scattered islands of Maldives, two things were evident. Maldives is a developing country benefited by the process of Brain Drain of medical specialist. Another factor is that the Maldives is the only country in Asia without a medical school. So it was observed that Maldives have an advantage at the same time a similar disadvantage for its vital health system to survive.

Future resourcing of graduate training opportunities is crucial to preventing emigration as graduate numbers increase. The lesser importance put on salary by younger doctors may be an indicator of the success of salary supplements. In order to retain doctors at district levels for longer, consideration should be given to the introduction of general practice/family medicine as a specialty. Returning specialists should be encouraged to engage with younger colleagues as role models and mentors (Bailey et al, 2012).

1.3 Objectives of the study

The general objective of this study is to identify the reasons for the withdrawal of foreign specialist doctors from public health facilities in the islands of Maldives.

The specific objectives of this study are:

- To identify the reasons for foreign specialist doctors to leave island health facilities in the atolls of Maldives.
- To find out- weather new doctors get valid information about Maldives before they come to work in the Maldives.
- To find out the current difficulties doctors face in the public health facilities in the islands.
- To identify the major donor specialist doctors for Maldives health system.

1.4 Research Questions and Hypotheses

This cross sectional study is to explore the reasons for the withdrawal of foreign doctors (specialist) from the public health facilities in the atolls of Maldives.

$\mathbf{H_o}$ Withdrawal of foreign specialist doctors from public health facilities in the islands of Maldives was insecure working conditions.

$\boldsymbol{H_a}$ Withdrawal of foreign specialist doctors from public health facilities in the islands of Maldives was other reasons.

1.5 Significance of the study

For this study, a series of interviews with the key stake holders were involved in recruitment of foreign doctors and other specialties in the field were taken. According to the data, interviews and my personal observations, I found that there is a requirement of this study on three main reasons.

As I have mentioned before, the Maldives is the only country in Asia without a medical school (public or Private). Maldivian students are forced to go abroad for medical training. There are few government scholarships to fulfill the demands of Maldivian people in terms of health care.

Number two is that data reveals in 2008 (5 years back) there was a good pool of foreign doctors in the Maldives. Most of the health facilities were almost equipped with a variety of doctors and at central level in the Ministry at Male' they had a group of spare doctors to fill the gap of doctors who would go for annual and other leaves.

The policy makers expressed their views on the newly installed health co-operation model, which was a trial for the Maldives. These co-operations were allowed to recruit doctors themselves from recruitment agencies abroad. There were negative impacts of this. For example the southern health services cooperation paid 40,000 MVR per month for a specialist while the same specialist in Northern Health services Co-operation get 23,000 MVR per month at the same point in time. The current statistics shows that we have crisis of doctors shortage especially specialist doctors shortage in the islands (rural or village side) which is comprises of a large proportion of the population of Maldives. Recruitment section of Ministry of health agrees that the situation of providing doctors for the islands is difficult and the situation is bad than it was five years back. So we are going backwards in terms of filling human resource in the islands.

This is the first study done in the Maldives to probe the issue of brain drain of doctors whether it is advantage or a disadvantage to the Maldivian Health system. In the Faculty of Health Sciences (FHS) of Maldives National University (MNU) they were successfully conducting some allied health programs (Nursing, Lab-technology, Pharmacist, Psychology, Social Service, Traditional Medicine, Midwifery, and primary health care workers) and according to the recruitment department, these programs will cater for the health system needs. For example they have stopped recruiting Nurses from abroad in the year 2013.

1.6 Scope of the study

Brain Drain of health professionals is a global problem and especially medical doctors a much crucial problem for the survival of vulnerable health systems like the Maldives.

The establishment of technical education was very slow in the Maldives, making school leavers to go abroad for their higher studies. The Maldives National University (MNU) is the only institution to train health professionals within the nation and till today there is no medical school or MBBS program to start. The oldest faculty or even

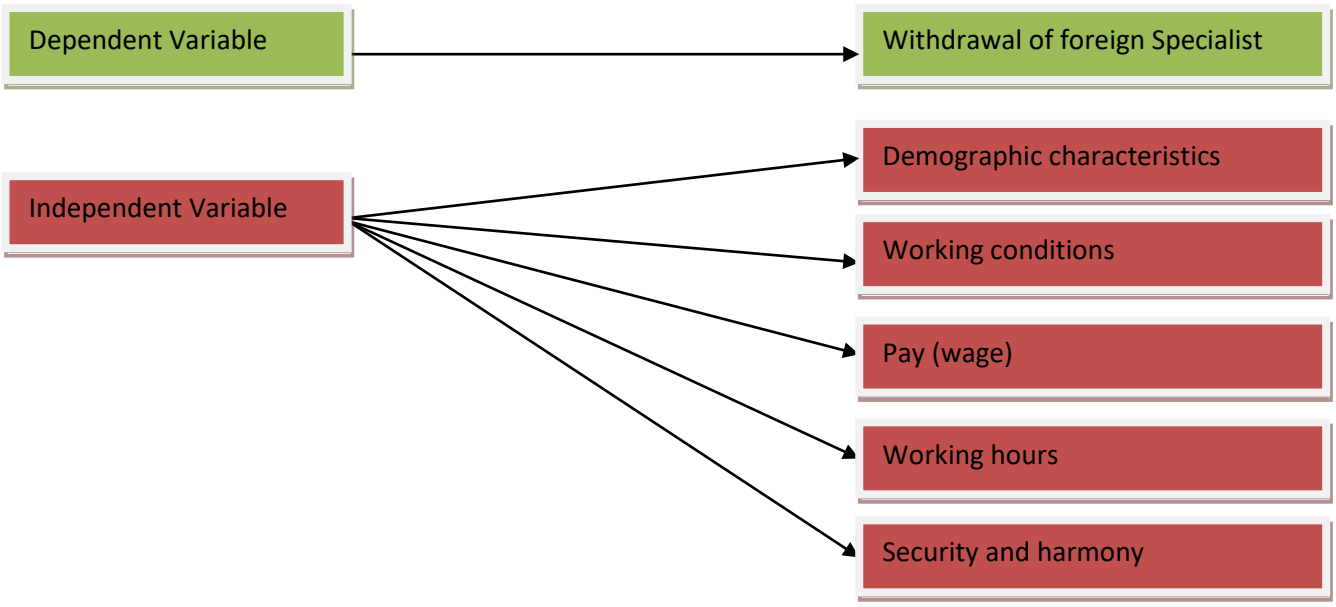
the oldest institution in the Nation is said to be the Faculty of Health Sciences (FHS). Maldives Allied Health Sciences was born in 1980.

This specific study of mine is a simple study and first of its type to conducted in the Maldives. Like other countries which have their own trained medical and other specialties, the Maldives health system is vulnerable to trends of globalized world and never immune to its influences. In this study I have tried to explore the reasons and desire of foreign medical specialist who work in the public health facilities in the islands of Maldives. To explore the desires of other allied health professionals like Nurses, Lab-technologists, Physiotherapists, Nurses etc are beyond the scope of this study.

CHAPTER 2

REVIEW OF LTERATURE

2.1 Conceptual Framework



This cross sectional study is done in nineteen(19) public health facilities in the islands of Maldives from 20th September to 10th October 2013by selecting all forty nine (49) foreign specialist doctor present at the time of sampling. This cross sectional study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives. This paper contain mainly 5 chapters namely introduction, review of literature, methodology, results, discussion and conclusion respectively.

Brain drain is “the loss of human capital through the emigration of trained or talented individuals to another country or geographic area” (Yang, 2007). It is also defined as “Skilled labor migration from one area or region to another that is commonly associated with the flow of highly skilled and educated workers from areas of low pay to areas of high pay “(Quinn, Mensah, Hnilicova & Bencho, 2011).

This phenomenon can be of two types. One is that Brain drain occurs within a country. For example the Brain Drain of health workers from rural to urban areas. This is a problem faced by almost all the countries of the world. Number two is the brain drain of health workers between countries (Yang, 2007).

Few nations are said to be unaffected by brain drain of health care workers as source nations or recipient countries (Quinn, Mensah, Hnilicova & Bencho, 2011).

Brain drain is said to be due to the flow of health workers from countries and within countries and more specifically it is caused by a cascade of physician and nurse migration. The emigration of physicians from the developed countries like UK, Canada and Australia results in a shortage of physicians in these countries. The consequence is these developed countries in turn attracts physicians from low-income countries like India, Pakistan, Philippines and South Africa, causes shortages there. In this context the immigrating country is called the recipient country and the emigrating country is called the donor country (Yang, 2007).

Looking to the history of this global phenomenon, in 960s many world nations changed their policy to expand their welfare states. The result of this is recruitment of health care workers from abroad. The world Health Organization (WHO) raised its concerns on the issue. WHO took an in depth analysis of the flow and stocks of physicians and Nurses in 40 nations. WHO found out that in 1972 about 140,000 Physicians (6%) of the world were located in foreign countries.

Also WHO found that about 86% of migrated physicians were located in five main countries that were the recipient nations of Brain drain. These counties were namely United Kingdom (UK), United States (US), Australia, Canada and Germany. In the case of Nurses the migration percentage was 5 but the recipient nations were the same exception being Australia. There was a major concern of mismanagement of accurate management of data for the effective management of migration management.

Another trend observed is that countries like Cuba and China were sending their health professionals to abroad to earn foreign currency.

The migration of skilled labor is a global phenomenon. International Medical Graduates (IMG) plays an important role in health work force of many countries. The usual pattern of brain drain is from low income countries to high income countries. The most beneficiary countries in the world include USA, UK, Australia, Canada and Saudi Arabia. Literature indicates that in these countries almost 20 to 30 % of

physician work force accounts for them. According to Clemens there is an inverse relationship between physician migration and the economic and political stability of nations.

The migration of skilled labor is a major global trend among current migration patterns, which is being propelled by the development of knowledge economies and by the emergence of a global labor market for skilled professionals. This is also a major concern for many under developed and developing countries, which fear the negative impacts or the loss of skilled nationals in terms of economic and human resource development. Brain drain is a common term used in health policy forums to address this issue (Yang, 2007).

Brain drain is concerned for every country in varying lengths. The brain drain of physicians and nurses in low-income countries is an alarming bell because the existing shortage of health care workers who are crucial to the adequate delivery of basic health services in their countries of origin. Also Studies have shown that an increased health care worker to population ratio is associated with all increased survival rate of women during childbirth and children in early infancy4. The World Health Organization has estimated that fifty-seven countries, mostly in Africa and Asia, suffer from severe health workforce crises.

In addition to this the distribution of health care workers in the world is severely disproportional to the need for health care workers. Example, sub-Saharan Africa having 240/0 of world's greatest disease burden, 11% of the world's population, but only 3% of the world's health workers. The shortage of health care workers is also major barrier towards achieving the Millennium Development Goals (MDGs).The loss of health care workforce is not just a matter of numbers. It is a matter of the loss of talent and intellectual capacity (Yang, 2007).

Literature describes the receiving countries as recipient, while the losing countries as donors. The major donor countries found to be India, Pakistan, Philippines, Cuba, Bangladesh and the Sub-Saharan African Countries.

Looking into statistics of, over the past fifty years, the U.S., the United Kingdom, Canada, and Australia have been the largest recipient countries. U.S statistics shows that almost 25% of physicians and 10% of the nurses are foreign born and trained. It is also estimated that of those 25% of physicians 60.2% of them emigrated from low-income countries like India 4.9%, Philippines 2.1 % and Pakistan 1.2%. It is estimated that about 80% of foreign Nurses in the U.S. are from low income countries (Yang, 2007).

Statistics shows the magnitude of the problem of brain drain. When we look at US between1963 to 1979, they have 60,000 Foreign Medical Graduates (FMG). The Canadian authorities from 1961 to 1975 have allowed 12,000 FMG. The British

statistics show that between 1966 to 1974 British authorities have allowed 12,640 FMG (Physicians) to work there. In 1972 WHO estimate shows that there will be a net loss of 70,000 Physicians from developing countries to developed countries. In the years 1966 to 1975 were experienced as the peak period of physician migration and then there was a steady slow in the late 1970s. Policy makers took action for the issue. There were a number of medical schools established in many countries to become self sufficient of the process of brain drain (Gupta, Wright & Flis, 2008).

Some catalysts factors were found to facilitate in brain drain of health care workers especially doctors. The Trans-Tasman travel arrangement provides free labor flow between Australia and New Zealand. Also there is a free flow of health workers between Finland, Denmark, Norway, Iceland and Sweden (The Nordic Passport Free Trade Agreement called the NAFTA). Another is that the European Union (EU) is promoting and encouraging free movement of labor within the EU especially in certain regions and sectors.

2.2 Previous studies

Looking into the studies conducted in the topic, a variety of findings was evident. India is the country having the maximum number of medical schools (public and private) in the world and the highest number of annual medical graduates (MG) in the world. India has a total of 270 medical schools and some of 28,158 doctors graduate every year from these schools. The 3 Indian states, Karnataka produces 6755 MG, Andhra Pradesh 6350 and Tamil Nadu 6215. When sum these states, the total number of MG totals 19320. When we have a look at Medical Post graduate (MPG) rates the 3 states Karnataka have 3286, Maharashtra 3108 and Tamil Nadu 2392. Totally these 3 states produce 8786 Medical Graduates per year which could satisfy the Indian needs easily (Sinha, 2012).

According to the Joint secretary to the Health Minister Dr.Vishwas, there were a total of 750,000 doctors registered in Indian Medical Council (IMC), 550,000 doctors are practicing and 200,000 doctors were not working any more. Also there were 10.7 lakh nurses registered in IMC, but only 4.7 lakh were currently active. According to the vision of health Ministry currently there is 1 doctor for 2000 population but they wish to have 1 doctor for every 1000 people. The PGM seats have increased from 13,043 in 2008 to 22194 in 2012. Also thy have put 46 new medical colleges from 2009 to 2012 to address the issue. The WHO recommended norm of doctors to health workers is 23/25 per every 10,000 population. India has 6 doctors, Nurses and midwives (health workers) 13 per every 10.000 population. There were a total of 27,000 MBBS graduates in India but in fact 75% of these doctors were located in cities while 70% of the patients in need of doctors were located in villages. There is concerns to cater the demands of 3.1 million HIV infected patients and 800,000 TB

cases in India. Only 1% of the Indian population is covered by health Insurance. The doctor's to population ratio in India in 2005 was 1: 1722 (Bagchi, 2005).

A qualitative study done in USA using 25 foreign doctors which does not meet physician ratio of 2 per 1000 population reveals 4 themes for their main reason for leaving homeland. They were individual circumstances, act of migration at home and destination, inherent conflicts and effects of policies (Chen, Smith, Berg, Gozu, Rulisa, & Curry, 2011).

In 2004 in United Kingdom, a postal questionnaire surveys was conducted by using 2727 doctors to study the reasons given by doctors trained in the United Kingdom for their choices for leaving medical practice in UK. This study reveals that 65.2% (1777) did not want work in UK, 16% (212) said they were not going to practice medicine any more in UK. Having a look at the reasons given by the respondents it was found that those who preferred leaving the UK and practice in another country as a reason of lifestyle choices 65.1% (682) of which 412 females and 270 males. The second factor is working condition which is 41.4% of which 214 females and 219 are males. Looking to the reason for leaving medical practice 75.3% replied working conditions of which 114 were females and 210 were males. Second reason was lifestyle choices, 22.6% of which 47 were females and 16 were males. The last comes work related purposes which comprises of 8.6% (Moss, Lambert, Goldacre & Lee, 2004).

A study in the New Zealand reveals last 15 years the tuition fees of medical schools were on the rise resulting high student debts of approximately NZ$60,000. This had have influenced them to migrate to other countries. Although participants have said they wish to spent maximum of their career at home, 65% indicated to leave NZ within 3 years time.

In a similar survey of New Zealand in 2001, 82% of medical students in started that they want to leave NZ shortly and 40% stated that the reason was debt (Moore, Gale, Dew & Simmers, 2006).

A study conducted in Norway to identify the relation between current place of work (area of the country) and factors that might possibly represent doctor geographical attachments in a sample of 322 Norwegian medical specialists. This study reveals that location of hospital residency, age and geographical origin of spouse were associated with current location. Geographical attachment seems to influence doctors' location choices from start of medical school until the end of their residency. The probability that a doctor shall locate in peripheral areas may increase from less than 10% to more than 50% if the doctor has the residency training in the periphery. Hence, favoring entrance to medical schools of students from the undeserved areas, and location of graduate and postgraduate medical training in the underserved areas, as far as it is feasible while still maintaining medical standards, is suggested by the study (Forde &Kristiansen, 1992).

A study in Limpopo province of SA shows that not a single factor could retain specialist in rural health facilities. The desires of doctors in rural settings include high salary, rural allowances, improve hospital accommodations, ensure career progression, improving hospital infrastructure, availability of medical equipments and medicines (Kotzee & Couper, 2006).

Another study in Sub-Saharan Africa (SSA) shows that it has 25% of Global Burden of Diseases (GBD) but 3% world Health care workers to provide services and 32 countries of Sub-Saharan African countries do not meet the WHO minimum recommended number of 23 Heath Care Workers HCW) per 10,000 population (Kasper& Bajunirwe, 2012).

A qualitative study was conducted in The African Nation of Malawi in 2005 by using the national Assembly's data to find out the cause of emigrating and leaving Malawian Public sector by using the members of parliament. There were several reasons proposed for the cause including the growth of private sector and offering attractive remuneration which is non- competitive to government salaries and emigration to countries like UK, Saudi Arabia and South Africa and not least the wastage of health professionals to other sectors was considered as a reason (Muula, 2005).

A study in Iraq showed the following findings. Repel factors were poor working conditions instability, political and social conflict, war, low income, lack of health care policy, poor PG opportunities, personal reasons and poor health care management. The attracting factors for destination countries were identified as safe working environment, political and social stability, high income, advance training opportunities, better quality of life, access to technology, overall standard pay ratio for work load (Quinn, Mensah, Hnilicova & Bencho, 2011).

Looking into Philippines, literature shows that the government promotes labor migration due to the fact of high level of unemployment in the country. Subsequently with other skilled labor, doctors migrated to the US. The government has a policy incorporated in their mid Term Philippines Development Plan (MTPDP) from the year 2001 to 2004. They claim that foreign employment as a key source of economic growth. Statistics reveals that there were13, 480 physician working in 1070s. Also it says that there were 10,410 Philipinnese Physicians in US (Bach, 2003).

Having a look at India, with maximum number of medical schools and thousands of medical graduates (MG) every year, it is facing massive scarcity of physicians, mainly in rural areas. This result the Union Ministry of Health and Family Welfare to propose a three-and-a-half year Bachelor of Rural Health and Care degree designed exclusively to serve rural populations (Sharma, Ladd & Unnikrishnan, 2013).

When we talk about this issue as mentioned earlier this is a global phenomenon. All the countries on earth experience some form of brain drain. When we have a look at the U.S, skilled individuals are leaving the country every day. Likewise when we have a look at the African country of Malawi skilled professionals were leaving the country and the nation is in a disaster of scarcity of health care workers and the situation become worse due to the HIV/AIDS epidemic in the country (Yang, 2007).

The Muslim nation of Pakistan low remuneration, poor working environment and poor training opportunities drive Pakistani physicians to other countries by the effect of brain drain (Farooq, Ghaffar, Narru, Khan & Irshad, 2003).

Another study in Pakistan in mid 2012 in Dow University of Health Sciences resulted that out of 323 participants 195 (prevalence rate 60.4%) expressed pursuing their career abroad and the top most reasons were high wage, quality training and better job satisfaction Sheikh, Naqvi ,Sheikh .Naqvi & Bandukda, 2012). In addition to this a number of reasons were identified as reason for migration.

When we look at the Sri Lankan story of brain drain of doctors, we have something common. According to the records in a span of 29 years a total of 1915 specialist doctors have gone foreign training and before they go ., signed a 4 year bond.In a time span of 19 years (1980 to 2009) a total of 1915 doctors have undergone foreign training. They have signed a government bond of 4 years. The current statistics revealed shows that out of 1915 doctors11 (215 doctors) had already migrated to other countries without completing their bond. Also 69% (148 doctors) had started settling their bond financially and remaining 67 doctors were to made legal action to recover the bond. Sri Lanka considered to have achieved good health indicators have doctors ratio of 1: 1462 per population.

The emigration factors found to Sri Lankan context were low wages, dangerous working conditions, excess of health care workers, unemployment, a lack of opportunities for professional development. Views from the migrated Sri Lankan specialist, 4 reasoned that compulsory posting of them to rural areas once they return home as the main reason for their migration. Five from the migrated responded that they would return home in later life. When we look at the repel factors in the rural area, we found the commonalities we found from the Maldives. They were better working environment, better working hours, better quality of life, better social security and better education for children (De Silva et al, 2013).

Talking about the health work force especially doctors work force, they have a vital role in any health system. The World Health Organization (WHO) have set guidelines for health systems to achieve best state of health of individual, communities and Nations.

The WHO recommended norm of doctors to health workers is 23/25 per every 10,000 population.

In the under developed countries skilled professional shortages were severe especially health sector where the physicians number is to population ratio is less recommended by the WHO. It recommends 2 Physicians per 1000 population as minimum acceptable rate (Docquier, 2006).

Many findings were not as assumed and there was variation in trends. It was found that the general rates of skilled migration differ and some countries were in a disaster of strong medical brain drain. Data shows that small countries were severely affected including industrialized countries like Ireland and Luxemburg. It was found that 13 African countries top of the affected list of Brain drain. They include Sao Tome, Cape Verde, Principe, Liberia, Somalia, Uganda, Ethiopia, Gambia, Zimbabwe, Togo, South Africa and Namibia. Brain drain could be said to deplete the human resources of the vulnerable health systems of Sub-Saharan Africa. (Docquier, 2006).

Having a look at Sub-Saharan Africa as a whole, it was found that the root causes of brain drain were low wage and higher prevalence of HIV in the continent and on the other hand countries having high wages experienced lower rates of emigration of doctors. This finding was similar to that found by Awases in 2003. This study shows that working conditions also plays a vital role in brain drain of doctors (Docquier, 2006).

Talking about health care work force, one should keep in mind what the world nations are aiming to achieve. On September 2000, the members of United Nations signed the Millennium Declaration. The Millennium Development Goals were derived from this declaration and there were a total of eight MDGS. These 8 goals were targets set for the year 2015. Goal four is to reduce child mortality. For this goal to achieve we need to cater the island health facilities with gynecologist and pediatrician. Goal five is to improve maternal health. We need to install Gynecologist in the island health facilities to improve maternal health. Goal six is to combat HIV/AIDS, Malaria and other diseases. Maldives is lucky to have eliminated Malaria in 1982 and the prevalence of HIV/AIDS in the country is comparatively less compared to its neighbors.

Talking about the advantages of brain drain to Maldives and the disadvantages of the phenomenon, from the above literature one could conclude that here were commonalities between Maldives and the globe in the issue. It was found that, there were two process of this. One is that unequal distribution of specialist doctors in various rural areas and the other is that local specialist works only in the capital city Male' ultimately there is a large pool of specialists in the capital in public sector and as well as in private sector. When we have a look at the situation in the Maldives, the only nation in Asia without a medical school, a health system greatly benefited and

survives from the positive impact of brain drain of health professionals especially doctors. There were limitations of getting official data of foreign doctors from neighboring countries and also foreign trained local doctors working in Maldives. The status could be worse if local doctors start to migrate and foreign doctors leave the country permanently.

This cross- sectional study conducted on October 2013 in 19 Public health facilities in the islands of Maldives to probe the reasons for leaving these health facilities by foreign specialist doctors.

Maldives is a country benefited by the process of brain drain of doctors. A population of 436,526 people living in separate 184 inhabited islands makes it difficult for the policy makers to cater the demands of the people. Data of October 2013 shows that 30% of the population living in the capital Male' city (Urban) having the main public health facility and a variety of private owned health facilities for the capable people, On the other hand 70% of population living in 183 separate islands (Rural) do not meet the basic right of primary health care and remains unfulfilled. Maldives is a country which depends largely on foreign institutions for higher education and training.

Looking into the phenomenon, on 21st may 2010 in Geneva, Swiss Zealand, in the 63rd World Health Assembly (WHA), the member states of the WHO agreed on a code of practice. This code comprise of 10 articles. The bottom line is to build understanding and to cooperate in strengthening the health systems of the nations to achieve the Millennium Development Goals (MDGs).In the article 4 of this code is about responsibilities and rights and recruitment practices. . It say s that health personnel, organizations, councils, and recruiters to seek full cooperation with the local and international regulators and authorities in the interest of society, patients and health systems in general.

2.3 Methodological Issues

Literature indicates that there were advantages and disadvantages of cross sectional studies and phone call interviews.

Telephone interviews were recommended as best alternative to costly face-to-face surveys in cross sectional studies of general population. Also it is said that when focusing to sub groups of the population having low telephone coverage and high rates of non-responses because research is not visible so considered strange, it should be used more cautiously and in this type of situation a dual sampling frame approach like combining face-to face interview and phone interview could be considered. In the past it was found that telephone interviews have little to recommend despite the

advantage of low cost and fast speed but recent research has proved that it had brought a revolution to heath research and considered a development by Kahn (Marcus & Crane, 1986).

Good qualitative data analysis is said to reflect some of the truth of a phenomenon by reference to well organized data but poor qualitative data was said to be anecdotal, unreflective, descriptive without being concentrated on coherent line of inquiry (Pope, Ziebland & Mays, 2000).

There are ten National Health Policy Goals articulated in the Health Master Plan 2006–2015 and one of this is to build a competent and professional health workforce (WHO Country Cooperation Strategy Republic of Maldives, 2013–2017)

CHAPTER 3

METHODOLOGY

This cross sectional study is done in nineteen(19) public health facilities in the islands of Maldives from 20th September to 10th October 2013by selecting all forty nine (49) foreign specialist doctor present at the time of sampling. This cross sectional study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives. This paper contain mainly 5 chapters namely Introduction, Literature, methodology, results, discussion and conclusion respectively.

3.1 Research Design

This cross sectional study is done in nineteen(19) public health facilities in the islands of Maldives from 20th September to 10th October 2013by selecting all forty nine (49) foreign specialist doctor present at the time of sampling. This cross sectional study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives.

A structured questionnaire was prepared for the study containing 13 questions. The questionnaire was piloted prior to the data collection by using three (3) doctors who were on their process of leaving Maldives after their contract was over. After piloting the questionnaire, necessary amendments were brought to it.

3.2 Population and Sampling

The sampling frame for this study was all specialist doctors working in the public health facilities in the islands of Maldives. When we gathered information it was found that specialist doctors were allocated to only Atoll Hospitals (AH) and Regional Hospitals (RH). A total of 19 public health facilities in the islands of Maldives were selected and

there were a total of 49 doctors in these 19 health facilities at the time of data collection. At the time of data collection only 16 health facilities were employed with specialist doctor and 3 health facilities does not have specialist doctors. To minimize bias in this study, I have chosen all the 49 doctors in these 19 health facilities as my sample. Also this could be inferred to the whole population without doubt.

3.3 Instrumentation

A structured questionnaire was used. The questionnaire was divided into two parts (demographic information and the questions). There were a total of 13 questions regarding the subjects knowledge, attitudes and behavior. A total of four things were used in data collection and they were verbal consent form, questionnaire, mobile phone and a pen.

3.4 Data collection procedures

A structured questionnaire was first. The questionnaire was divided into two parts (demographic information and the questions). There were a total of 13 questions. This questionnaire was piloted by using 2 subjects eligible for the study who were in the process of leaving Maldives after their contract is over.

First of all a verbal consent is taken by each sample and right to participate or withdraw from the study was offered prior to data collection and only the willing subjects were taken. The willing subjects were interviewed via a phone call decided by the subject on their convenient time and was filled by Researcher himself.

3.5 Frame work for Data Analysis

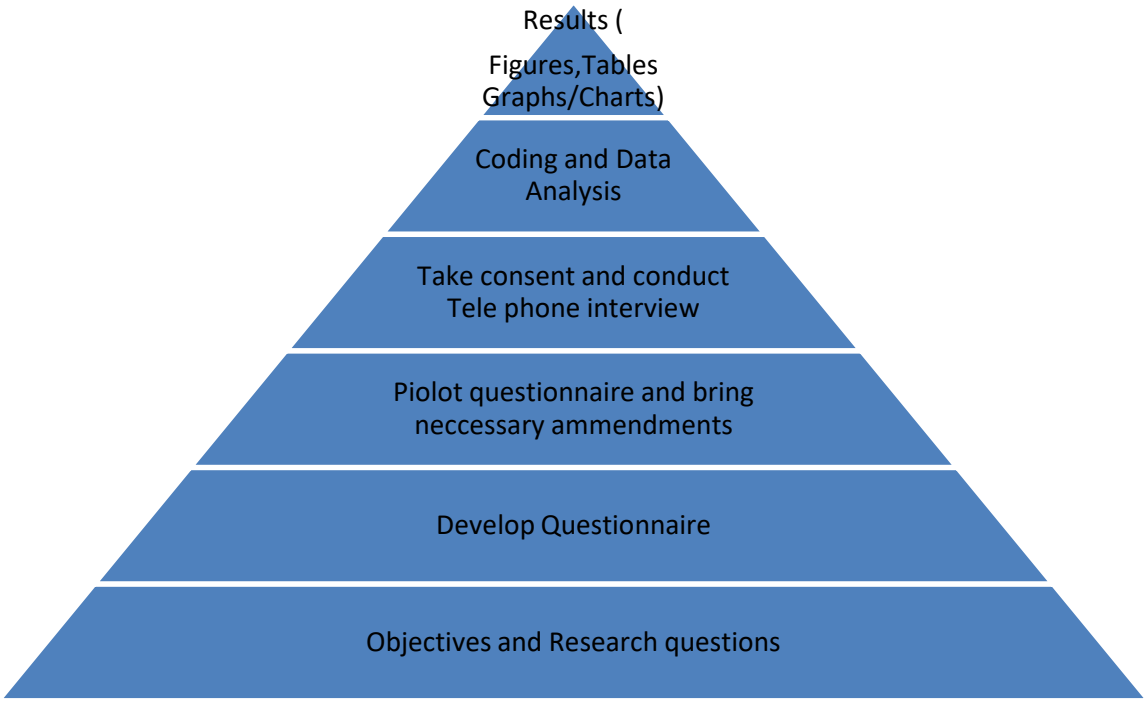


Figure 3.1 Framework for data analysis

Figure 3.1 Frame work for data Analysis

CHAPTER 4

RESULTS

This cross sectional study is done in nineteen (19) public health facilities in the islands of Maldives from 20th September to 10th October 2013 by selecting all forty nine (49) foreign specialist doctors present at the time of sampling. This study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives. This paper contain mainly 5 chapters namely introduction, review of literature, methodology, results, discussion and conclusion respectively.

Table 4.1 Demographic Characteristics of Participants

Main Variable	Frequencies	Percentages
Age		
Between 31-45yrs	14	100
Gender		
Male	11	78.60
Female	3	21.40
Religion		
Muslim	5	35.70
Christian	3	21.40
Hindu	6	42.90
Nationality		

Indian	9	64.30
Pakistani	3	21.40
Bangladeshi	2	14.30
Marital Status		
Single	3	21.40
Married	10	71.40
Divorced	0	0
Widowed	1	7.10
Duration of work in Maldives		
Up to 1 year	7	50
1 to 2 years	2	14.30
2 to 3 years	4	28.60
Up to 6 years	1	7.10

My result shows that the age category, all 14 (100%) participants fall in the age range of 31 to 45 years of age. The gender composition shows that 11 (78.60%) participants were males while 3 (21.40%) participants were females. Data on religious back ground shows that Muslim 5(35.70%), Christians 3(21.40%) and Hindu 6 (42.90%). Nationality if participants were Indian 9 (64.30%), Pakistani 3 (21.40%) and Bangladeshi 2 (14.30%). Data on the marital back ground shows that 3 (21.40%) were single, 10 (71.40) were married, zero (0%) were divorced and 1 (7.10%) was widowed. Data on duration of practice in the Maldives were as follows. Duration less than one year was 7 (50%), duration up to two years was 2 (14.30%), duration up to three years was 4 (28.60%) and duration up to six years was 1 (7.10%). See Table 4.1

Table 4.2 Doctors field of specialty

Main Variable	Sub-Variable	Frequencies	Percentages
Specialty	Physicians	1	7.10
	Pediatrician	4	28.60
	Anesthetist	2	14.30
	Gynecologist	2	14.30
	Surgeon	3	21.40
	Orthopedician	1	7.10
	Dentist	1	7.10

When we analyze the data on different specialties of doctors, the results were as follows, Physicians 1 (7.10%), Pediatrician 4 (28.60%), Anesthetist 2 (14.30%), Gynecologist 2 (14.30%), Surgeons 3 (21.40%), Orthopedician 1 (7.10%) and Dentist 1 (7.10%). See Table 5.2.

Table 4.3 Responding health facilities and their response rate

Main Variable	Sub-Variable	Frequencies	Percentages
Responding health facilities and their values	KRH	1	7.10
	SHAH	1	7.10
	BAH	1	7.10
	ADAH	1	7.10
	FAH	1	7.10
	DAH	1	7.10
	THAH	2	14.30
	GRH	3	21.40
	GAAH	1	7.10
	HRH	1	7.10
	GNAH	1	7.10

When we analyze responding health facilities, the following results were obtained. It shows that out o(table -3)f 19 health Facilities 11 responded to this study at different levels. The values were KRH 1 (7.10%), SHAH 1 (7.10%), BAH 1 (7.10%), ADAH 1 (7.10%), FAH 1 (7.10%), DAH 1 (7.10%), THAH 2 (14.30%), GRH 3 (21.40%), GAAH 1 (7.10%), HRH 1 (7.10%) and GNAH 1 (7.10%).

Table 4.4 Main questions asked during the interview

Main Variable	Sub-Variable	Frequencies	Percentages
Good info. about Maldives	Yes	13	92.90
	No	1	7.10
Reason for Home Leave	Poor pay	4	28.60
	Long working hours	2	14.30
	Insecure working conditions	7	50.00
	Poor security and harmony	1	7.10
Reason for choosing Maldives	Better pay	1	7.10
	Good working hours	1	7.10
	Good secure work conditions	6	42.90
	Experience Peaceful rural life	4	28.60
	Being Muslim Country	1	7.10
Other countries worked so far	Saudi Arabia	2	14.30
	UAE	3	21.40
	Malaysia	1	7.10
Preference in Maldives	Male'	3	21.40
	Island	11	78.60
Preference reason	Peaceful	10	71.40
	Less work load	1	7.10
	More social life	3	21.40
Main difficulty in island			
Poor infra structure		6	42.90

Poor transportation		4	28.60
Less clinical exposure		1	7.10
Decrease in earning		1	7.10
Others		1	7.10
About renewal of Contract	Yes	13	92.90
	No	1	7.10
Next Destination	Home	10	71.40
	Others	4	28.60
Reason for Next Destination	Better life	1	7.10
	Home	9	64.30
	Friends influence	2	14.30
	Being Muslim country	1	7.10
Remarks friend about Maldives	Will recommend	4	100
	Will not recommend	0	0

When the data was analyzed the main questions of this study, the following results were obtained. Information about the Maldives shows that 13 (92.90%) participants had good understanding of Maldives while 1 (7.10%) do not have good information about Maldives before coming.

Reasons for leaving their home were asked and the participants responded as follows. Poor pay 1 (7.10%), Long working hours 2 (28.60%), insecure working conditions 7 (50%) and poor security and harmony at home 1 (7.10%). See Table 4.4The reason for choosing the Maldives were as follows. Better pay 1 (7.10%), good working hours 1 (7.10%), good secure working conditions6 (42.90%), and to experience peaceful rural life 4 (28.60%). See Table 4.4Data on other countries respondents have worked so far were as follows. Two (14.30%) participants, UAE 3 (21.40%) participants and Malaysia 1 (7.10%) participant. See Table 4.4. When asked about their preference in the Maldives the responses were as follows. Male' (capital) 3 (21.40%) and the reason for that is 3 (21.40%) being more social life. Those preferring islands 11 (78.60%) and the reasons given were 10 (71.40%) peaceful, 1 (7.10%) being less work load. When asked about

their main difficulty in the islands were as follows. Six (42.90%) indicated poor infrastructure of rural facilities, 4 (28.60%) poor transportation, one (7.10%) less clinical exposure, one (7.10%) decrease in earning and also one (7.10%) for other reasons. See Table 4.4

Table 4.1 Distribution of specialists in different atoll hospital and regional hospitals

S. no	No. of Doctors (Specialist)	Health Facility	Doctor's specialty
1	4	HAAH	1Pediatrician, 1 Gynecologist, 1Surgeon, 1ophthalmologist
2	6	KRU	1Physician, 1ENT, 1Dentist, Gynecologist, 1Orthopedician, 1ophthalmologist
3	1	SHAH	1Pediatrician
4	2	NAH	1Anesthetist,1 Pediatrician
5	6	URH	2 Pediatrician,1 Gynecologist, 1Pediatrician, 1ENT, 1Dentist
6	3	BAH	1Anesthetist, 1Gynecologist, 1Pediatrician
7	0	LHAH	No
8	0	VAH	No
9	0	AAAH	No
10	3	ADAH	1Pediatrician, 1Gynecologist, 1Anesthetist
11	2	MRH	1Pediatrician, 1Dentist
12	2	FAH	1Gynecologist, 1Anesthetist
13	2	DAH	1Gynecologist, 1Pediatrician
14	2	TAH	1Pediatrician, 1Anesthetist
15	4	GRH	1Gynecologist, 1Surgeon, 1Pediatrician, 1Physician

16	1	GAAH	1 Surgeon
17	5	DRSMH	1Surgeon, 1ENT, 1ophthalmologist, 1Gynecologist
18	4	HRH	1Surgeon, 1ENT, 1ophthalmologist, 1Gynecologist
19	2	GNAH	1Surgeon, 1Orthopedician

In this category, participants expressed their difficulties on sending remittance to their home countries. In fact the government of Maldives is paying the foreign professionals from the local currency (MVR). These professionals have to buy foreign currencies (US$ and Euro) from the black market at high prices. Also the central Bank of Maldives, MMA (Maldives Monetary Authority) has a policy stating a single foreign individual could send a maximum remittance of US$ 1000 per month. The government does not have a policy to provide even a percentage of their salary from foreign currencies to these Professionals.

In the interview with the recruitment department they expressed this issue and said they have a series of discussions with the Ministry of Finance to provide some percentage of foreign health workers with foreign currencies and working on o draft of it however there is limited hope because of the foreign currency shortage and crisis in the country.

CHAPTER 5

DISCUSSION AND CONCLUSION

This cross sectional study is done in nineteen(19) public health facilities in the islands of Maldives from 20th September to 10th October 2013by selecting all forty nine (49) foreign specialist doctor present at the time of sampling. This cross sectional study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives. This paper contain mainly 5 chapters namely Introduction, Literature, methodology, results, discussion and conclusion respectively.

5.1 Summary of main findings

The result of this study shows that the age category, all 14 (100%) participants fall in the age range of 31 to 45 years of age. The gender composition shows that 11 (78.60%) participant were males while 3 (21.40%) participants were females. Data on religious background shows majority was Hindus 6 (42.90%) and minimum was 3(21.40%) Christians. Nationality of participants show best supplier of specialist doctors to the Maldives was India 9 (64.30%), and minimum supplier was Bangladesh 2 (14.30%). Data on the marital back ground shows that majority of doctors working in Maldives were married 10 (71.40) and only one (7.10%) doctor was widowed. Data on duration of practice in the Maldives were as follows. The longest served doctor was one (7.10%) and the was 7 (50%), duration up to two years was 2 (14.30%), duration up to three years were 4 (28.60%) and duration up to six years was 1 (7.10%). See Table 4.1When we analyze the data on different specialties of doctors, the results were as follows, majority of the subjects were Pediatricians 4 (28.60%), Physician, Orthopedic and Dentist 1 (7.10%). See Table 4.2.When we analyze responding health facilities, the following results were obtained. It shows that out of 19 health facilities 11 responded to this study at different levels. The values were majority from GRH 3 (21.40%) and from 5 health facilities did not at all respond to this study. See table 4.3When we analyze the main questions of this study, the following results were obtained. Information about the Maldives shows that 13 (92.90%) participants had good understanding of Maldives while 1 (7.10%) do not have good information about Maldives before coming. Reasons for leaving their home were asked and the participants responded as follows. The majority was insecure working conditions 7 (50%) and poor security and harmony at home and poor pay 1 (7.10%). See Table 4.4. The reason for choosing the Maldives were as

follows. Majority considered good secure working conditions6 (42.90%) while better pay and good working hours 1 (7.10%) were considered by minimum participants. See Table4.4. Data on other countries respondents have worked so far were as follows. Two (14.30%) participants, Majority of the doctors worked UAE 3 (21.40%) and least doctors worked Malaysia 1 (7.10%). See Table 4.4. When asked about their preference in the Maldives the responses were as follows. Majority considered Male' (capital) 3 (21.40%) and the reason for that is 3 (21.40%) being the preference of more social life. Those preferring islands were 11 (78.60%) and the reasons given were 10 (71.40%) peaceful, 1 (7.10%) being less work load. See Table 4.4. When asked about their main difficulty in the islands were as follows. Majority Six (42.90%) indicated poor infrastructure of rural facilities. The least considered less clinical exposure, decrease in earning and for other reasons also one (7.10%). See Table 4.4

5.2 Discussion

Reasons for leaving their home were asked and the participants responded as follows. The majority was insecure working conditions 7 (50%). This is phenomenal in recent history from news papers, interview, it was found that there were few instances in the islands doctors faced verbal, physical and emotional abuses or to their families. Mr. Riyaz said that the currently recruited doctors prefer going to all islands in Maldives except 2 atolls, namely Gaaf Alif and Gaaf Dhaal atoll. The reason given was history of physical attack to the Son of a doctor in the Atoll education center. A classical example of this is found in Iraq. Study in Iraq on the issue of brain drain reveals that in 2007 specialist leaving health facilities in Iraq, 39% went some other regions of the country and 61% left the country. Furthermore it says due to violence on medical professionals 1,500 medical professionals (doctors, nurses, Dentists, pharmacists) left the country and there was an estimated killing of 65 doctors in 2004. Also it says in 2008 there were 2,200 doctors and nurses murdered and more than 250 being kidnapped. According to the data of Ministry of health of Iraq in 2009, there were records of 620 medical professionals including 132 doctors had been killed and the worse regions were mentioned as Capital Baghdad and City of Basra (Quinn, Mensah, Hnilicova & Bencho, 2011). Talking in Maldives context, it does not have civil war conflicts but recent demonstrations and civil disobedience with the introduction of political parties in the country have some impacts on harmony and peaceful way of life. Result shows that poor pay 1 (7.10%).of the participants considered for leaving their home land. When we look at our

neighboring Sri Lanka, we find common grounds. From 1980 to 2009, out of 915 doctors who went abroad for PG training, 215 doctors had migrated (De Silva et al, 2013). When we look at the repel factors in the rural area, it was found the commonalities were there between Sri Lanka and the Maldives. They were better working environment, better working hours, better quality of life, better social security and better education for children. Results shows that better pay 1 (7.10%) were considered by minimum participants. During the interview one participant expressed that she was having loan (debts) at home she needed to over- come soon. This was an established factor when we have a look at New Zealand. A study in NZ 55% of the participants want to Leave NZ and migrate to other countries due to student loans and basically this issue is for those studied other than scholarships(Moore, Gale, Dew & Simmers, 2006). Many participants do not consider pay as first priority may be shy to talk about money or being a phone call interview.

Result shows that the age category, all 14 (100%) participants fall in the age range of 31 to 45 years of age. The gender composition shows that 11 (78.60%) participants were males while 3 (21.40%) participants were females. Data on religious back ground shows majority was Hindus 6 (42.90%) and minimum was 3(21.40%) Christians. Nationality of participants show best supplier of doctors was India 9 (64.30%), and minimum supplier was Bangladesh 2 (14.30%). Data on the marital back ground shows that majority of doctors working in Maldives 10 (71.40) and only one (7.10%) doctor was widowed. Data on duration of practice in the Maldives were as follows. The longest served doctor was one (7.10%) and the was 7 (50%), duration up to two years was 2 (14.30%), duration up to three years were 4 (28.60%) and duration up to six years was 1 (7.10%). See table 4.1. When asked about their preference in the Maldives the responses were as follows. Minimum considered Male' (capital) 3 (21.40%) and the reason for that is 3 (21.40%) being the preference of more social life. Maximum preferred islands 11 (78.60%) and the reasons main given were 10 (71.40%) peaceful. In a study in Pakistan also similar findings were observed. It shows that education spanned over 5 to 6 years in medical colleges located in cities and expected living style after graduation, pulls them more to urban living (Farooq, Ghaffar, Narru, Khan & Irshad, 2003).The Maldives is not an exception to this fact since there is no medical school in the Maldives, the foreign trained local doctors were from various backgrounds. Also it was found that the doctors were of younger age and they need social life which is only available in city or urban centers. See Table 4.4

A study in Malawi in 2005 to find out the cause of emigrating and leaving Malawian Public sector is non- competitive to government salaries and emigration to countries like UK, Saudi Arabia and South Africa and not least the wastage of health professionals to other sectors was considered as a reason (Muula, 2005).

The study in Malawi in 2005 and also founds another aspect of the problem which was the wastage of health professionals to other sectors (Muula, 2005). Proper data was not available in the Maldives however the recruitment department expressed their views those similar to the globe. For example specialist doctors were working in high level management posts in the Government as well as nurses were employed at schools as teachers.

This study has probed in depth in to the current population trends and the availability of specialists in total 19 public health facilities (13 Atoll Hospitals and 6 Regional Hospitals) individually to get a best picture of the situation.

In Haa Alif atoll there was a total population of 21,594 in October 2013 which was an increase of 8,099 and there was 4 specialist doctors to provide specialist care for this population distributed in 14 Islands. The specialist to population ratio was 1: 5399. See Figure 5.1

Atoll Hospital	Specialist in 2013
HAAH	4

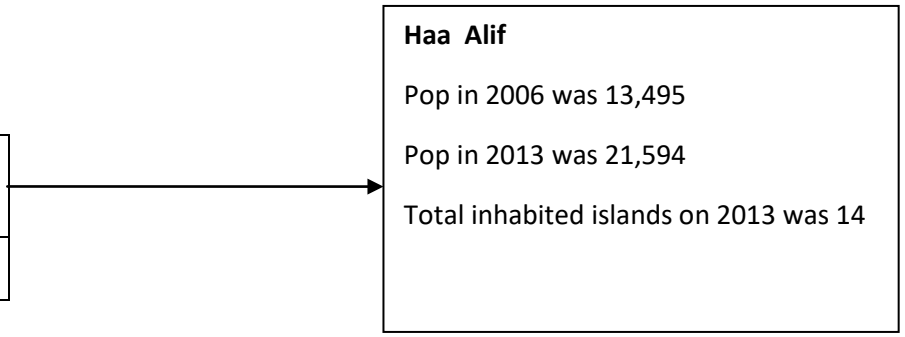


Figure 5.1 Populations and specialistsavailability at Haa Alif Atoll Hospital

The total Population of Shaviyani atoll on October 2013 was 16, 900 inhabited in 12 different localities. The specialists to population ratio was 1:16900 at atoll level. See Figure 5.2 Data of Shaviyani atoll shows that it has now a population of 16,900 and there was an increase of 4,960 to the population. The atoll hospital has only 1 specialist doctor to provide services to provide this population distributed in 14 inhabited islands. The specialist to population ratio was 1: 16900. See Figure 5.2

Atoll Hospital	Specialist in 2013
SHAH	1

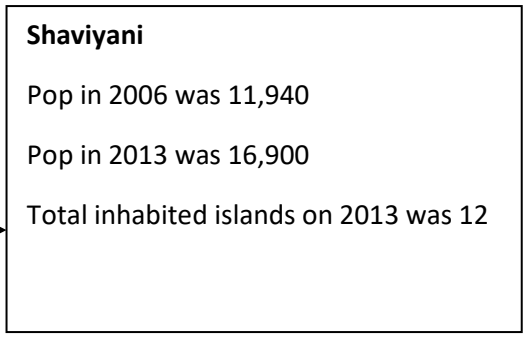


Figure 5.2 **Populations and specialist availability at Shaviyani Atoll Hospital in 2013**

The total Population of Noonu atoll on October 2013 was 15, 704 inhabited in 13 different localities. The specialists to population ratio was 1:7852 at atoll level. See Figure 5.3

Atoll Hospital	Specialist in 2013
NAH	2

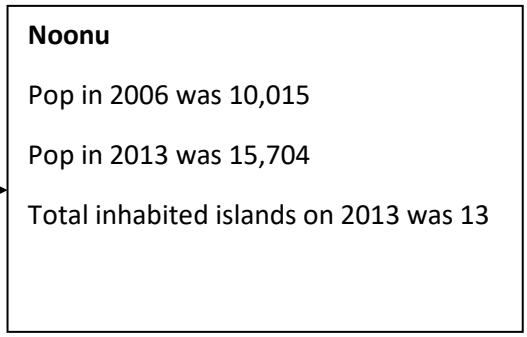


Figure 5.3 **Populations and specialist availability at Noonu Atoll Hospital in 2013**

The total Population of Baa atoll on October 2013 was 13,562 inhabited in 13 different localities. The specialists to population ratio was 1:4521 at atoll level. See Figure 5.4 Baa atoll data shows that the current population was 13,562 inhabited in 13 islands and Baa Atoll Hospital (BAH) have 3 specialist doctors to cater the population. The specialist to population ratio was 1:4521. See Figure 5.4

Atoll Hospital	Specialist in 2013
BAH	3

Figure 5.4 **Populations and specialist availability at Baa Atoll Hospital in 2013**

The total Population of Lhaviyani atoll on October 2013 was 12, 387 inhabited in 4 different localities. The specialists to population ratio was zero at atoll level. See Figure 5.5 Lhaviyani atoll data shows that population in October 2013 was 12,387 inhabited in 13 islands and the Lhaviyani Atoll Hospital (LHAH) has no specialist doctors to cater the population at the time of data collection. This facility was away from capital unlike vaavu atoll and Alif Alif and there was a major ocean to travel without air transport. It needs to be filled soon. See Figure 5.5

Atoll Hospital	Specialist in 2013
LHAH	0

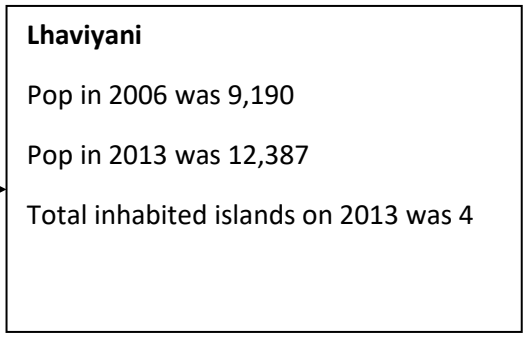


Figure 5.5 **Populations and specialist availability at Lhaviyani Atoll Hospital in 2013**

The total Population of Vaavu atoll on October 2013 was 2,455 inhabited in 5 different localities.The specialists to population ratio was zero at atoll level. See Figure 5.6

Atoll Hospital	Specialist in 2013
VAH	0

Vaavu

Pop in 2006 was 1,604

Pop in 2013 was 2,455

Total inhabited islands on 2013 was 5

Figure 5.6 **Populations and specialist availability at Vaavu Atoll Hospital in 2013**

The total Population of Alif Alif atoll on October 2013 was 7, 591 inhabited in 8 different localities. The specialists to population ratio was zero at atoll level. Small population and close to capital were arguments one could say to leave this facility vacant. See Figure 5.7

Atoll Hospital	Specialist in 2013
AAAH	0

Alif Alif

Pop in 2006 was 5,776

Pop in 2013 was 7,591

Total inhabited islands on 2013 was 8

Figure 5.7 **Populations and specialist availability at Alif Alif Atoll Hospital in 2013**

The total Population of Alif Dhaal atoll on October 2013 was 10, 359 inhabited in 10 different localities. The specialists to population ratio was 1:3453 at atoll level. See Figure 5.8

Atoll Hospital	Specialist in 2013
ADAH	3

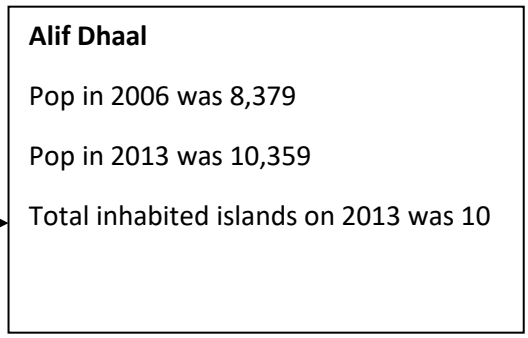


Figure 5.8 **Populations and specialist availability at Alif Dhaal Atoll Hospital in 2013**

The total Population of Faaf atoll on October 2013 was 16,900 inhabited in 5 different localities. The specialists to population ratio was 1:8450 at atoll level. See Figure 5.9

Atoll Hospital	Specialist in 2013
FAH	2

Figure 5.9 **Populations and specialist availability at Faaf Atoll Hospital in 2013**

The total Population of Daal atoll on October 2013 was7,700 inhabited in 6 different localities. The specialists to population ratio was 1:3850 at atoll level. See Figure 5.10

Atoll Hospital	Specialist in 2013
DAH	2

Figure 5.10 Populations and specialist availability at 13 Dhaal Atoll Hospital in 2006 and in 2013

The total Population of Thaa atoll on October 2013 was 15,744 inhabited in 13 different localities. The specialists to population ratio was 1:7872 at atoll level. This was not bad being the regional hospital at Laamu atoll close by . See Figure 5.11

Atoll Hospital	Specialist in 2013
THAH	2

Figure 5.11 Populations and specialist availability at 13 Thaa Atoll Hospital in 2006 and in 2013

The total Population of Gaaf Alif atoll on October 2013 was 15, 372 inhabited in 9 different localities. The specialists to population ratio was 1:15372 at atoll level. This situation was bad and being a large population and distribution in 9 islands and needs to be filled. See Figure 5.12

Atoll Hospital	Specialist in 2013
GAAH	1

Gaaf Alif

Pop in 2006 was 8,262

Pop in 2013 was 15,372

Total inhabited islands on 2013 was 9

Figure 5.12 **Populations and specialist availability at Gaaf Alif Atoll Hospital in 2013**

The only single island atoll ,Gaviyani atoll data shows that the current population was 12,001 and the Gaviyani Atoll Hospital (GNAH) have 2 specialist doctors to cater this population . The specialist to population ratio was 1: 6001. See tables 5. 1, 5.2 and Figure 5.13

Atoll Hospital	Specialist in 2013
GNAH	2

Ghaviyani

Pop in 2006 was 7,636

Pop in 2013 was 12,001

Total inhabited islands on 2013 was 1

Figure 5.13 **Populations and specialist availability at Ghaviyani Atoll Hospital in 2013**

Total population of this region on October 2013 was 51,112 and the Ungoofaaru Regional Hospital (URH) have 6 specialist to provide service to this population of and specialist to population ratio at regional level was 1:8519. This health facilities needs to be improved according to the population growth and it was found that two pediatricians present there so instead another specialty could be installed. W See figure 5.14

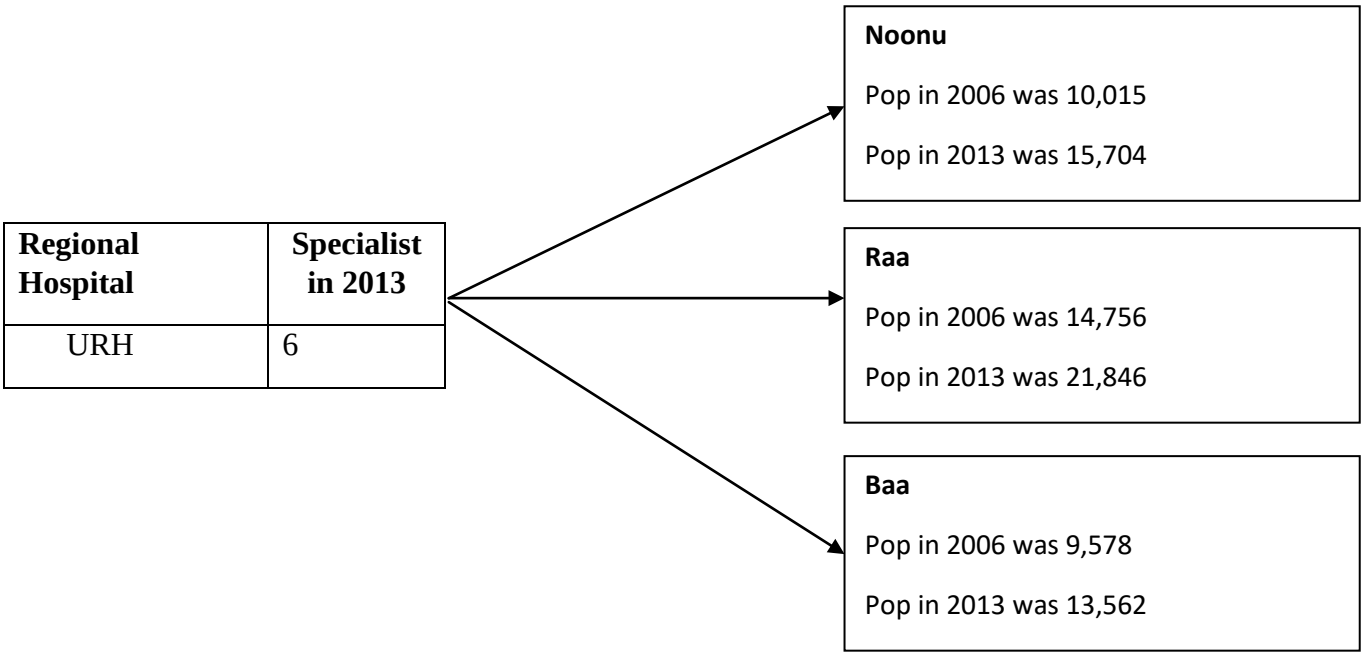


Figure 5.14 Populations and specialist availability at North Region in 2013

Total population of this region on October 2013 was 63, 576 and the Kulhudufushi Regional Hospital (KRH) have 6 specialist to provide service to this population and specialist to population ratio at regional level was 1:10,596. This health facility also needs improvement since the population has reached above 60,000. See Figure 5.15

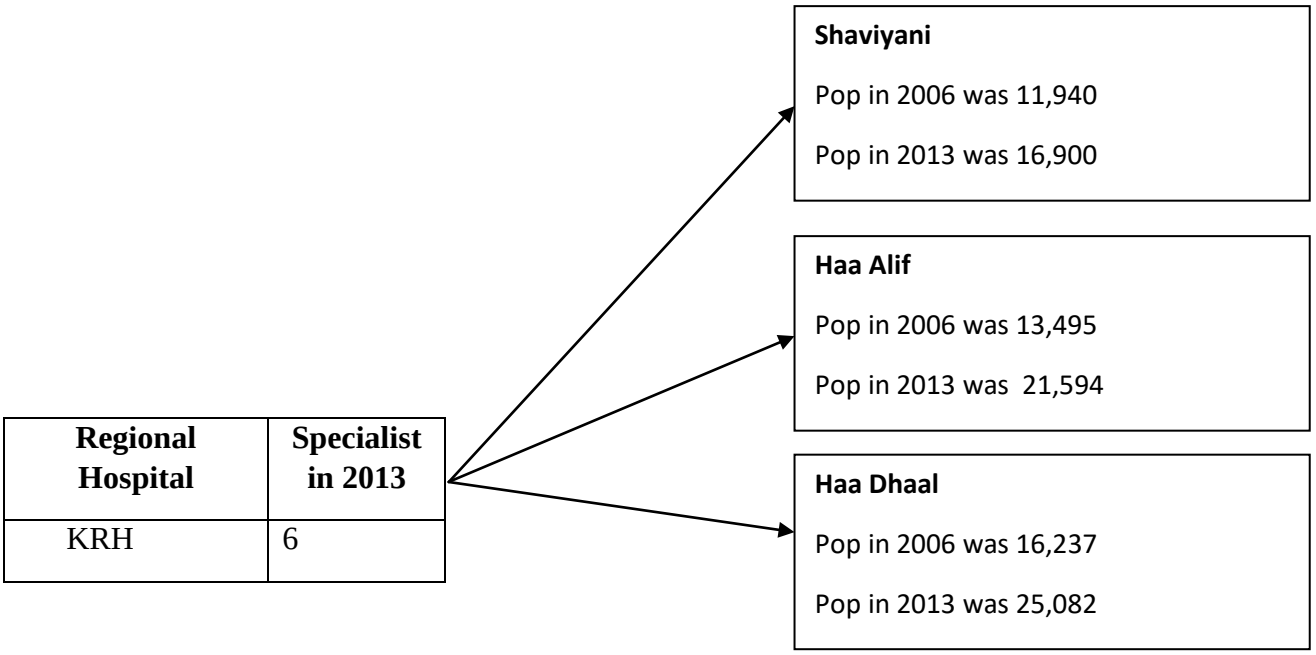


Figure 5.15 Populations and specialist availability at 13 Atoll Hospital in 2006 and in 2013

Total population of this region on October 2013 was 31,404 and the Muli Regional Hospital (MRH) have 2 specialist to provide service to this population and specialist to population ratio at regional level was 1:15,702.This was observes as poorest regional hospital catering only atoll hospital needs so it could be improved. See Figure 5.16

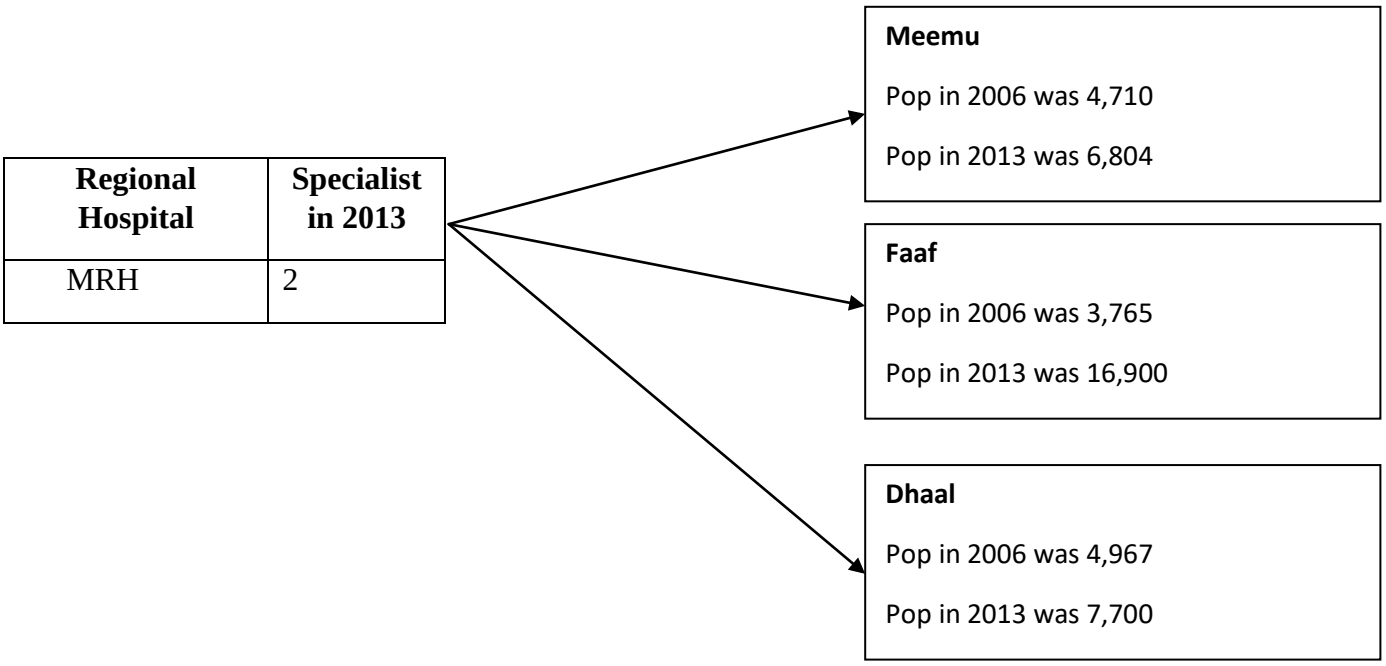


Figure 5.16 Populations and specialist availability at 13 Atoll Hospital in 2006 and in 2013

Total population of this region on October 2013 was 32,352 and the Gan Regional Hospital (GRH) have 4 specialist to provide service to this population and specialist to population ratio at regional level was 1:8,088. This region was observed as good at the current distribution of specialist. See Figure 5.17

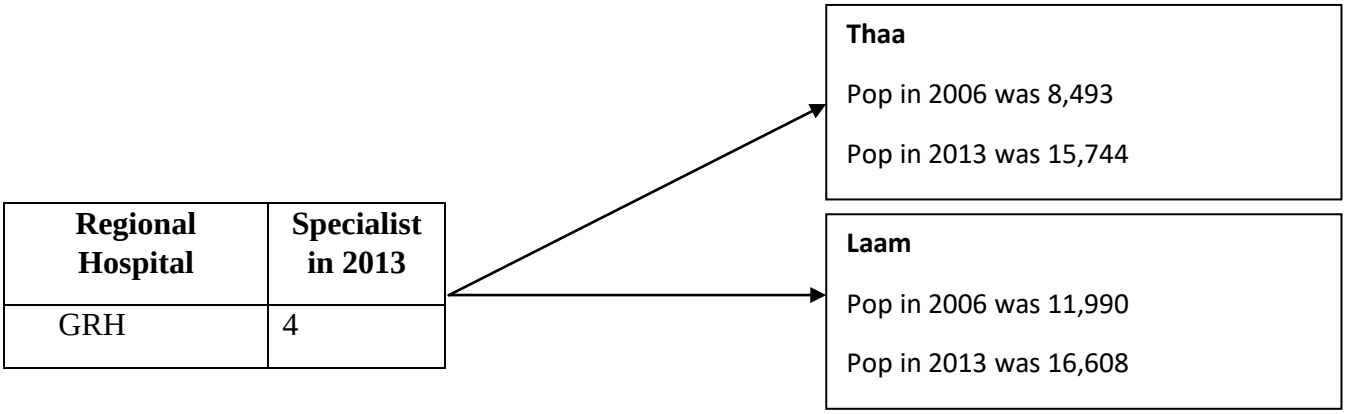


Figure 5.17 Populations and specialist availability at 13 Atoll Hospital in 2006 and in 2013

Total population of this region on October 2013 was 35,622 and the Dr. Samad Memorial Hospital (DRSMH) have 5 specialist to provide service to this population and specialist to population ratio at regional level was 1:7,124. See Figure 5.18

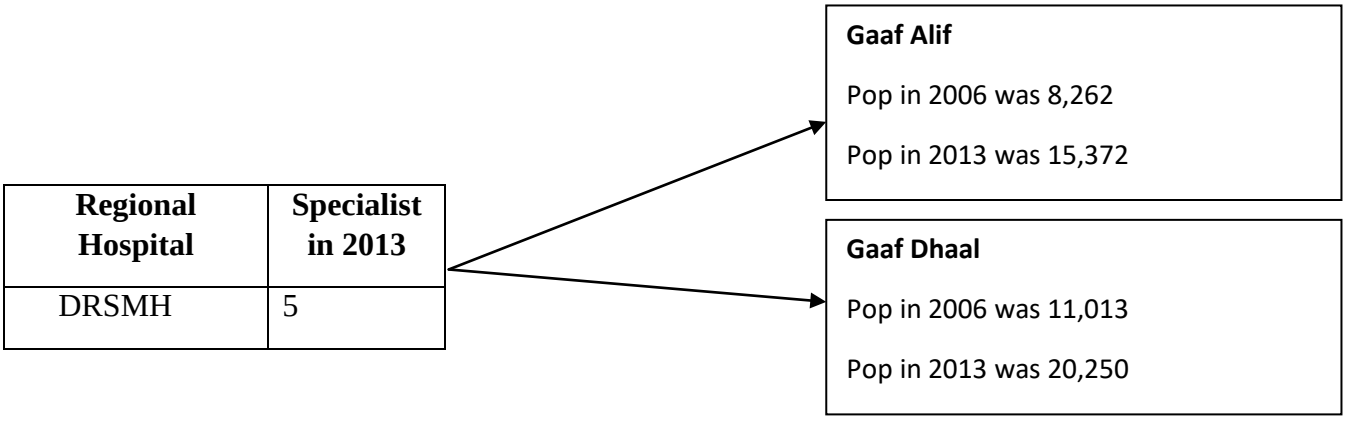


Figure 5.18 Populations and specialist availability at 13 Atoll Hospital in 2006 and in 2013

Total population of this region on October 2013 was 44,747 distributed in 6 inhabited islands and the Hithadhoo Regional Hospital (HRH) have 4 specialist to provide service to this population and specialist to population ratio at regional level was 1:11,187. This facility was average at current situation because distributed in very less number of inhabited islands and presence of 2 domestic airports in the region. See Figure 5.19

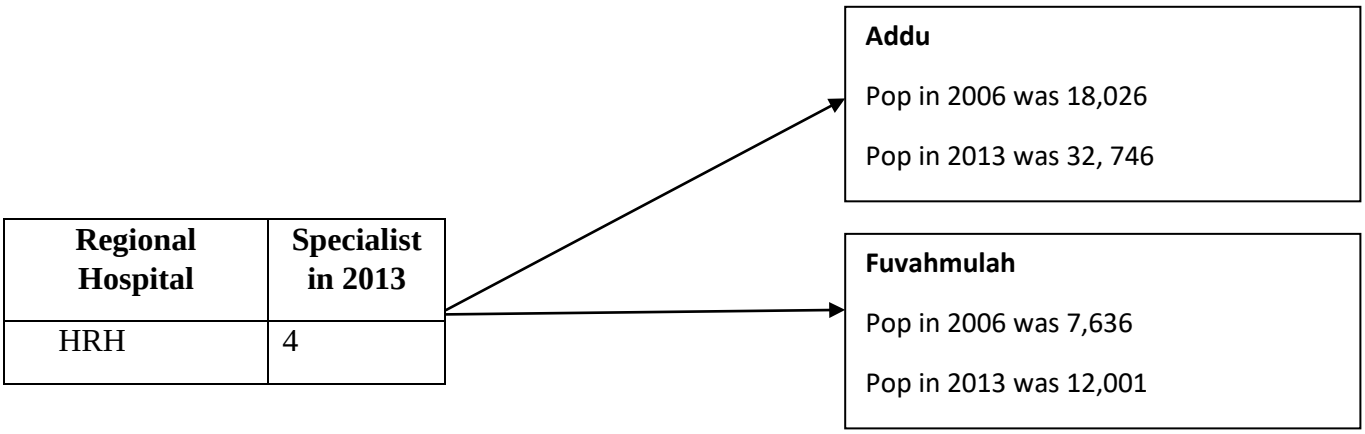


Figure 5.19 Populations and specialist availability at 13 Atoll Hospital in 2006 and in 2013

Total population of this region on October 2013 was 44,747 distributed in 6 inhabited islands and the Hithadhoo Regional Hospital (HRH) have 4 specialist to provide service to this population and specialist to population ratio at regional level was 1:11,187.

Atoll /City	Population in 2013
Male city	132,727
All atolls	303,799
Expatriates (expected)	200,000

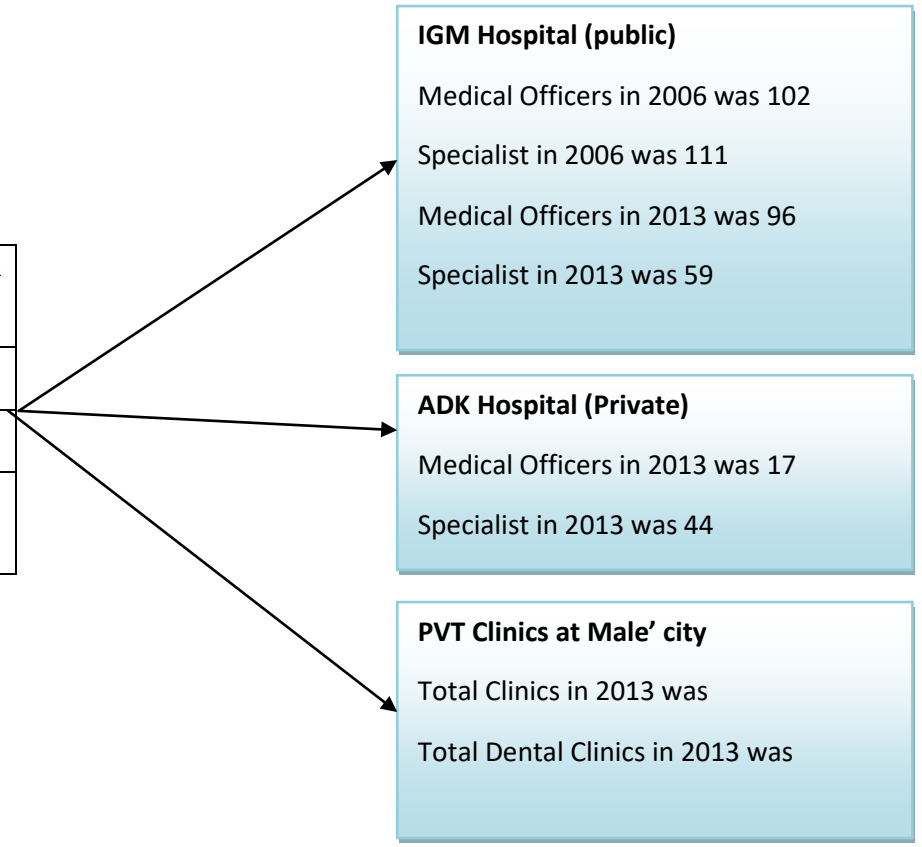


Figure 5.20 Work load to Health Facilities and corresponding population of Maldives at Central level in 2013 due to referrals and advanced care services

This study have explored a variety of data at different level of public health facilities as well as private health facilities, allied and public health programs conducted, Maldivian students studying abroad and population records from city councils and atoll councils latest records.

Data was collected of the programs conducted by Faculty of Health Sciences for five years (2007 to 20111) time (Annual report 2011, MNU).

In this five years time, in PHC programs (Advanced certificate, diploma conversion and diploma) 556 students (234 males, 322 females) have enrolled. Majority of the students would be on the field to cater a total of 184 islands all across the country so hypothetically Maldives would not have the issue of primary health care workers. Having a look at the status of Nurses in the country, this five years time, in P Nursing programs (Advanced certificate, diploma conversion, a diploma and Bachelors) 1548 students (8males, 1540 females) have enrolled. Majority of the students would be on the field to cater a total of 184islands all across the country so I am glad that we do not have the issue of Nurses in the country. As mentioned before the recruitment department also said with the status of nurses and stopped recruiting foreign nurses from January 2013. Looking at the status of Lab-technicians in the country, this five years time, Diploma programs 288 students (49 males, 239 females) have enrolled. Majority of the students would be on the field to cater a total of 184 islands all across the country so I am glad that we do not have the issue of Nurses in the country. As mentioned before the recruitment department also said with the status Lab-technicians and near future they would stop recruiting foreign technicians as well. See tables 5.7 and 5.8.

Table 5.7 Maldivian students enrollment from 2007 to 2011 in different allied health programs at Faculty of Health Sciences

S. No	Course Name	Total Males in 5 years for each program (%)	Total females in 5 years (%)	Total of 5 years (2007to 2011)
1	Adverc. Cert in PHC	144	165	309
2	Adverc. Cert Counselling	6	87	93

3	Adverc. Cert in Family Health	11	49	60
4	Adverc. Cert in Nursing	1	511	512
5	Adverc. Cert in Pharmacy	7	88	95
6	Adverc. Cert in SSW	7	60	67
7	Bachelor HSM	24	30	54
8	Bachelor Nursing (Conv)	2	51	53
9	Bachelor Nursing	60	34	34
10	Certificate -3 in social workers	1	14	20
11	Certificate -3 in Pharmacy	0	14	14
12	Diploma in Critical care Nursing	0	10	10
13	Diploma in Med Lab	49	239	288
14	Diploma in Nursing	5	761	766
15	Diploma in Nursing (Conv)	0	173	177
16	Diploma in Pharmacy	7	15	22
17	Diploma in PHC	43	97	140
18	Diploma in PHC(Conv-1)	21	27	48
19	Diploma in PHC(Conv-3)	26	33	59

Table 5.8 **Maldivian Students enrolment from 2007 to 2011 in different allied health programs as a whole at Faculty of Health Sciences (FHS)**

S. No	Programs	Total Males in 5 years for each program (%)	Total females in 5 years (%)	Total of Both sexes in 5years
1	Primary Health Care (Advanced cert, Diploma)	234	322	556
2	Nursing (Advanced Cert, Diploma, Bachelor)	8	1540	1548
3	Medical –Lab(Diploma)	49	239	288
4	Pharmacy (Cert, Diploma)	7	102	109

Data of IGM Hospital (the only public hospital at central level) in 2006 and 2013 was a good indicator to support this study by comparing statistical data available.

There were a total of 102 (38 local and 64 foreign) medical officers at IGMH in 2006. In October 2013 it shows that there were total 96 (56 local and 40 foreign) medical officers. It was a good observation that within last 7 years time the population of medical officers has dominated by local doctors and there was an increase of 18 doctors in this major health facility. Looking at the gender composition of local medical officers in 2006 it was found equal at IGMH (19 males and 19 females) and in October 2013 it was female domination (25 males and 29females) by 4 more doctors. Looking at the background of these doctor it was found that in 2006 there was 26 doctors (11males and 15 females) belonging to urban region (Male', Vilingili, Hulhumale' Municipality Dhafftharu) and 12 doctors (8 males and 4 females) belonging to local islands. These trends in 2013 shows that there were 34 medical officers (12 males and 22 females) belong in to Urban

areas while 20 medical officers (13 males and 7 females) belonging to local islands. See table 5.11, 5.12, 5.13 and 5.14.

Furthermore here were a total of 111 (39 local and 72 foreign) specialists at IGMH. In October 2013 it shows that there were total of 60 (42 local and 18 foreign) medical officers. The observation of medical officers was repeated on specialist area as well within last 7 years time the population of medical officers has dominated by local doctors and there was an increase of 24 doctors in this major health facility. Looking at the gender composition of local specialists in 2006 it was found 42(25 males and 17 females) and in October 2013 it was almost equal (21 males and 19females) by 2 more doctors. Looking at the background of these local specialist, it was found that in 2006 there were 31 specialists (19males and 12 females) belonging to urban region (Male', Vilingili, Hulhumale' Municipality Dhafftharu) and 11 specialists (6 males and 5 females) belonging to local islands. These trends in 2013 shows that there were 31 specialists (15 males and 16 females) belong in to Urban areas while 9 (6 males and 3 females) belonging to local islands. See table 5.11, 5.12, 5.13 and 5.14.

Table 5.11 Availability of doctors and their specialty at IGM Hospital in 2006 and October 2013

S. No	Specialty	Local in 2006	Foreign in 2006	Total Number 2006	Local in 2013	Foreign in 2013	Total Number in 2013
1	Medical Officers	38	64	102	56	40	96
2	Physicians	7	2	9	9	0	9
3	Pediatricians	6	6	12	7	1	8
4	Gynecologists	7	7	14	7	2	9
5	Orthopedicians	1	13	14	3	1	4
6	Surgeons	6	3	9	4	2	6
7	Ophthalmologists	3	4	7	2	0	2
8	ENT	3	1	4	0	2	2
9	Dermatologists	1	4	5	3	0	3
11	Cardiologists	0	3	3	1	0	1
12	Cardio surgeons	0	0	0	1	0	1
13	Anesthetists	1	15	16	0	5	5
14	Emergency Medicine	0	3	3	2	0	2
15	Psychiatrists	1	1	2	0	3	3

16	Pulmonologists	0	0	0	1	0	1
17	Urologists	1	1	2	1	0	1
18	Pathologists	1	3	4	0	2	2
19	Radiologists	1	4	5	1	0	1
21	Neurologists	0	2	2	0	0	0
Sub Total		77	136	213	98	58	156

Table 5.12 Presence of Maldivian medical officers and specialists at IGM Hospital in 2006 and 2013

S. No	Specialty	Males in 2006	Females in 2006	Total Number 2006	Males in 2013	Females in 2013	Total Number in 2013
1	Medical Officers	19	19	38	25	29	54
2	Specialists	25	17	42	21	19	40

Table 5.13 Background of Maldivian medical officers and specialists at IGM Hospital in 2006

S. No	Specialty	Urban Males in 2006	Urban Females in 2006	Total Number Urban 2006	Local Males in 2006	Local Females in 2006	Local Total Number in 2006
1	Medical Officers	11	15	26	8	4	12
2	Specialists	19	12	31	6	5	11

Table 5.14 Background of Maldivian medical officers and specialists at IGM Hospital in 2013

S. No	Specialty	Urban Males in 2013	Urban Females in 2013	Total Number Urban 2013	Local Males in 2013	Local Females in 2013	Local Total Number in 2013
1	Medical Officers	12	22	34	13	7	20
2	Specialists	15	16	31	6	3	9

Having a look at the data of main Private hospital in the country, ADK have a total of 58 doctors (41 medical officers and 41 specialists). The data shows that there were a total of 10 local medical officers and 16 local specialists. See tables 5.9 and 5.10

Table 5.9 Availability of doctors and their specialty at ADK Hospital (private) in October 2013

S. No	Specialty	Total Number
1	Medical Officers	17
2	Physicians	1
3	Pediatricians	5
4	Gynecologists	6
5	Orthopedicians	2
6	Surgeons	6
7	Ophthalmologists	4
8	ENT	2
9	Dermatology	3
10	Dentists	6
11	Psychiatrists	1
12	Pathologists	2
13	Neurologists	1
14	Cardiologists	1
15	Cardio surgeons	1
16	Urologists	1
17	Anesthetists	2
Total		41

Table5.10 Presence of local and foreign doctors at ADK Hospital as a whole

S. No	Specialty	Local in 2013	Foreign in 2013	Total Number in 2013
1	Medical Officers	10	7	17
2	Specialists	16	25	41

Having a look at the Maldives Demographic and Health Survey (MDHS-2009) conducted by the Ministry of Health, the following health care challenges were found.

The Maldives has achievements in terms of communicable disease but there new emerging diseases like ARI, vector borne diseases like dengue, chikungunya, Laptospirosis, scrub typhus, and toxoplasmosis have become endemic diseases across nation. The main cause of mortality and morbidity were chronic non –communicable diseases. Thalassamia is a major problem for Maldives. The Thalassaemia carrier prevalence rate of Maldives was 20 percent and also increase of renal diseases is a major concern. It was found that, Maldives needs to address the issue of adolescent sexual and reproductive health issues and to provide health care for elderly population that has increased considerably. Other than the MDGs, Maldives needs to address occupational health and mental health issues as well. Maldives has low prevalence of HIV/AIDS but risks behaviors like prostitution and intra venous drug use among high risk age groups were evident (MOH, MDHS 2009).

5.3 Implications

Though this study being an academic study, it have various implications to the policy makers, health care managers and private health providers in the Maldives as well as other counties sharing the similar characteristics as Maldives. The main findings of this study could be inferred common to the medical officers as well as other allied health professionals working in public island health facilities across Maldives. Though the response rate was low, this study could be applied to health professional recruitment especially doctors for Maldives by primarily public sector and not least by private health care managers.

5.4 Limitations of the study

Being first of its type, there were innumerable limitations to conduct this study. Obtaining data from various government authorities was the biggest challenge for this study and the coincidence of a consecutive period of government holidays fall in the data collection period makes it even more complex. Health facilities in-charges were in general very co-operative to the researcher, but some facilities provide zero responses.

Among the specialist contacted for interview, only two were identified as do not want to participate unless it was compulsory from the management.

The limited time allocated for this study was also a major challenge. First of all cell phone numbers of all study subjects were obtained from health Facility in-charges and contacted them. Few interviews were taken on the first attempt and majority of the interviews were done on the second attempt on the doctor's time of convenience and some subjects showed zero responses on second, third, fourth and fifth attempt and never given a response back to the researcher.

There was no official budget or a sponsor for this study and the researcher had used his own finances on the study and it was also never an easy task.

5.5 Directions for future research

In the light of this study on brain drain of doctors, the researcher feels that there were a number of problems that need to be studied.

One is to explore the career aspirations of local medical trainees on their career preferences (local or abroad, public or private sector) and the possible reasons. It would be difficult to obtain view of all medical trainees but as done in many countries it could be explored the career aspirations of MBBS final year students.

Not less, studies need to explore the career aspirations of Maldivian Post graduate medical doctors as well as Post graduate trainees abroad. It is very important to explore the reasons of these doctors avoiding to work especially the island communities or in atolls. These studies would help the policy makers to amend policies and to introduce local specialists in the island health facilities in the future.

It is important to explore the career preferences of Maldivian allied health professionals and their intentions to migrate or retain in practice within the country as well. It was revealed from the recruitment department that with the regulations of health co-operations enrolled nurses were not allowed to work in the health facilities so it is needed to bring back them into the national health system.

Another issue is that to explore the reasons why local medical doctors and specialist doctors leave public sector and starts private practices. This is also an issue of other developing countries.

Conclusion

This cross sectional study is done in nineteen(19) public health facilities in the islands of Maldives from 20th September to 10th October 2013by selecting all forty nine (49) foreign specialist doctor present at the time of sampling. This cross sectional study was done on a qualitative approach to explore the reasons for the withdrawal of foreign doctors (specialists) from public health facilities in the islands of Maldives. This paper contain mainly 5 chapters namely Introduction, Literature, methodology, results, discussion and conclusion respectively.

Maldives cannot consider brain drain of doctors as an advantage and depend on foreign professionals always and it need to build its own human resource for health and be self sufficient as a nation. As Sri Lanka, Maldives need to address this issue before it's too late. Maldives can learn lessons from other countries experiences and bring about the changes to its health system before the situation is getting worse.

For this issue to be addressed in the Maldives, few measures must be brought to the policy of human resource recruitment and management within the country and policy makers need to consider human resource waste as well.

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Appendices

Anexx-1

Consent form

This study is to explore the reasons for the withdrawal of foreign doctors (specialist) from Public health facilities in the islands of Maldives

The questionnaire is to explore the reasons for the withdrawal of foreign doctors from public health facilities in the atolls of Maldives. You have full right to participate and do not participate and to withdraw from any moment in this study. The researcher assures you that data and information gathered through this questionnaire is strictly confidential and will only be used for academic purposes.

Researcher details

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Contact Number: 9607564545

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Date:

Anexx-2 **Questionnaire**

Reasons for the withdrawal of foreign doctors(specialist) from Public health facilities in the islands of Maldives

(This questionnaire is to explore the reasons for the withdrawal of foreign doctors from public health facilities in the atolls of Maldives. I assure you that data and information gathered through this questionnaire is strictly confidential and will only be used for academic purpose. So please do not hesitate to give facts and your own views wherever needed).

Demographic Information

Age: ----yrs
Gender: M ☐ F ☐
Marital Status: Single ☐ Married ☐ Divorced ☐ Widowed ☐
Nationality:----------
Religion:----------
Current Position:----------
Qualification level:----------
Facility Name:----------
Island and Atoll:----------
Duration of Contract:----------

1. **Did you get adequate information about Maldives before coming to the Maldives?**
   a. Yes ☐
   b. No ☐
2. **What was the main reason for leaving your home land? (Tick only one)**
   a. Poor pay ☐
   b. Long working hours ☐
   c. Insecure working conditions ☐
   d. Poor Security and harmony ☐

e. Others----------
---

3. What was the main reason for choosing to work in the Maldives? (Tick only one)

a. Better Pay ☐
b. Good working hours ☐
c. Good and secure working conditions ☐
d. Experience peaceful rural life ☐
e. Others----------
---

4. What were the other countries you had worked so far and how long?

---

5. Which do you prefer most? Working in islands or in Capital Male'?

a. Male' ☐
b. Islands ☐

6. Why?

---

7. What is the main difficulty to work in the islands? (Tick only one)

a. Poor infrastructure of rural facilities ☐
b. Poor transportation facilities ☐
c. Less clinical exposure ☐
d. Insecure working conditions ☐
e. Decrease in earning ☐
f. Poor schooling for children ☐
g. Spouse job in another island ☐
h. Others----------
---

8. Will you renew your contract to work in the Maldives?

a. Yes ☐
b. No ☐

9. If no, why?

---

10. What is your next destination?

a. Homeland ☐
b. Others ☐

11. If not home land, Where and why?

---

12. Would you recommend working in Maldives to other health practitioners from your country?

a. Yes ☐
b. No ☐

13. If no, why?

(Thank you for Participating)