

**UNIVERSITY OF THE WESTERN CAPE  
FACULTY OF COMMUNITY AND HEALTH SCIENCES**

**HEALTH PROMOTION FOR HYPERTENSION:  
KNOWLEDGE, ATTITUDE, PRACTISE AND PERCEPTIONS OF  
PHYSIOTHERAPISTS FROM DAR ES SALAAM, TANZANIA**

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**DATE:** 15 November 2018

## **ABSTRACT**

**Background:** Hypertension is a risk factor for both cerebrovascular accidents and cardiovascular diseases, holistic and cost effective measure are called upon to reduce its impact on society. One of the methods advocated for achieving this is health promotion. Therefore, health professionals, including physiotherapists, are called upon to redirect their health care management approaches towards preventative care.

**Aim:** The aim of this study was to determine the knowledge, attitude and practice as well as to explore the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, Tanzania.

**Objectives:** 1) To determine the knowledge, attitude and practice of physiotherapists regarding the management of hypertension in Dar es Salaam in Tanzania; 2) To explore and describe the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam in Tanzania.

**Methodology:** The study employed a sequential explanatory mixed methods approach using a descriptive cross-sectional and exploratory study design for the quantitative and qualitative phase of the study respectively. Descriptive statistics was used to summarise the data on the socio-demographic information. Inferential statistics was used to determine any association between variables. Statistical significance was set at  $p < 0.05$ . Qualitative data was transcribed verbatim, after which coding, categorisation and arrangements of themes followed. Participation was voluntary and participants was given the opportunity to withdraw from the study at any time with no consequences.

**Results:** Physiotherapists from Dar es Salaam Tanzania demonstrated high knowledge, positive attitude and they often include HP in their practice. FGDs held in three (3) different hospital in Dar

es Salaam revealed different understanding of health promotion among physiotherapists, different ways of implementing health promotion, different roles physiotherapists can play in health promotion for hypertension, challenges and the way forward. Physiotherapist has a vital role to play in the prevention and management of hypertension within the community as well as in the hospital setting. If the challenges can be addressed, the management plan for patients could be optimized to assist with curbing the rise in hypertension and its related complications.

## **KEYWORDS**

Health promotion

Hypertension

Physiotherapists

Knowledge

Attitude

Practice

Perception

Stroke

WHO

## **DECLARATION**

I declare that “Health Promotion: Knowledge, Attitude, Practice and Perception of Physiotherapists from Dar es Salaam” is my own work, that has never been submitted for any other degree or examination in any other university and that all sources I have used or quoted have been indicated and acknowledged by complete references.

**Mwengengwa Kalegele**

Signature\_\_\_\_\_

Witness

\_\_\_\_\_

**Dr. Tania Steyl**

## ACKNOWLEDGEMENTS

Firstly I would like to thank the Almighty God for granting me His grace, the opportunity, strength and courage to complete this thesis.

I would also like to thank my supervisor, Dr. Tania Steyl, for the assistance, guidance and encouragement throughout my project, despite the busy and tight schedule.

Thanks to my parents, my mother and father, without their support this journey could have been tiresome and stressful, probably could have ended half-way. Their love and support for me and my children was unconditional, may Almighty God shower them with love and prosperity.

Special and sincere thanks to my husband, you supported me unconditionally. The sacrifice you made will never be forgotten. The journey was smooth because of you.

## **DEDICATION**

This full thesis is dedicated to my children, Arlish and Arlissa, you are lovely and strong. You were still very young when I left, but you pulled through, you adapted to a new life, so I could pursue my career. I missed your birthdays, school visits and religious ceremonies, however, you stood tall despite your young ages. I am very proud of you.

## TABLE OF CONTENTS

TITLE PAGE .....	1
KEYWORDS .....	2
ABSTRACT .....	3
DECLARATION .....	5
ACKNOWLEDGEMENTS .....	6
DEDICATION .....	7
TABLE OF CONTENTS .....	8
APPENDICES .....	14
LIST OF FIGURE .....	15
LIST OF TABLES .....	16
ABREVIATIONS .....	17
<b>CHAPTER ONE</b> .....	18
1.1 BACKGROUND .....	18
1.2 SIGNIFICANCE OF THE STUDY .....	22
1.3 PROBLEM STATEMENT .....	22
1.4 RESEARCH QUESTION .....	23
1.5 AIM OF THE STUDY .....	24



1.6	SPECIFIC OBJECTIVE OF THE STUDY .....	24
1.7	DEFINITION OF TERMS .....	24
1.9	SUMMARY OF THE CHAPTERS .....	25
<b>CHAPTER TWO .....</b>		<b>27</b>
2.1	INTRODUCTION .....	27
2.2	THE PREVALENCE OF HYPERTENSION GLOBALLY .....	27
2.3	THE MANAGEMENT OF HYPERTENSION .....	29
2.4	BARRIERS TO THE MANAGERMENTS ON HYPERTENSION .....	31
2.5	HEALTH PROMOTION FOR DISEASE PREVENTION AND MANAGEMENT .....	32
	2.5.1 Knowledge Regarding Health Promotion for Hypertension .....	35
	2.5.2 Attitudes Regarding Health Promotion for Hypertension.....	36
	2.5.3 Health Promotion Practice for Hypertension.....	37
2.6	HEALTH PROMOTION FOR HYPERTENSION .....	40
2.7	BARRIERS TO HEALTH PROMOTION .....	42
2.8	THE ROLE OF PHYSIOTHERAPISTS IN HEALTH PROMOTION .....	44
2.8	THEORETICAL FRAMEWORK OF THE STUDY.....	46
	2.8.1 Health Education .....	47
	2.8.2 Prevention .....	48
	2.8.3 Health Protection .....	50
2.9	SUMMARY OF THE CHAPTER .....	51
<b>CHAPTER THREE .....</b>		<b>52</b>
3.1	INTRODUCTION .....	52

3.2	RESEARCH SETTING .....	52
3.3	RESEARCH APPROACH .....	53
3.4	QUANTITATIVE PHASE OF THE STUDY.....	55
	3.4.1 Study Design .....	55
	3.4.2 Population and Sampling .....	55
	3.4.3 Data Collection Instrument .....	56
	3.4.4 Validity and Reliability of the Instrument .....	57
	3.4.5 Data Collection Procedure .....	57
	3.4.6 Data Analysis .....	58
3.5	QUALITATIVE PHASE OF THE STUDY.....	58
	3.5.1 Study Design .....	58
	3.5.2 Population and Sampling .....	58
	3.5.3 Data Collection Tool .....	60
	3.5.4 Data Collection Procedure .....	60
	3.5.5 Trustworthiness .....	61
	3.6.6 Data Analysis .....	63
3.6	ETHICS CONSIDERATIONS .....	63
3.7	SUMMARY OF THE CHAPTER .....	64
	<b>CHAPTER FOUR .....</b>	<b>65</b>
4.1	INTRODUCTION .....	65
4.2	SOCIO-DEMOGRHAPHIC CHARACTERISTICS OF PARTICIPANTS (n=58) .....	65
4.3	PHYSIOTHERAPISTS' KNOWLEDGE OF HEALTH PROMOTION FOR HYPERTENSION (n= 58) .....	67

4.3.1	Knowledge Level of Health Promotion for Age of Participants .....	71
4.3.2	Knowledge Level of Health Promotion for Hypertension and Work Experience ....	72
4.3.3	Knowledge Level of Health Promotion for Hypertension and Gender .....	73
4.4	ATTITUDE OF PHYSIOTHERAPISTS REGARDING HEALTH PROMOTION FOR HYPERTENSION (n= 58) .....	74
4.4.1	Attitude Towards Health Promotion for Hypertension and Age, Work Experience and Gender of the Participants .....	78
4.5	PHYSIOTHERAPISTS' INTEGRATION OF HEALTH PROMOTION FOR HYPERTENSION IN WORK PRACTICE (n=58) .....	78
4.5.1	Integration of Health Promotion for Hypertension in Work Practice and Age .....	82
4.5.2	Integration of Health Promotion for Hypertension in Work Practice and Gender and Work Experience .....	82
4.6	ASSOCIATION BETWEEN KNOWLEDGE, ATTITUDE AND PRACTICE OF HEALTH PROMOTION FOR HYPERTENSION (n=58) .....	82
4.7	SUMMARY OF THE CHAPTER .....	83
	<b>CHAPTER FIVE</b> .....	<b>85</b>
5.1	INTRODUCTION .....	85
5.2	FOCUS GROUP DISCUSSIONS WITH PHYSIOTHERAPISTS FROM DAR ES SALAAM, TANZANIA .....	85
5.3	PRE-DETERMINED THEMES AND SUB-THEMES .....	85
5.3.1	Physiotherapists' Understanding of Health Promotion .....	86
5.3.2	Physiotherapy Application of Health Promotion .....	89
	Media .....	89

Face to Face .....	90
Social Gatherings .....	91
5.3.3 Physiotherapists' Role in Health Promotion for Hypertension .....	91
Blood Pressure Check-Up .....	91
Management of Hypertension .....	93
Current Practice .....	96
5.3.4 Challenges of Physiotherapists Regarding the Implementation of Health Promotion for Hypertension .....	97
Attitude of Physiotherapists .....	98
Health Policy.....	99
Time .....	100
Ignorance of Medical Doctors .....	101
5.3.5 The Way Forward .....	101
Physiotherapists' Attitude .....	102
General Awareness .....	102
Participation in Hypertensive Clinics .....	103
5.4       SUMMARY OF THE CHAPTER .....	104
<b>CHAPTER SIX .....</b>	<b>105</b>
6.1   INTRODUCTION .....	105
6.2   PHYSIOTHERAPISTS' KNOWLEDGE OF HEALTH PROMOTION FOR HYPERTENSION .....	106
6.3   ATTITUDE OF PHYSIOTHERAPISTS TOWARDS HEALTH PROMOTION FOR HYPERTENSION .....	109

6.4	PHYSIOTHERAPISTS’ PRACTICE OF HEALTH PROMOTION FOR HYPERTENSION .....	111
6.5	CHALLENGES FACED BY PHYSIOTHERAPISTS IN PRACTICING HEALTH PROMOTION FOR HYPERTENSION .....	113
6.6	THE WAY FORWARD .....	115
6.7	SUMMARY OF THE CHAPTER .....	116
	<b>CHAPTER SEVEN</b> .....	117
7.1	INTRODUCTION .....	117
7.2	SUMMARY OF THE STUDY .....	117
7.3	LIMITATION OF THE STUDY .....	119
7.4	RECOMMENDATIONS .....	120
	Health Professionals .....	120
	Government .....	121
7.5	SUMMARY OF THE CHAPTER .....	121
	<b>REFERENCES</b> .....	122

## **APPENDICES**

- APPENDIX A:** QUESTIONNAIRE
- APPENDIX B:** BMREC CLEARANCE LETTER
- APPENDIX C:** SEMI-STRUCTURED FOCUS GROUP GUIDE
- APPENDIX D:** FGDS BINDING FORM
- APPENDIX E:** INFORMATION SHEET
- APPENDIX F:** INFORMED WRITTEN CONSET
- APPENDIX G:** RESEARCH CLEARANCE LETTER FROM MUHIMBILI NATIONAL  
HOSPITAL

## **LIST OF FIGURES**

**Figure 1:** Visual Model of Sequential Explanatory Mixed Method

**Figure 2:** Knowledge Categories and Age of Participants

**Figure 3:** Knowledge Categories and Work Experience of Participants

**Figure 4:** Knowledge Categories and Gender of Participants

## LIST OF TABLES

- Table 1:** Population of the Present Study
- Table 2:** Social Demographic Information of the Study Sample
- Table 3:** Physiotherapists' Knowledge of Health Promotion for Hypertension
- Table 4:** Level of Education Difference in Knowledge of Health Promotion for Hypertension
- Table 5:** Level of Education Difference as it Related to Knowledge of Health Promotion for Hypertension Categories
- Table 6:** Physiotherapists' Attitude Towards Health Promotion for Hypertension
- Table 7:** Level of Education Difference in Attitude Towards Health Promotion for Hypertension
- Table 8:** Physiotherapists' Attitude Categories of Health Promotion
- Table 9:** Physiotherapists' Integration of Health Promotion for Hypertension in Work Practice
- Table 10:** Physiotherapists' Practice Integration Categories of Health Promotion
- Table 11:** Level of Education Difference in Integration of Health Promotion for Hypertension
- Table 12:** Pre-determined Themes and Sub-themes.



## ABBREVIATIONS

APA	America Physiotherapy Association
CI	Coefficient Interval
CVA	Cardiovascular Accident
CVD	Cardiovascular Disease
HP	Health Promotion
HPM	Health Promotion Model
HSSP	Health Sector Strategic Plan
HRQoI	High Related Quality of Life
HT	Hypertension
MCDGE & C	Community Development Gender Elderly and Children
NCDs	Non-communicable Diseases
PHC	Primary Health Care
WCPT	World Confederation for Physiotherapists
WHO	World Health Organisation

# CHAPTER ONE

## INTRODUCTION

### 1.1 BACKGROUND

High blood pressure, or hypertension (HT), is the primary and most common risk factor for stroke, heart and renal diseases. From being a comparatively rare condition in many parts of the world until about 50 years ago, hypertension has become the leading cause of global morbidity and mortality (World Health Organisation (WHO), 2012). It is estimated that one in every six people worldwide, or nearly one billion, are affected by high blood pressure, and researchers postulated that this number will increase to 1.5 billion by 2025 (Kearney, Whelton, Reynolds, Muntner, Whelton & He, 2005). The World Health Organisation also stated that high blood pressure is the most attributable cause of cardiovascular death (WHO, 2014). Unlike most diseases, high blood pressure often has no symptoms and is therefore called the ‘silent killer’. Reports from many nations have shown that more than 50% of the affected population in virtually every country, are not aware of their high blood pressure status (Ong, Cheung, Man, Lau & Lam, 2007; Agyemang, Ujic-Voortman, Uitenbroek, Foets & Droomers, 2006; Dickson, Blackledge & Hajjar, 2006; Kamadjeu, Edwards, Atanga, Unwin, Kiawi & Mbanya, 2006; Brown & Metiko, 2005).

Hypertension is prevalent in every part of the world, in every region of any nation and in every community. It affects the rich and the poor, the young and the old, men and women, urban and rural populations, the educated and illiterate alike. There is a high prevalence of hypertension in rural and urban areas of Tanzania, with low levels of detection, treatment and control. A study

conducted by Kavishe, Biraro, Baisley, Vanobberghen, Kapiga and Munderi et al. (2015) reported a 16.4% (11.7 – 22.4, 95% CI) and 16.8% (12.6 – 21.9, 95% CI) prevalence for urban and rural Tanzania respectively. In addition, a mere 6% of the participants in the aforementioned study were on hypertensive treatment; with the lowest proportion in rural areas. The majority of the participants' hypertension was not controlled.

Hypertension is associated with end organ damage leading to serious health concerns, among the most prevalent are stroke and heart failure. However, despite the damage to end organs, hypertension is known to decrease quality of life (HRQoL) (Zafriir, 2013). Stroke can be classified as ischemic stroke, intracerebral haemorrhagic stroke and sub-arachnoid haemorrhagic stroke. It is said to be the leading cause of adult's disability worldwide (Donnan, Fisher, MacLeod & Davis, 2008). The burden of stroke is diverse and present differences in prognosis and treatment strategies. Although there are a variety of risk factors for the development of a stroke, priority should be given to signs and symptoms of hypertension. This could be included in the preventative strategies in the health care planning of patients with hypertension. Additionally, the emphasis should be put on blood pressure control as it is the most common risk factor of stroke (Van Asch, Luitse, Rinkel, van der Tweel, Algra & Klijn, 2010). A study conducted by Maredza, Bertram, Gómez-Olivé & Tollman, (2016) identify stroke as the second leading cause of death in South Africa. Almost 30,000 deaths due to stroke occur every year in rural South Africa, and hypertension was identified as the leading cause of a stroke. Tanzania is plagued by high incidences of stroke case fatality, of 28 days (23.8%) and 3 years (60%) (Walker, Jusabani, Aris, Gray, Whiting, Kabadi, et al., 2011) compared to Johannesburg, South Africa 12-month case fatality of 38% (Mudzi, Stewart & Musenge, 2012) and Lagos, Nigeria 30-days case fatality of

16.2 (Danesi, Okubadejo, Ojin & Ojo, 2013). However death seven (7) year study conducted in Tanzania revealed 80% case fatality rate (Walker, Wakefield, Gray, Jusabani, Swai & Mugusi, 2016)

Heart failure, a complication due to hypertension, is a notable health issue globally. A systematic review conducted by van Riet, Van Hoes, Wagenaar, Limburg, Landman and Rutten (2016) concluded that heart failure is very common in the adult population, affecting 26 million people globally. Despite the increased improvement in ambulatory heart failure and ejection fraction as a result of new drugs and therapies, high mortality rates are still reported (Vadugathan, Mart, Mentz, Greene, Ambrosy & Subacius, 2016). In addition, the annual global economic burden of heart failure is estimated to be \$108 billion, whereby 60% accounts for direct cost, and 40% account for indirect cost. In developing countries the indirect costs are more than the direct cost of management of the disease (Cook, Cole, Asaria, Jabbour & Francis, 2014). Heart failure mostly affects the aging population. In the United Republic of Tanzania, heart failure secondary to hypertension accounts for 45% of all heart failure cases while almost 28% of heart failure cases is attributable to cardiomyopathy, 12% to rheumatic heart disease and 9% due to ischemic heart disease (Makubi, Hage, Lwakatare, Kisenge, Makani & Rydén et al., 2014).

Hypertension can also result in decreased health-related quality of life (HRQoL) of patients. Although HRQoL is a subjective concept, the diagnosis and management of hypertension leads to changes in the person's lifestyle which may eventually interfere with their adherence to management. Trevisol, Moreira, Fuchs and Fuchs (2012) stated that patients with hypertension have low HRQoL when their blood pressure is controlled by medication, compared to patients with

uncontrolled HT. This finding is echoed by Li, Liu, Puente, Li, Jiang and Jin et al. (2005), which reported that being aware of one's hypertensive state and managing the disease is associated with low HRQol. The researchers elaborate that very low HRQol in patients with controlled HT is due to the sudden change of lifestyle, including the side effects of blood pressure lowering drugs. It is important to note that hypertension, as a chronic condition, cannot be viewed without other co-morbidities. Mann, Manisha, Gupta, Matreja and Rao (2016) noted that patients diagnosed with both HT and diabetes have poorer HRQol than patients diagnosed with hypertension alone. It is important to note that HRQol in patients with hypertension is said to improve with continuity of care. Miao, Zhang, Sparring, Sandeep, Tang, Sun, et al. (2016) stated that continuity of care, the long-term personal relationship between the patient and the management team, improved HRQol in all eight sub-scales of the SF-36.

To curb the increased prevalence of HT, there is a need for public education and health promotion programmes. Among the key players needed to achieve this goal are physiotherapists. Physiotherapists have the potential to effectively counsel patients with regard to lifestyle behaviour changes, independently or in collaboration with other healthcare team members (Geense, Van de Glind, Visscher & Van Achterberg, 2013). However, physiotherapy practitioners have mostly gone unrecognised outside of the physiotherapy community, especially in the role they can play in health promotion. Furthermore, the single use of biomedical interventions is no longer sufficient to combat non-communicable diseases such as HT (Kumar & Preetha, 2012). Hence, the emphasis should be on adopting a more holistic health promotion approach. It is for this reason that experts, including physiotherapists, are called upon to re-direct their attention from the management of

primary conditions to the prevention of lifestyle conditions through health promotion (Frerichs, Kalterbacher, Van de Leur & Dean, 2012).

## **1.2 SIGNIFICANCE OF THE STUDY**

Exploring the perceptions of physiotherapists regarding their role in health promotion for hypertension could provide valuable information that can be used to change their work culture to a more preventative one. In turn it could reduce the high cost of managing NCDs such as HT. Furthermore, this study could provide policy makers and health care administrators with evidence-based information of physiotherapists' perceptions with regards to HT prevention and management. Furthermore, the training of physiotherapy students in Tanzania could include preventative measure for NCDs in their curriculum.

## **1.3 PROBLEM STATEMENT**

The WHO estimates that by 2020 NCDs will account for 80% of the global burden of disease, causing 70% of deaths in developing countries (Geneau, Stuckler, Stachenko, McKee, Ebrahim, & Basu et al., 2010). Although many NCDs exist, Peck, Green, Mtabaji, Majinge, Smart and Downs et al. (2013) reported that hypertension-related diseases were the most common and accounted for 33.9% of the total NCD deaths in a Tanzanian hospital. In addition, the researchers reported that stroke was the leading cause of hypertension-related death. An alarming fact is that 57% of hypertension-related deaths occurred in patients younger than 65 years old.

A global effort in addressing NCDs have gained momentum since (WHO, 2013). Responding to the growing threat of hypertension level, Tanzania's third phase of Health Sector Strategic Plan

(HSSP), under the umbrella of the Ministry of Health, stated that “the provision of health promotion at the community level should be provided at primary health centres” (HSSP, 2008 pg. 20-22). Despite the intention of the HSSP (2008), health promotion for patients with hypertension is still lacking at primary health centres in Tanzania due to various reasons such as poor infrastructure and lack of qualified personnel. The patients are rather referred for management to secondary and tertiary hospitals (Peck et al., 2013).

Hypertension is said to be the leading modifiable risk factor for stroke in Tanzania (Yusuf, 2013). Nevertheless, an increase in the admission of stroke patients in tertiary hospitals in Tanzania was noted by Walker, Viney, Green, Mawanswila, Maro and Gjertsen et al., (2015). The burden of the disease is not limited to loss of human resources and medical treatment cost, but cause extra financial costs due to physiotherapy treatment and more indirect cost required for the patients affected (Youssoufa, Sara & Jean, 2011). Tanzania, like other developing countries faces a great challenge due to the shortage of healthcare professionals at all levels of health delivery. Less than 70 physiotherapists are registered on the National Association of Tanzania ([www.apta.or.tz](http://www.apta.or.tz)). The abovementioned call for physiotherapists working in secondary and tertiary hospitals to re-orient their health care service towards a more preventive service by including health promotion in the management of hypertension.

#### **1.4 RESEARCH QUESTIONS**

1. What are the knowledge, attitude and practice of physiotherapists regarding the management of hypertension in Dar es Salaam, Tanzania?

2. What are the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, Tanzania?

## **1.5 AIM OF THE STUDY**

The aim of the study was to determine the knowledge, attitude and practice as well as to explore the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, Tanzania.

### **1.6.1 SPECIFIC OBJECTIVES OF THE STUDY**

The specific objectives of the study were:

- 1.6.1 To determine the knowledge, attitude and practice of physiotherapists regarding the management of hypertension in Dar es Salaam, in Tanzania.
- 1.6.2 To explore and describe the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, in Tanzania.

## **1.7 DEFINITION OF KEY TERMS**

The most significant terms used in this study are defined below:

**Hypertension:** is defined as raised either systolic or diastolic blood pressure of  $\geq 160/95$  (WHO, 1996).

**Health promotion:** is the process of enabling people to increase control over and to improve their health (Duplaga, Grysztar, Rodzinka and Kopec, 2016, pg 456)



## **1.7 SUMMARY OF CHAPTER**

Chapter One provides a rationale for the study and highlights the problem statement, aims and objectives of the study. It also contains definition of terms, abbreviation and outline of the study. The overall aim of this study was to determine the knowledge, attitude and practice as well as the perception of physiotherapy from Dar es Salaam, Tanzania regarding health promotion for hypertension. Physiotherapists are called upon to re-orient their practice to more preventive measure like health promotion.

Chapter Two presents a review of relevant literature regarding health promotion for hypertension. The chapter started with an overview of global prevalence of hypertension, of which is reported to be the leading risks factor for CVA, affecting both urban and rural area alike, and the prevalence increases with age. Despite high prevalence, hypertension still has more adverse effect than cardiovascular disease and obesity. In Tanzania, hypertension prevalence is high but mostly it remains undiagnosed, untreated or inadequately diagnosed. Furthermore, the chapter outline the overview on management of hypertension, barrier to management of hypertension, health promotion for disease prevention and management, health promotion for hypertension, barrier to health promotion, role of physiotherapist in health promotion and the chapter ended with the theoretical framework of the study.

Chapter Three considers the methodological issues relevant to the study. It explains the research setting in which the study was based, as well as the study design used in this study. It further includes details regarding the study population and sampling methods for both quantitative and qualitative data. A description of the data collection methods is presented. This includes the instrument used in data collection, data collection procedures and issues of reliability, validity, credibility and trustworthiness.

The chapter ends by giving the method of data analysis and showing how ethical issues were addressed.

Chapter Four outlines the results of the quantitative data analysis. Results are summarised and presented in tables and graphs. Data was obtained through self-administered questionnaire. Statistical package for Social Science 25<sup>th</sup> version (SPSS0 was used to analyse the data where by descriptive statistic was employed to summarise social demographic information, and categorical data was expressed using percentage and presented in frequency table. Inferential statistic was used to determine relationship between variables.

Chapter Five outlines the results of the content analysis of the focus group discussions that attempted to explore the perceptions of the physiotherapists regarding health promotion for hypertension. The emerging themes are illustrated, and direct verbatim quotes are used to provide the voice of the participants.

Chapter Six presents the integration of the study in the form of the discussion. It furthermore provides a summary of the study and draws conclusions based on the findings. Limitations to the study are also outlined. In addition, recommendations based on the main findings of the study are made.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter reviewed the existing literature on health promotion with regard to hypertension. The chapter commences with an overview on the prevalence of hypertension, globally and in Tanzania. The management of hypertension is discussed, including the barriers to pharmacological management. Health promotion in general, its barriers as well as the role of physiotherapists in health promotion, are reviewed. Lastly, the theoretical orientation employed in the study is discussed.

#### **2.2 THE PREVALENCE OF HYPERTENSION GLOBALLY**

Hypertension is the leading modifiable cause of mortality worldwide (Alhawassi, Krass & Pont, 2015; Pimenta & Oparil, 2012). It is an important preventable and common risk factor for cardiovascular disease (CVD). Despite the considerable improvement in the awareness and control of hypertension, it remains a leading public challenge that causes premature death and disability (Mills, Bundy, Kelly, Reed, Kearney & Reynolds, 2016). Hypertension has been identified as the leading risk factor for CVD, affecting 24-30% of people in urban areas and 12-14% in rural areas globally (Ingale & Dixit, 2017). Sliwa et al. (2011a) also report that CVD are responsible for 80% of all deaths in low income countries. It is reported that by 2025, the mortality rate due to CVD will be 60% of a total of 1.56 billion's people. More alarming is the report by Bury and Moffat (2014) of the predicted higher mortality rates due to non-communicable diseases (hypertension being the leading one) compared to the total number of deaths from communicable, nutritional,

maternal and perinatal diseases in Africa. As such, the researchers predicted that by 2030 the prevalence of hypertension in Africa will be eight (8) times higher than in developed countries.

It is important to note that the prevalence of hypertension increases significantly with age. While approximately 30% of the global adult population aged less than 65 years have HT and more than 70% of adults older than 80 years are treated for elevated blood pressure (Alhawassi et al., 2015). Despite hypertension being a highly preventable risk factor for CVD, it still has a more adverse effect on human health than both cardiorespiratory diseases and obesity. Research has shown positive outcomes for the management of HT, for example, pharmacological management has a significant reduction impact in both cardiovascular and cerebrovascular mortality (Musini, Tejani, Bassett & Wright, 2009), hence the call for a multi-disciplinary approach for the prevention and managements of hypertension, as hypertension and its associated complications are highly preventable (Forouzanfar, Liu, Roth, Biryukov, Marczak & Murray, 2017).

The United Republic of Tanzania, a developing country in sub-Saharan Africa faces the same challenges with regards to hypertension as other low income countries. A study conducted at Tanzanian Zonal Hospital between 2009 and 2011 reported that more than a third (33.9%) of all deaths due to non-communicable diseases were related to hypertension (Peck, Mghamba, Vanobberghen, Kavishe, Rugarabamu & Smeeth, 2014). Despite the higher prevalence of hypertension (16-17%) in Tanzania, compared to the mere 1-4% prevalence of diabetes mellitus, HT disease awareness is still low. Hypertension mostly remains undiagnosed, untreated or inadequately treated, even in the case of confirmed diagnosis (Kavishe et al., 2015). It is an alarming fact that of the patients receiving treatment, only 7% has controlled blood pressure

(Ataklte, Erqou, Kaptoge, Taye, Echouffo-Tcheugui & Kengne, 2015). However, patients with hypertension in all three district hospitals of Dar es Salaam, Tanzania reported to have low medication compliance (53.3%), with female patients are more compliant than male patients (Joho, 2012).

As mentioned earlier, hypertension is not limited to high income countries, as it also affects low income countries. However, people living in high income countries have access to better medical services for the prevention and management of the disease in comparison to low income countries. As such, in Tanzania, the increased burden of the diseases is felt not only at individual level, but also at the society and national level. Nonetheless, evidence suggests that the best effective intervention to combat risk factor of hypertension is through health promotion (Biswas, Shariful Islam & Islam, 2016)

### **2.3 THE MANAGEMENT OF HYPERTENSION**

Hypertension is either classified as primary when the cause is not clearly known, or secondary, when the cause is an underlying pathology. It is suggested that the cause for primary hypertension is either genetic or due to environmental factors. Primary hypertension can furthermore be classified as Stage 1 hypertension (blood pressure is 140/90mmHg or higher) and Stage 2 hypertension (blood pressure is 160/100mmHg or higher) (Ritchie, MacKenzie, Campbell & Murchie, 2011). Furthermore, hypertension is classified as resistant hypertension when blood pressure remains more than 140/90mmHg, regardless of pharmacological and non-pharmacological intervention (Ritchie, MacKenzie, et al., 2011). Several factors have been highlighted for causing resistant hypertension, namely non-adherence to the selected management

and the existence of other associated pathology like obstructive apnea and primary aldosteronism (Pedrosa, Drager, Gonzaga, Sousa, de Paula & Amaro, et al., 2011).

The management of hypertension often combines pharmacological and non-pharmacological intervention. Pharmacological intervention commence when blood pressure is more than 140/90mmHg. Once a patient has a blood pressure reading of 160/100mmHg and more, immediate pharmacological intervention is vital. It must be noted that medication can be include in any patient with hypertension if the clinician senses its importance to achieve immediate control. Choice of medication is influenced by several factors such as age, ethnicity, race, other associated health conditions (co-morbidities) as well as availability and affordability of medication. The targeted blood pressure levels are 140/90mmHg for adults with HT and 150/90mmHg for patients 80 years and older with HT respectively (Mancia, Fagard, Narkiewicz, Redon, Zanchetti & Bohm, et al., 2013).

Apart from pharmacological management, non-pharmacological interventions for patients with no evidence of abnormal cardiovascular findings can also be implemented. It is important to note that the pharmacological management can commence as soon as the clinician see the blood pressure does not to respond to the non-pharmacological intervention. Several non-pharmacological interventions have proven to reduce high blood pressure. Intervention includes weight loss, reduced salt intake, minimise alcohol consumption, cigarette smoking cessation and exercise such as structured regular aerobic exercise (Elmer, Obarzanek, Vollmer, Simons-Morton, Stevens & Young et al., 2006). A randomised control study of non-pharmacological intervention conducted by Subramanian, H., Soudarssanane, M., Jayalakshmy, R., Thiruselvakumar, D., Navasakthi, D.,

Sahai, A., et al (2011) reported reduction of blood pressure among three intervention group of 5.3/6.0mmhg, 2.5/2.0mmhg and 2.3/2.4 mmhg respectively. As such, Sikiru and Okoye ( 2013), concluded that non-pharmacological intervention is effective in management of hypertension through regulation of pulse pressure.

#### **2.4 BARRIERS TO THE MANagements ON HYPERTENSION**

Management of hypertension is vital in preventing hypertension-related complications such as cardiovascular disease and stroke. Hypertension, as stated above, can be managed by pharmacological and non-pharmacological interventions. Although there is effective hypertension interventions available, only a fraction of those diagnosed with hypertension adhere to hypertension therapy (Kavishe, et al., 2015). Adherence to hypertensive therapy, as cited by Ambaw, Alemie, Meseret, Yohannes and Mengesha (2012), is the biggest barrier to controlling blood pressure. Poor adherence mostly leads to poor outcome and wastage of resources, causing substantial challenges to health professionals and the community in general (Ambaw et al., 2012; Jimmy & Jose, 2011).

Several barriers to the optimal management of hypertension in the elderly have been identified and can generally be considered as health care system-, physician- or patient-related barriers (Alhawassi et al., 2015). Health care system-related barriers affecting blood pressure control include poor infrastructure, lack of sufficient human resources, the variability in treatment recommendations for this population (Gebrezgi, Trepka & Kidane, 2012; Schäfer, De Villiers, Sudano, Dishinger, Theus, Zilla & Dieterle, 2012). Despite a number of clinical trial for this population, it remains unknown whether the evidence has been incorporated into treatment guidelines and translated into

practice. Physician-related barriers include attitudes towards the risks and benefits of managing hypertension and differences in the interpretation of evidence (treatment guidelines inconsistency) (Alhawassi et al., 2015; Eastman, 2008). Patient-related factors for adhering to hypertensive therapy include fear of adverse effect, long term drug usage and varying dosage, the use of traditional medicine, economic status, lack of social resources and poor or improper disease awareness (Tarn, Heritage, Paterniti, Hays, Kravitz & Wenger, 2006; Rodondi, Peng, Karter, Bauer, Vittinghoff & Tang, et al., 2006; Osterberg & Blaschke, 2005). There is the low utilisation of health care service for patients with hypertension in Tanzania (Bovet, Gervasoni, Mkamba, Balampama, Lengeler, Paccaud, et al., 2008). This is said to be caused by abovementioned barriers as well as low priority to non-symptomatic patients, competing with other diseases for priority, cultural factors and health personnel with inadequate skills and training. Furthermore, Bovet et al. (2008) reported that the health system in Tanzania has inadequate structures, inefficient organisation, lack of resources for NCDs and limited policy focusing on control of hypertension.

Efforts to dispell and dimantle the myths and barriers related to hypertension treatment and control are warranted to reduce the consequences of the disease. To manage the disease holistically and effectively, it is of utmost importance that the barriers to effective management of the disease should be addressed by all relevant authorities.

## **2.5 HEALTH PROMOTION FOR DISEASE PREVENTION AND MANAGEMENT**

Health promotion, as defined by Duplaga et al. (2016, pg 456) is “the process of enabling people to increase control over and to improve their health”. The Health Promotion Model (HPM) seeks to enhance positive health (physical, mental and social) as well as prevent ill health. This is made



possible when individuals such as health professionals, the public and the Government emanate together towards achieving this goal (Tannahil, 2009).

Health promotion came to effect within the nineteenth century following the rapid growth of western populations, industrialisation and urbanisation, which in turn did not match the basic need like food and shelter within societies. After many years, health promotion continues to grow simultaneously with globalisation and civilization. However, by the twentieth century health promotion was considered to be more effective in individuals focusing on preventive medicine (Mold & Berridge, 2013). In the mid twentieth century, preventive medicine spread through many western countries and the WHO (1986) came up with various initiatives for disease prevention through health promotion. Promotion of health is considered as the way of attaining and precipitating good quality of life. However, having good health need change in the way health care is delivered (WHO, 2009).

Muhanga, Malungo and Malungo (2017) argue that health promotion provide room for a proper way of communicating about health. It provides knowledge, understanding, motivation and competence for better health outcomes within the society. Although people do not make decisions regarding their health because of many external factors affecting individuals' health, the main goal of health promotion is to alter all determinants of health with the aim of improving the health status of individuals. Worldwide, the health care approach for NCDs, such as hypertension, is shifting from a curative to a more promotional and preventative approach. This shift is sustained by the findings from the Global Burden of Disease study of 2010, which reported a decrease in the number of deaths because of maternal, and child illness as compared to young adults diagnosed

with NCDs during the past twenty years (Horton, 2013). The consequences of hypertension can thus be prevented if health promotion can be prioritised at the early stages of diagnosed hypertension.

In 2010 the Tanzania government piloted a project in the Dodoma region, targeting communities, health workers and district authority staff. The Ministry of Health, Community Developments, Gender, Elderly and Children (MCDGE & C) coordinate the HP project, which is currently in its second phase (2015-2019). The emphasis of the project is to improve health of those living in Tanzania, focusing specifically on people at risk. The project also provided support for health systems to become more responsive to the needs and demands of the people. The second phase of the project is more diverse, and includes two more regions, namely Morogoro and Shinyanga, covering 24 districts in total. Currently, the project utilises an integrated health system approach, focusing simultaneously on four components. These components include: raising and re-designing of community health funds by introducing medical insurance to member organisation in order to access medical service at any health facilities around the desired area. In addition, management of medicinal supply and medicinal stock; health technology management for maintaining infrastructure and equipment for the facilitation of better health care delivery and health promotion through the collaboration of government health personnel and community development officers prioritising health needs within the desired community, are the prioritised components of the project (Health Promotion and System Strengthening (HPSS), 2015).

### **2.5.1 Knowledge Regarding Health Promotion for Hypertension**

Hypertension is considered to be normal, given a blood pressure of  $120/\leq 80$ mmHg; elevated ( $120-129/\leq 80$ mmHg); stage one HT ( $130-39/80-89$ mmHg) and stage two HT ( $\leq 140/\geq 90$ mmHg). However, before deciding whether an individual is hypertensive or not, blood pressure readings should be taken at least twice or thrice (Whelton, Carey, Aronow, Casey, Collins, Himmelfarb, et al., 2018). Risk factors should also be taken into consideration when a preventative approach for hypertension is considered. Health promotion should be focused on weight loss for obese people through increased physical, reducing alcohol intake, smoking cessation and sodium/salt intake restriction. Knowledge, as defined by Bandran (1995: pg. 9), is the “capacity to acquire, retain and use information: a mixture of comprehension, experience, discernment and skills”. Knowledge of hypertension through health promotion is important for all health workers in order to achieve a disease-free society. If a health professional does not realise the importance of health promotion for hypertension, they might not see the need for change in their strategical reform, namely from curative and rehabilitative management to a more preventative facility. On the other hand, if the society or individual is not aware of the risky behaviours that contribute to the development of HT and the importance of practising appropriate behaviour, they might not realise the need to change their health behaviour. Knowledge can cause initial ideology of change. As edited by Hogston, R & Marjoram, B (2011,pg 428) if both health care professionals and stakeholders are knowledgeable about HT prevention and management, the process of initiating change and focus on health promotion for HT could become regular practice. Furthermore Kemppainen, V., Tossavainen, K. and Turunen, H. (2013) asserted that it is the sole responsibility of clinics and hospital management to provide vision and strategies for better implementation of health promotion within the hospitals. It is still unclear whether the current practice of health promotion

is through evidenced-based knowledge or practitioner's ideology, since it has being reported that evidence-based practise has never been straight forward (Little, 2003). Nevertheless, knowledge is the primary key in linking research practice and policy for better implementation of health promotion (Armstrong, Waters, Crockett & Keleher, 2007). Bryant (2002: pg. 3) stated that health promotion is "the approach that stresses new ways of thinking about means to improve well-being". It involves normal or exemplary policy changes implemented by health care professionals such as physiotherapists. Since knowledge is essential in the practice of health promotion, the present study aims to determine the knowledge of physiotherapist working in Dar es Salaam, Tanzania regarding hypertension. Furthermore, physiotherpists employ health education orpromotion in their daily practice, therefore, determining their knowledge and practice of health promotion could enhance the role they can play in this very important aspect of disease prevention and managment (Boll, Boström-Lindberg & Boström-Lindberg, 2010).

### **2.5.2 Attitudes Regarding Health Promotion for Hypertension**

Health promotion should commence with a goal, and as such if health is the goal, medical intervention alone is not a means but rather the broader interaction of health promotor practice and collective effort of all stake holders (Bandura, 2004). Swedish health care professionals believe that health care delivery should focus more on prevention of ill health and promoting good health. Amongst health care personnel, physicians demonstrated a less positive attitude towards health promotion at hospital settings (Johansson, Stenlund, Lundström & Weinehall, 2010). The researchers, however, stated that the physicians seemed to recognise the important role health promotion should play in their daily management of patients.

Thus, having a positive attitude is the product of believing in positive results, either by mastery experience, by vicarious experience, by social persuasion and/or by somatic and emotional states (Bandura, 1998). Individual attitudes tend to be considered as facts and people acts on them unless otherwise persuaded. Positive attitude creates desire and commitment to change and act. People tend to withdraw if they do not have self-determinant factors to act upon (Whitehead, 2001). The researcher furthermore stated that a positive attitude towards something determine the amount of perseverance, adherence to the practice and eases the process of change. Although a positive attitude is linked to knowledge and skills, the more knowledgeable and skilled one is, the pre-eminent positive attitude he/she will possess.

Physiotherapists as health care providers play a crucial role in the prevention and promotion of health on primary, secondary and tertiary health care level. Hence, the attitude of physiotherapists involved in health promotion for HT, for instance, are a very important determinant in whether they comprehend the importance of health promotion for the disease. Authors such as Al-Kandari and Vidal (2007), Wen and Fetzer (2005), Stark, Manning-Walsh and Vliem (2005), reported that emphasis should be placed on health promoters' attitude and skills. Therefore, determining physiotherapists' behaviour towards health promotion is vital, as their attitude will allow the evaluation of how they respond to health promotion, specifically for patients with HT in the present study.

### **2.5.3 Health Promotion Practice for Hypertension**

According to the WHO (1986), health promotion practice can be categorised into three major stereotypes, namely the planned, the responsive and the responsive approach. The *planned*

*approach* of health promotion practice was widely used in the past decade. This approach focused on developing the HP practice model by establishing evidence-based practice. The approach is mostly used in academia and research by systematically assessing the present evidence in the context of population health needs and priorities, together with administrative protocols for overseeing effective and successful intervention. The *responsive approach* is based on the perceived needs of targeted society, their participation and the role they play in identifying and problem solving in the context of ill health and health. It involves high value community programmes intending to attain individual positive effect from the programme. The *reactive approach* is the response of, for instance, governments in perceived urgent health matters within the society and was first introduced by the Ottawa Charter for Health Promotion (Nutbeam, 1996; WHO, 1986).

Although working experience is said to have an impact on practicing health promotion (Saliba, Sammut, Vicker & Calleja, 2011). It is important to determine the HP practice of all physiotherapists, as they are in the ideal position and have great potential to promote physical activity in patients with HT, which may result in a decrease in the prevalence of HT in this specific population. Physical activity participation can improve the patient's blood lipids profile, maintain healthy blood vessels and lower blood pressure, thus significantly reduce the risks of cardiovascular attack. (Verhagen & Engbers, 2009; WHO, 2002). Currently, physiotherapy services in Tanzania are found at tertiary health care level. Very little, if any HP and disease prevention happen at this level of disease. Disease management consists of rehabilitation to minimise the re-occurrence of the disease. Only nurses and physicians are employed in primary health care facilities in Tanzania. This level of health care is the ideal area where health care

professionals can effectively engage in HP activities to prevent the development of a disease and its complications (Van der Ploeg, Streppel, Van der Beek, Van der Woude, Vollenbroek-Hutten, Van Harter, et al., 2007).

A study by Healey, Broers, Nelson and Huber (2012) states that physiotherapists have accepted their role in health promotion, however, they consider one-on-one sessions to be more effective. Physiotherapists in New Wales are reported to have sufficient and adequate skills to render health promotion to patients. These physiotherapists mostly employ non-treatment physical activity advice (Shirley, Van der Ploeg & Bauman, 2010). In Nigeria, physiotherapists are also reported to have good attitude towards health promotion and believe that educating patients during the normal routine management time is sufficient (Aweto, Oligbo, Fapojuwo and Olawale, 2013).

Over decades, rehabilitation formed the integral part of physiotherapists' practice. However, the WCPT (2007) advocate for physiotherapists to employ health promotion in their practice since they are better suited to educate patients on the benefits of physical activity, for instance. Physiotherapists are urged to accustom themselves to practice HP because of their educational background and the average consultation time spent with patients. Lein, Clark, Graham, Perez and Morris (2017) stated that physiotherapists in the clinical practice setting are well positioned to provide health promotion as a result of their educational background. They are seen as experts in non-pharmacological interventions, non-invasive treatment, exercise, fitness and wellness due to their background education on pathology and pathophysiology related to exercise and anatomy (Lein et al., 2017).

Although most physiotherapists have been advocating the delivery of health promotion by means of their traditional practice, primary health care (PHC) physiotherapists has proven to be more effective in promoting physical activity in their daily practice (Kunstler, Cook, Freene, Finch, Kemp & O'Halloran, 2018). Physiotherapists from most high income countries have been reported to assume their role in health promotion. From physiotherapy exercise to health education and counselling, for the sake of promoting physical activity in order to maintain good health. This set the bar for physiotherapists from low income countries to assume a similar role as their colleagues from high-income countries (Taukobong, Myezwa, Pengpid & Van Geertruyden, 2014). Changing the mode of health service delivery from diseases management to diseases prevention and health promotion has become the most affordable way working towards a disease-free society. Physiotherapists are well positioned to take the lead in an established setting since they possess unique HP practice and skills. The practices within physiotherapy would always foster not only the relationship between therapist-patients, but also establishes trust and confidence to patient's relatives and the therapist. The latter is a crucial aspect in the fight against any disease and its complications. Its against this background that this study was designed to determine the HP practices for hypertension of physiotherapist in Dar es Salaam, Tanzania.

## **2.6 HEALTH PROMOTION FOR HYPERTENSION**

Pender, Murdaugh and Parsons (2002: p. 34) defined health promotion as “increasing the level of well-being and self-actualisation of a given individual or group”. Similarly, Saylor (2004) defined health promotion as lifestyle training designed to encourage optimal health and quality of life.



However, the widely used definition is that of the WHO (1986), namely the process of enabling people to increase control over and to improve their health.

Worldwide, the health care approach for NCDs is shifting from a curative to an approach more promotional and preventative in nature. The shift is sustained by the findings from the 2010 Global Burden of Disease study, which reported that young adults are struggling with NCDs (Horton, 2013). Mike, Shanthi, & Karen (2017) stipulates that the growing prevalence of NCDs necessitates a more systematic and expanded intervention such as health promotion. Evidence reveals that hypertension has already taken its toll in low and middle income countries with the expectation that it will increase in the future. However, lessons from developed countries are that prevention is far more cost effective than treatments of a disease (Sliwa, Stewart & Gersh, 2011b).

It is evident in all the different definitions of HP that the preventive aspect is one of the main aims of health promotion. The implication is thus that health promotion aims to improve the general health of a given population through direct interventions of various health promotion programmes, well-being, preventing diseases, identifying ill individuals and maintaining the health of those living with NCDs (Laliberte, Perreault, Damestoy & Lalonde, 2012). Keller, Coe and Moore (2014) explains that health promotion consists of interventions intended to keep people healthy, as opposed to curative interventions designed to improve ill health, making it cost effective. Similarly, Engelgau, Sampson, Rabadan-Deihl, Smith, Miranda, Bloomfield et al. (2016) states that the success of any NCD prevention is the effective promotion of healthy lifestyles through the reduction of specific risk factors.

Historically, health promotion was perceived as the broader term focusing more on lifestyle and behaviour change (Naidoo, J & Wills, J 2016). HP is considered to involve health practitioners and stakeholders in policy making at social and political levels. Promoting health and preventing ill health has become global target (WHO, 2004). It is important to note that in HP, the emphasis is on health, not illness, understanding the fact that health is a multi-dimensional and is influenced by factors outside personal control (& Naidoo, J & Wills, J 2010; pg. xi). Health promotion is essential for the economy and the society in general, as it prevent ill health, contribute to quick recovery and improve quality of life which leads to patients' autonomy (Casey, 2007).

Despite physiotherapists being human movements specialists, they are also health promotion advocates for a multi-disciplinary approach, due to the increased prevalence of NCDs, especially hypertension. Nevertheless, recent findings support pharmacological management of hypertension with strong emphasis on scope (Houle, Chatterley & Tsuyuki, 2014). Patients with HT show great improvement when physiotherapists become involved in their management (Sterwat, Noakes, Eales, Shepard, Becker & Veriawa, 2005). Patients are perceived to be more comfortable and at ease when talking to a physiotherapist as they see them as role models concerned about their wellbeing (Black, Ingman & Janes, 2016.) Since HP can be employed at all levels of health care, the present study aimed at exploring and describing the perceptions of physiotherapists regarding their role in the management of hypertension in hospital settings of Dar es Salaam, Tanzania.

## **2.7 BARRIERS TO HEALTH PROMOTION**

Health promotion is more cost effective compared to curative measures, as documented by Johansson, Weinehall and Emmelin (2010). The researchers report that health professionals have

the chance to reduce curative costs by doing health promotion, if the following strategies are applied:

1. Prioritising health promotion,
2. Applying different approach for efficacy,
3. Viewing an individual as a single entity,
4. Supporting professional well-being and strength, and
5. Fostering professional self-reflection, learning and providing a good working relationship.

However, several barriers to health promotion are identified in research studies. According to Johnson, Fisher, Wiemann, Lasksa and Ecstrom (2012), barriers include the lack of interest or awareness from the patients, the public and other health care providers, lack of education or knowledge regarding health promotion, lack of time and lack of reimbursements and resources. Furthermore, Bezner and Bezner (2015) reported being uncomfortable with the role, not clinically prepared and being unfamiliar with health promotion also as barriers to HP. Igwesi-Chidobe (2012) states that improper referral practices, marginal awareness of other health care professionals regarding the scope of physiotherapy, poor teamwork and interference of traditional healers as barriers to HP. Lee, Knuckey and Cook (2013) affirm that, although hospitals are an ideal place for the delivery of health promotion interventions, their low staffing levels, lack of time as well as lack of training reduces the prioritisation of health promotion interventions by many health care providers.

With regard to physiotherapists, the top five barriers to health promotion are lack of time, lack of commitment, community contacts, reimbursement and liability matters (Lloyd, Ammary, Epstein, Johnson & Rhee, 2006). Similar sentiments of lack of time were echoed in a study conducted by Walkeden and Walker (2015). Inadequate counselling skills, as well as the focus on secondary and tertiary prevention and management by physiotherapists, are additional barriers to the effective application of health promotion strategies (Shirley, et al 2010). Furthermore, medical doctor ignorance about the role of physiotherapy was reported as a barrier by Mostert-Wentzel, Frantz and Van Rooijen (2013).

## **2.8 THE ROLE OF PHYSIOTHERAPISTS IN HEALTH PROMOTION**

The health status of humans is unpredictable. Individual skills and readiness are needed at all stages of life (WHO, 2009). The WHO recommends health promotion for exercise adherence for all patients with hypertension. Physiotherapy is well established and a leading healthcare profession that primarily explores non-drug interventions, including counselling in treatment (Dean, 2009). The work of physiotherapists helps to slow down progression of hypertension-related conditions which contributes to the prevention of functional decline and disability of patients. Reports show that allied health workers, such as physiotherapists, have played a major role in health promotion and disease prevention, despite their other responsibilities in the health care setting (Johansson, et al., 2010). Furthermore, physiotherapists are uniquely accustomed in familiarising themselves with health care recommendation in the context of individual's day-to-day activities. This make them more adaptable to individual surroundings to provide better health care and influence positive behaviour change.

Apart from physiotherapists being experts in rehabilitation and exercise, they also acts as the link between individual health needs and the population (America Physiotherapy Association (APA), 2016). As such, the risk factors for hypertension and its related consequences can be reduced and subsequently prevented if the role of physiotherapists in health promotion is properly utilised. Since physiotherapists, as first line practitioners, are recognised as key role players in the assessment and management of patients with musculoskeletal disorders in the primary health care setting, the same positive results could be obtained when HP is practiced (Ludvigsson & Enthoven, 2011). Authors such as Dean, Al-Obaid, Dornelas, De Andre, Gosselink, Umerah et al. (2011) suggest that one of the best ways of minimising the burden of disease in a cost-effective way, is by engaging in physical activity, an area physiotherapists are considered to be experts. The WCPT (2011) report assert that physiotherapist-induced physical activity programmes have much better health-related outcomes and long term effects on perseverance of physical activity (Freene, Waddington, Davey & Cochrane, 2015). In the recent industrialised world, patients might present with more than one risk factor for the manifestation of hypertension. Thus, the aim of HP is to promote good health in addition to addressing the underlying signs and symptoms (Frerichs, et al 2012). Health promotion for HT is beyond physical activity. It also includes lifestyle modification with regards to nutrition, smoking cessation and decreasing alcohol intake (O'Donoghue, Cunningham, Murphy, Woods & Aagaard-Hansen, 2014).

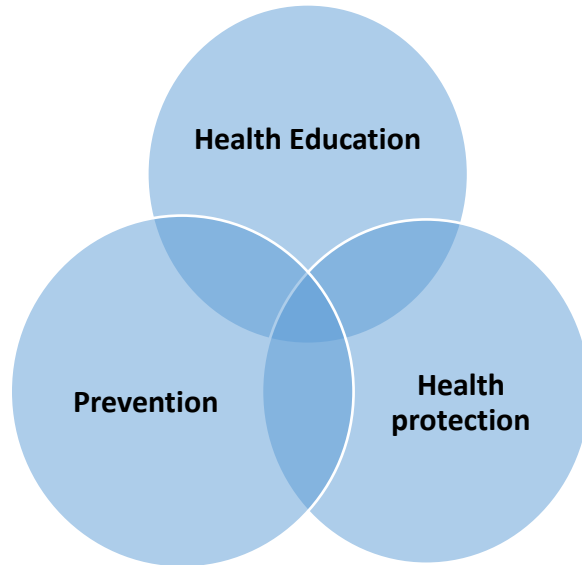
Although their services are key to improving patient's health, many physiotherapists do not engage in health promotion. This is why researchers such as Bury et al. (2014) and O'Donoghue et al. (2014) call for physiotherapists to readjust their goals, strategies and patterns of interaction with patients to include lifestyle counselling beyond physical activity counselling.

Physiotherapists' involvement in addressing risk factors for hypertension through HP could result in significant positive health outcomes and combat hypertension. Consequently, the WCPT supports more inter-professional collaborative practice and person-centered integrated service delivery, which are necessary for the successful prevention and management of NCDs and their risk factors (Bury, et al 2014).

## **2.8 THEORETICAL FRAMEWORK OF THE STUDY**

The management of NCDs such as hypertension calls for interventions that encompass environmental, lifestyle and behavior of people (Bhatia & Rifkin, 2010). The Health Promotion Model (HPM) seeks to enhance positive health (physical, mental and social) as well as prevent ill-health. This is possible when individuals such as health professionals, the public and government stand together towards achieving this goal (Downie, Tannahill & Tannahill, 1996).

The present study employed the Tannahill Health Promotion Model as a theoretical framework. The researcher identified three major components of activities that encourage better health in the society, namely *prevention*; such as primary, secondary and tertiary to decrease the risk of occurrence of a medical condition, disability or death; *health education* using communication to create awareness in order to influence beliefs, attitudes and behaviour of policy makers, individuals and the society and *health protection* through legal control and policies that could lead to a decrease in the development of the medical condition and its consequences (see Figure 2.1 below).



**Figure 2.1 Health Promotion Model (Downie, Tannahill & Tannahill, 1996: p.42)**

### **2.8.1 HEALTH EDUCATION**

According to Kumar, et al (2012), health education is the delivery of health information and skills to individuals and communities which enables them to adopt healthy behaviours voluntarily. The success of health education, being general or disease specific information, is dependent on whether the patient follows the given advice (Whitehead, 2003).

Health education thus intends to equip the population with enough knowledge to increase their awareness of the benefits of a healthy lifestyle. Knowledgeable people are more prone to modify their lifestyle to prevent a disease or the complications of a disease. In cases where patients are at risk or affected with a NCD, the results of health education could assist with the early detection of the signs and symptoms as people know what to look out for. It is asserted by Whitehead (2010) that health education is a structured and well-designed method of proving health-related

information intended to influence the attitudes, beliefs as well as the values of the target population. This is done with a view of attaining a better and healthier population through lifestyle modification and assist in the fight against NCDs.

## **2.8 2 PREVENTION**

Prevention of any medical condition yields better health-related outcomes for an individual, especially in the case of NCDs that may require long-term management. Prevention decreases exposure to risk factors which escalate the chances of an individual developing a specific NCD such as hypertension. Modifiable risk factors, for example, physical inactivity and smoking can be addressed through health education. Lastlu, Abramson and Freidman (2001) proposed three distinct prevention phases, namely primary, secondary and tertiary prevention.

Primary prevention aims to reduce the exposure to the causes and risk factors for the development of a disease, thus preventing the onset of the disease (Tones & Green, 2004). Fricke (2005) emphasised the importance of early identification of the potential risk factors for the disease in both the healthy and unhealthy population. The specific modifiable risk factors for the present study are lack of physical exercise, unhealthy diet and tobacco use. Knowing the specific risk factors enables health care providers to develop health promotion activities that will specifically address the identified risk factors. For instance, health promotion for hypertension should include exercise prescription, information on a healthy diet and smoking cessation.

Secondary prevention seeks to employ efforts aimed at early detection of health conditions leading to prompt interventions which can curb the development of complications that could lead to



disability, morbidity and mortality. Naidoo et al (2000) infer that this phase anticipates shortening of the illness; thus preventing further progression of the disease by providing early diagnosis and treatment where applicable.

Tertiary prevention is meant to slow down or halt the progression of the established disease and its negative consequences through effective treatment and rehabilitation (Tones, et al 2004). Fricke (2005) articulates that restoration and maintaining of maximal function is of utmost importance to prevent further disability. It is at this stage that most physiotherapists are called upon to provide their services.

Preventive strategies can be very effective, especially when handled from their grassroots. Implementation of primary prevention can go a long way as it empowers the population (both at risk and healthy) with adequate knowledge on lifestyle modification which potentially reduces the probability of acquiring the life-threatening NCDs. In a similar context, secondary prevention through the use of appropriate screening tools could enable early detection of NCDs. Medical personnel can therefore apply targeted treatment measures for a particular NCD. Finally, the use of tertiary prevention could help in the enhancement of quality of life by preventing further decline in health due to NCD complications. Throughout the whole process of prevention, of utmost importance is the knowledge of the health care professional regarding referral of patients for specific management of their disease.

### **2.8.3 HEALTH PROTECTION**

Health protection focuses on legal aspects, guidelines and policies aimed at preventing ill health and enhancing well-being. Tannahill (2009) asserts that health protection addresses fair access to housing, employment, education, and health care.

This health promotion model was criticised for not considering the community-based aspect. This led to the revision of the Tannahill model to take into consideration the consequences of health for individuals, groups and populations (Tannahill, 2008). Community-based activities were also prioritised in the modified definition which placed emphasis on equality and diversity which promotes “sustainable enhancement of positive health and reduction in ill-health in populations through policies, strategies and activities in the overlapping action areas of social, economic, physical environment and cultural factors” (Tannahill, 2008: p.1390). In addition, the new definition includes health education in the context of advocating for empowerment (resilience, self esteem and life skills); services and amenities (preventative care together with products) and health damage.

The selection of this model was due to its ability to answer the study objectives in which the researcher sought to explore the use of health promotion to prevent and manage hypertension in the daily practice of physiotherapy practitioners. In answering the research objectives, the model was used to determine how physiotherapists use health promotion with regard to the management of hypertension. The results of the study could provide policy makers and health care

administrators with evidence-based information of physiotherapists with regards to health promotion for hypertension in Dar es Salaam, Tanzania. This could in turn influence the designing of feasible interventions for the prevention and management of hypertension.

## **2.9 SUMMARY OF THE CHAPTER**

Tanzania is facing a huge challenge due to the high prevalence of hypertension, a common and modifiable risk factor for cerebrovascular and cardiovascular conditions. Although managing the burden of hypertension and other NCDs in general has gained momentum globally, there still a need for health care workers to redirect their effort to engage in more preventative approaches through health promotion. Physiotherapists, as members of health care team, are also challenged to employ a preventative approach. Several studies were conducted outside Tanzania with regard to physiotherapists' involvement in health promotion. Results showed that physiotherapists are knowledgeable regarding health promotion. However, knowledge alone does not guarantee attitude change or practice with regards to health promotion.

The next chapter presents the research design, setting and methodology employed in the present study.

## CHAPTER THREE

### METHODOLOGY

#### 3.1 INTRODUCTION

This chapter provides an overview and rationale for the methodological framework used in this study. The researcher provides a brief description of the research setting in which the study took place. This is followed by a description of the study design and sampling methods used in the study. Furthermore, the chapter describes methods of data collection procedures and data analysis for the quantitative and qualitative phases of the study. In addition, the ethics considerations for the study are given.

#### 3.2 RESEARCH SETTING

The study was conducted in Dar es Salaam, Tanzania. The name of the city originated from the Arabic language meaning “the house of peace”. Dar es Salaam is the former capital city of Tanzania and the most regionally important economic centre of the country. It consists of five districts: *Kinondoni* in the north, the home of high income suburbs; *Ilala*, the administrative district of the city situated in the centre where almost all government offices and ministries are found; *Ubungo*, the transportation link to most areas of Dar es Salaam and *Temeke*, the industrial district in the south and *Kigamboni*, a peninsula with a beachfront in the east. The population of Dar es Salaam is multi-cultural with an estimation of over of 4.3 million people as per official census of 2012, with the projection to reach over 76 million by 2100, and expectation of annual growth rate for about 4.39% through the year 2020. The city land area is about 538 square miles leading the average of 8,100 people per square mile ([worldpopulationreview.com](http://worldpopulationreview.com): retrieved on 15/08/2018)

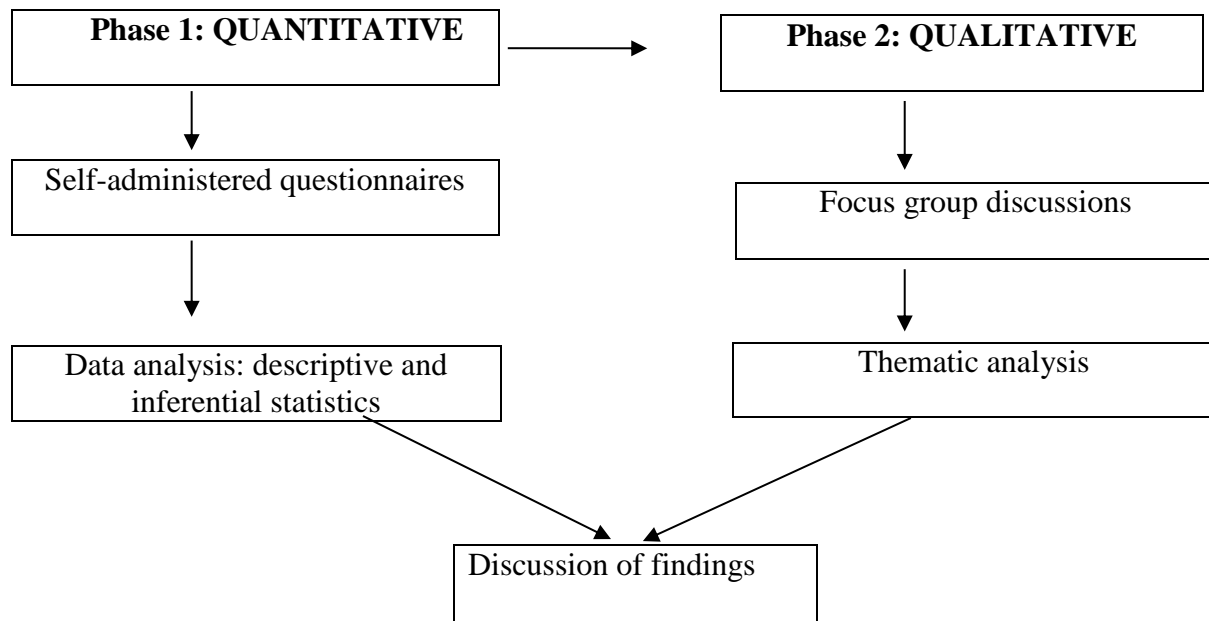
The study was conducted in four (4) districts of Dar es Salaam, including both government and private hospitals (See Table 3.1 below). The only national hospital in the Republic of Tanzania is situated in Dar es Salaam, namely Muhimbili National Hospital, with the Muhimbili Orthopedic Institute situated in the same compound. Although Tanzania has only one physiotherapy school in the Kilimanjaro region, Dar es Salaam is the city with the highest number of physiotherapists practicing in both public and private clinics within the United Republic of Tanzania.

**Table 3.1. Population of the Present Study (N=58)**

S/N	Name of Hospital	Location	Status/ Ownership	Level	No. of PT's (N)	No. of PT's (n)
1	Agha-Khan hospital	Ilala	Private	Tertiary	7	6
2	Hindu Mandali Hospital	Ilala	Private	Secondary	3	2
3	Ilala Municipal Hospital	Ilala	Government	Secondary		2
4	Kigamboni Hospital	Kigamboni	Government	Secondary		2
5	Mbagala Hospital	Temeke	Government	Secondary	2	1
6	Mission Mikocheni Hospital	Kinondoni	Private	Tertiary		3
7	Muhimbili National Hospital (MNH)	Ilala	Government	Tertiary	20	17
8	Muhimbili Orthopaedic Institute	Ilala	Government	Tertiary		12
9	Mwananyamala Municipal Hospital	Kinondoni	Government	Secondary		3
10	Temeke Municipal Hospital	Temeke	Government	Secondary		3
11	TMJ Hospital	Kinondoni	Private	Tertiary		1
12	Regency Hospital	Ilala	Private	Tertiary		4
13	Vijibweni Hospital	Kigamboni	Government	Secondary		2

### 3.3 RESEARCH APPROACH

The study employed a sequential explanatory mixed method approach (Figure 3.1). According to Creswell (2014), this approach consists of two different independent phases, namely a quantitative and qualitative phase respectively. The quantitative data was first collected and analysed followed by qualitative data collection and analysis. Qualitative results assisted to elaborate on the quantitative results obtained earlier. The concurrent procedure converges quantitative and qualitative data in order to provide a comprehensive analysis to the research problem. Furthermore, Creswell and Plano (2007) report that mixed methods provide better knowledge and understanding to a particular research issue than any single method. Integration of the two methods will be in the discussion phase of the study.



**Figure 3.1. Visual Model for The Sequential Explanatory Mixed Method Design**

### **3.4 QUANTITATIVE PHASE OF THE STUDY**

A quantitative study design is defined as the systematic empirical approach of examining research objectives by looking into variable relationships and statistically analyses data (Creswell, 2014). It is as a type of research that predominantly collects numerical data and often relies on deductive reasoning.

#### **3.4.1 Study Design**

The study employed a descriptive, cross-sectional design. According to McGuire (2013), this study design is conducted when there is a need to learn about knowledge, attitude and practices of particular individuals in a society. According to Franco and Haase (2017), a descriptive cross-sectional design is used to obtain information regarding the present status of the phenomena and to designate “what exists” with reverence to variables or conditions in a situation. In addition, the design is cost effective and easy to manage in a limited time frame work (Polit, Beck & Hungler, as cited in Ndahimana, 2011). In this study, knowledge, attitudes and practice of physiotherapists regarding hypertension management were assessed and appropriate statistical tests were used to answer the first objective of this study.

#### **3.4.2 Population and Sampling**

The study population was 58 physiotherapists working in 13 hospitals within four (4) districts of Dar es Salaam, Tanzania (see Table 4.1 above). Seven (7) participants were from three (3) hospitals in *Kinondoni district*, 43 participants were from six (6) hospitals in *Ilala district* while four (4) participants were from two (2) hospitals in *Temeke and Kigamboni districts* respectively.

However, for the results to be generalizable to the population, a minimum of 54 participants was

required according to the Yamane formula  $n = \frac{N}{1 + N(e)^2}$  (where n stands for sample, N for study population, and e is a constant equal to 0.05), have to complete the questionnaire (Israel, 1992).

### **Inclusion criteria**

1. All physiotherapists within the selected hospitals, regardless of their qualifications (diploma, degree, Master's or PhD holders).

### **Exclusion criteria**

1. All physiotherapy students on clinical placements in the selected hospitals due to lack of practical experience in the hospitals.
2. All physiotherapists not available at the time of data collection.

### **3.4.3 Data Collection Instrument**

Data was collected using a self-administered questionnaire (Appendix A). The questionnaire was adapted and modified from the valid and reliable questionnaire developed by Taukobong, et al. (2014). The questionnaire consisted of two sections, Section A which consisted of social demographic information – that is: age, gender, highest level of education, working experience and hospital status. Section B, which consisted of twenty-nine (29) questions, namely ten (10) related to knowledge about health promotion for hypertension, nine (9) questions related to attitude towards health promotion for hypertension, and ten (10) questions related to the integration of health promotion and physiotherapy practice in hypertension management. Each question had three responses, namely “yes”, “no” or “unknown”.



#### **3.4.4 Validity and Reliability of the Instrument**

**Validity** refers to the idea that an instrument should measure what is required to measure (Polit & Beck, 2006). The instrument employed in the present study was adapted from the valid and reliable questionnaire (Cronbach alpha ranging between 0.73 - 0.85). The questionnaire was subjected to peer review by the study supervisor and colleagues who have experience in the area of health promotion. The peer review was essential in endorsing the content validity. **Reliability**, according to Polit et al (2006: p.35), is “the accuracy and consistency of information obtained from the study”. A pilot study with the aim of identifying the potential problems and making corrections before the major study was done (Drummond & Jefferson, 1996). The questionnaire sample was administered to a physiotherapist to assess face validity and applicability of all the items, its level of understandability and the time it takes to complete. There was no changes and it took 10-15 minutes to complete.

#### **3.4.5 DATA COLLECTION PROCEDURE**

After seeking ethics approval from all relevant authorities (see ethics statement), the researcher provided the participants with the information sheet (Appendix E) which explained the purpose and procedure of the study. Thereafter, a place and time convenient for the participants to complete the questionnaire was arranged. Written informed consent (Appendix F) was obtained from each participant before completion of the questionnaire. The questionnaires were completed in the presence of the researcher at the participants’ respective hospitals.

### **3.4.6 Data Analysis**

The researcher checked the questionnaires for completeness. Thereafter the questionnaires were coded and data was captured on a 2010 Word Excel spreadsheet and imported into the Statistical Package for the Social Sciences (SPSS) version 25.0 for analysis. Descriptive statistics were employed to summarise the social-demographic information of the participants. Continuous variables such as age were expressed as means (SD). Categorical variables such as gender were expressed as frequencies and percentages. The results were presented using frequency tables, charts and graphs. Inferential statistics (chi-square tests) was employed to determine any association between variables. Statistical significance was set at  $p \leq 0.05$ .

After the first phase of the study was completed and the data analysed, the qualitative phase of the study commenced where the perceptions of physiotherapists regarding their role in health promotion for hypertension in Dar es Salaam was explored.

## **3.5 QUALITATIVE PHASE OF THE STUDY**

A qualitative research method is mostly used when there is a need to explore a phenomenon, understand individuals' experiences or to develop a theory (Creswell, 2014). According to Grosseohme (2014), qualitative research is a systematic way of collecting, organising and interpreting data from a conversation or talk. This method helps the researcher to formulate subjective data based on the participants' views, experiences and feelings. The qualitative approach possesses a salient strength of working with knowledgeable and specific participants within their context and emphasises that their voices are heard through direct quotation in the results section, as well as in the discussion.

### **3.5.1 Study Design**

An exploratory study design was used in the second phase of this study. This design was deemed appropriate as it creates an insight of the perceptions of physiotherapists regarding their role in health promotion for the management of hypertension, as well as familiarity for future investigations or alternatively undertaken when problems are in the preliminary stage of investigation (Fitzpatrick & Kazer, 2011). Focus groups, a commonly employed qualitative data collection method, allow the participants, in interaction with each other, to speak for themselves in the context of their own experience (Bergin, Tally & Hamer, 2003).

### **3.5.2 Population and Sampling**

Purposive sampling was employed to answer the second objective of the present study. It is a non-probability sampling method whereby participants are chosen for a reason. According to Statistic L. (2012) in purposive sampling, the participants have a particular set of characteristics (for example, specific attributes or traits, experience, knowledge, skills, or exposure to an event). The goal of purposive sampling was to select individuals who are knowledgeable about the study topic, from those who participated in the quantitative phase of the study (Robert, 2015). The sample was thus collected from the participants who completed the questionnaire in the quantitative phase of the study and were willing to take part in the FGDs. Nineteen (19) physiotherapists expressed their willingness to participate. Three (3) FGDs were conducted, namely one with eight (8) participants while the other two FGDs had six (6) and five (5) participants respectively. There was no need for more FGDs as saturation was reached.

## **Inclusion**

All the physiotherapists who took part in the quantitative phase of the study.

## **Exclusion**

Physiotherapists that took part in the quantitative phase of the study, but were on leave, or not available on the day of data collection.

### **3.5.3 Data Collection Tool**

Data was collected using a semi-structured focus group guide (Appendix C). English as an educational, and a language familiar to all health care personnel was used. The FG guide consisted of open-ended questions which enabled participants to express themselves freely as they describe their perception on their role in HP for hypertension (Kruger & Casey, 2014). The goal of FGDs was not to reach a conclusion but rather to gain different perceptive and experience (Hennik, 2014). The semi-structured focus group guide enabled the researcher to maintain consistency in data extraction from the participants as the same questions were asked of all participants.

### **3.5.4 Data Collection Procedure**

A place and time convenient for the participants was arranged prior to collection of data. Each FGD was facilitated by two facilitators, namely the researcher acting as discussion leader/observer and a scribe/recorder. The participants were informed about the aim of the discussions and that everyone must feel free to participate as there is no right or wrong answer. The procedure was explained to the participants and each consented participant completed a focus group discussion binding form (Appendix D). Each focus group consisted of five (5) to eight (8) participants. Kruger

et al. (2015) assert that focus groups can be small for better interaction, but large enough to have diversity of comments. A probing technique was employed to make sure that no data is missed (Hair Jr, Celsi, Money, Samuel & Page, 2016). The FGDs was audio-taped and the research assistant were taking field notes. The FGDs lasted about 30 – 45 minutes and a probing technique was used to ensure that no information was missed (Britten, 1995). The FGDs continued until a point of saturation was reached; when information is repeated and when no new information can be obtained if the interview continues (McBride 2016). According to Francis, Johnston, Robertson, Glidewell, Entwistle, Eccles et al. (2010), the concept of data saturation is vital as it reports whether a study is based on an adequate sample to demonstrate content validity.

### **3.5.5 Trustworthiness**

Trustworthiness is the degree to which the researcher is able to draw a conclusion from the outcomes of the findings yielded by the data collection (Leedy & Ormond, 2010). In qualitative research this is achieved through credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985).

1. ***Credibility (internal validity)***: During the interviews field notes were compared and discussed (member checking) for their accuracy. Each participant were given a summary of the interview after the session. Participants also was given time to comment on whether or not they felt the data were interpreted in a manner congruent with their own experience. Furthermore, the transcribed verbatim draft was given to a colleague, who was not involved in the study for her view. Any matter raised by her was incorporated into the written notes. This process ensures the congruency of the data captured with the reality.

2. ***Transferability (external validity)***: as observed by Trochim (2006), the goal of qualitative research is in the production of results enabling interpretation by other researchers in similar settings even to the point of using the research design for their own purposes. In order to achieve this, as indicated by Bitsch (2005), a complete description of the study population and research setting as well as purposive sampling were done in the present study. A detailed description of the target population and setting were given. Furthermore, the data analysis documents are available and give other researchers the ability to transfer the conclusion of this study to other projects/research.
3. ***Dependability***. This was achieved by ensuring that the audit trail consisting of the methodology, original transcript, data analysis documents, field notes and comments from the member checking were transparent so that any researcher that wants to adapt the process to its own setting could do so.
4. ***Confirmability*** is a measure of how well the findings are supported by data collected (Lincoln et al 1985). This was achieved through provision of an audit trail by checking the raw data as well as through correction and refining the themes identified. A colleague who was not involved in the study was provided with the verbatim transcripts, analysis and process notes and summaries of the results for her opinion. Direct quotations were also added in the discussion section to demonstrate that the findings were a true reflection of the data collected and not the researcher's own words.

### **3.6.6 Data Analysis**

A deductive qualitative analysis approach was employed. Data from the audiotape recordings were transcribed verbatim by an independent person with experience in transcription to produce a

manuscript. A comparison was made between notes taken during the FGD and interviews to verify accuracy. Thematic analysis was then employed. Guest, MacQueen, and Namey (2011: pg.10) state that “It is the way of identify and describing both explicit and implicit ideas of within data.” The following steps, as identified by Braun and Clarke (2006) were followed. The steps include familiarisation with the data set which the researcher did through reading the transcriptions thoroughly. Secondly, generation of initial codes was done followed by searching for themes. Once the themes were captured, it was reviewed and analysed in line with the pre-determined themes. This was then followed by defining and naming of the themes. Finally, the selected themes were verified by the researcher’s supervisor.

### **3.6 ETHICAL CONSIDERATIONS**

Ethics approval was obtained from the University of Western Cape’s Biomedical Research Ethics Committee (BMREC) (Appendix B), followed by ethics clearance from the Muhimbili National Hospital (Appendix G). Permission was obtained from relevant hospital directors and Heads of Physiotherapy departments. The study aims and objectives were clearly explained to participants in an Information sheet (Appendix E). Each participant required to sign an informed written consent (Appendix F). Participation in this study was voluntary and participants were assured of their right to withdraw at any time without any consequences. Anonymity was assured through the use of an identification code on the questionnaire. Information obtained from the FGDs was handled with confidentiality. Pseudonyms was used for identity protection and privacy. The questionnaire and field notes were kept in locked storage locker and transcribed data was stored on a password protected computer. Tapes was destroyed after transcribing and information documented according to themes. Questionnaires and transcription will only be discarded after

five years. Minimal risks were expected in the study. Sensitive issues and questions which arose in the study which could have affected the participants were observed and carefully handled accordingly. The results of the study were made available to all participants, and the directors of the institutions.

### **3.7 SUMMARY OF THE CHAPTER**

The study employed a sequential exploratory mixed method approach, specifically a descriptive cross-sectional and exploratory design for the quantitative and qualitative phases respectively. The population and study sample for the first phase of the study were physiotherapists working in both government and private hospitals in the four (4) selected districts of Dar es Salaam, Tanzania. Purposive sampling was used to recruit participants for the second phase of the study. In order to conduct this study, permission was obtained from all relevant authorities. Thereafter, data was collected using questionnaires for phase one and FGDs for data collection in phase two. Relevant analysis was employed. Validity and reliability as well as trustworthiness were taken into consideration throughout the research process. The results of the quantitative and qualitative analysis are presented in Chapters Four and Five respectively.



## **CHAPTER FOUR**

### **QUANTITATIVE RESULTS**

#### **4.1 INTRODUCTION**

Chapter Four presents the statistical analysis of the quantitative data which sought to answer the first objective of the present study, namely to determine the level of knowledge, attitude and practice of physiotherapists regarding health promotion for hypertension in Dar es Salaam, Tanzania. The analysis will be presented under the following sub-heading: socio-demographic characteristics, results of knowledge about health promotion for hypertension, results of attitude about health promotion for hypertension and results of practice about health promotion for hypertension.

A total of seventy (70) physiotherapists (N=70) are employed in the hospitals that were chosen to participate in the present study. Although total population sampling was employed; only sixty (60) physiotherapists from the thirteen (13) hospitals participated in the study. For the results to be generalised to the population, a sample of at least fifty-four (54) was required. Of the sixty (60) questionnaires distributed, one (1) participant disappeared with the questionnaire and one (1) questionnaire was incomplete and thus excluded from the study. The overall response rate was thus 98.3% (58/60).

## 4.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS (n=58)

The total study sample comprised of fifty-eight (58) physiotherapists. Table 4.1 below illustrates the summary of the socio-demographic information of the participants. Most of the participants (n=35, 60.3%) were male. The study sample's age ranged between 21 and 60 years old. The mean age of the participants was 37.33yrs (SD=10.15) and 39.43yrs (SD= 10.08) for diploma and degree holders respectively. More than half of the study sample's (n=32, 55.2%) highest level of education is a diploma, while twenty-six (26) participants (44.8%) have a degree. More than half of the participants (n=32, 55.2%) have six months to ten years work experience.

**Table 4.1. Socio-Demographic Information of the Study Sample (n= 58)**

<b>Variable</b>	<b>Total n (%)</b>	<b>Diploma n (%)</b>	<b>Degree n (%)</b>
<b>AGE (years)</b>			
<b>Diploma Holders (mean = 37.33 years, SD =10.15)</b>			
<b>Degree Holders (mean = 39.43 years, SD = 10.08)</b>			
21-35	28(48.3)	17(53.1)	11(42.3)
36-60	30(51.7)	15(46.9)	15(57.7)
<b>GENDER</b>			
Female	23(39.7)	12(40.0)	11(39.3)
Male	35(60.3)	18(60.0)	17(60.7)
<b>WORK EXPERIENCE</b>			
≥6 months to 10 years	32(55.2)	19(63.3)	13(44.8)
>10 to 20 years	16(27.6)	7(23.3)	9(32.1)
>20 to 40 years	10(17.2)	4(1.4)	6(2.1)

### **4.3 PHYSIOTHERAPISTS' KNOWLEDGE OF HEALTH PROMOTION FOR HYPERTENSION (n= 58)**

Participants responded to a series of statements assessing their current knowledge of health promotion for hypertension. The statements were adopted from a reliable and valid questionnaire used in a study by Taukobong et al. (2014). Participants rated each of the ten (10) statements using a 3-point Likert scale consisting of yes, no and unknown (2 = yes, 1 = no and 0 = unknown). Table 4.1 illustrates the physiotherapists' responses.

**Table 4.1 Physiotherapists' Knowledge of Health Promotion for Hypertension (n=58)**

Statements about physiotherapist's knowledge of health promotion for hypertension	DIPLOMA HOLDERS			DEGREE HOLDERS		
	Yes n (%)	No n (%)	Unknown n (%)	Yes n (%)	No n (%)	Unknown n (%)
K1. Health promotion activity involves building health policy to promote health of the population	30(93.8)	2(6.2)	0(0.0)	25(96.2)	1(3.8)	0(0.0)
K2. HP intervention calls for professionals to be involved in improving and maintaining health status for all	30(93.8)	2(6.2)	0(0.0)	26(100)	0(0.0)	0(0.0)
K3. Health promotion intervention involves early detection and Prevention of diseases	30(93.8)	2(6.2)	0(0.0)	24(92.4)	1(3.8)	1(3.8)
K4. Health promotion intervention involved strengthening community action to prevent diseases	31(96.9)	1(3.1)	0(0.0)	26(100)	0(0.0)	0(0.0)
K5. Health promotion intervention involves developing personal skills to stay health	30(93.8)	2(6.2)	0(0.0)	24(92.4)	2(7.6)	0(0.0)
K6. Health education is a process of implementing health promotion	32(100)	0(0.0)	0(0.0)	24(92.4)	1(3.8)	1(3.8)
K7. Health promotion can be achieved through environmental modification	30(93.8)	1(3.1)	1(3.1)	21(80.8)	4(15.4)	1(3.8)
K8 Diseases prevention program such as physical activity is a method of health promotion	30(93.8)	2(6.2)	0(0.0)	25(96.2)	1(3.8)	0(0.0)
K9. Health promotion includes the implementation of life style and behavioral changes programme	30(93.8)	2(6.2)	0(0.0)	26(100)	0(0.0)	0(0.0)
K10. Health promotion calls for reorientation of health care service beyond clinical and curative services	29(90.6)	1(3.1)	2(6.3)	24(92.4)	1(3.8)	1(3.8)

Inferential statistics (Pearson's chi-square test) was employed to determine whether a statistical significance exist between statements for knowledge of health promotion for hypertension for the diploma and degree holders respectively. No significant difference was found for knowledge of health promotion for hypertension and level of education of the participants ( $p>0.05$ ). See Table 4.2 below.

**Table 4.2 Level of Education Differences in Knowledge of Health Promotion for Hypertension (n=58)**

<b>Statement related to knowledge about health promotion for hypertension</b>	<b>Diploma holders</b>	<b>Degree holders</b>	<b>Chi-square value (<math>\chi^2</math>)</b>	<b>p-value</b>
K1. Health promotion activity involves building health policy to promote health of the population	32	26	0.404	0.817
K2. HP intervention calls for professionals to be involved in improving and maintaining health status for all	32	26	1.683	0.431
K3. Health promotion intervention involves early detection and Prevention of diseases	32	26	4.610	0.330
K4. Health promotion intervention involved strengthening community action to prevent diseases	32	26	0.827	0.661
K5. Health promotion intervention involves developing personal skills to stay health	32	26	1.025	0.599
K6. Health education is a process of implementing health promotion	32	26	3.936	0.415
K7. Health promotion can be achieved through environmental modification	32	26	3.153	0.533
K8 Diseases prevention programme such as physical activity is a method of health promotion	32	26	2.783	0.249
K9. Health promotion includes the implementation of life style and behavioral changes programme	32	26	1.683	0.431
K10. Health promotion calls for re-orientation of health care services beyond clinical and curative services	32	26	3.068	0.546

Level of education differences of physiotherapists as it relates to knowledge of health promotion for hypertension categories are presented in Table 4.3 below. The following criteria for knowledge categories were used to classify the participants: marginal for  $\leq 49\%$  correct answers, adequate for  $>50\leq 79\%$  correct answers and high for  $>80\%$  correct answers.

**Table 4.3 Level of Education Differences of Physiotherapists as it Relates to Knowledge of Health Promotion for Hypertension Categories (N=58)**

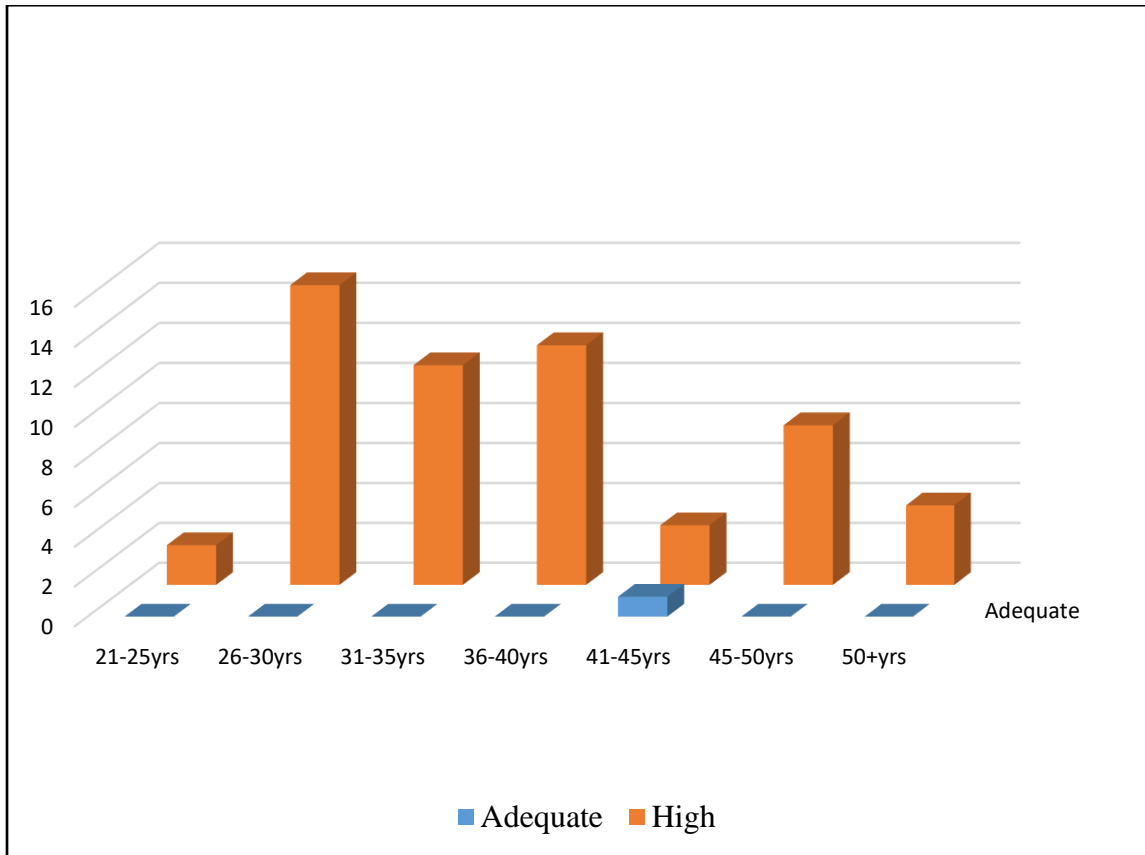
<b>Knowledge Categories</b>	<b>Total n(%)</b>	<b>Diploma n(%)</b>	<b>Degree n(%)</b>	<b>Chi-square value (<math>\chi^2</math>)</b>	<b>p-value</b>
<b>MARGINAL</b>	0(0.0)	0(0.0)	0(0.0)	-	-
<b>ADEQUATE</b>	1(1.7)	1(1.72)	0(0.0)	7.802	0.453
<b>HIGH</b>	57(98.3)	31(53.4)	26(44.83)	7.802	0.453

The majority of the participants (n=57, 98.3%) demonstrated a high level of knowledge while one (1) participant (1.7%) had adequate knowledge of health promotion for hypertension. In addition, no statistically significant association was found between knowledge categories of health promotion for hypertension and level of education (p= 0.453;  $\chi^2=7.802$ ).

#### **4.3.1 Knowledge Level of Health Promotion for Hypertension and the Age of the Participants (n =58)**

Figure 4.1 illustrates the knowledge of health promotion for hypertension categories and age of the study sample. Although the study findings revealed no statistically significant association between age and knowledge categories of the participants (p= 0.395,  $\chi^2= 25.195$ ), all the

participants, except for one participant in the age group 41 – 45 years old, had adequate knowledge of health promotion for hypertension.



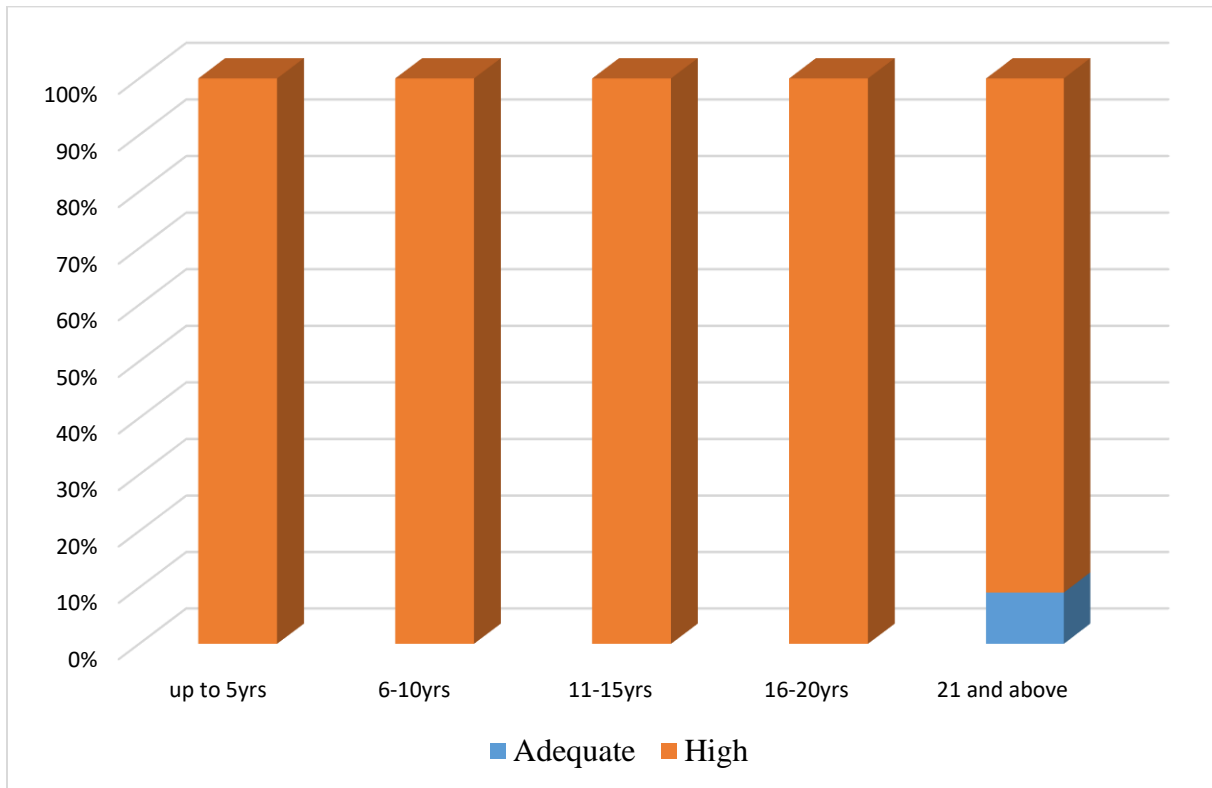
**Fig 4.1. Knowledge Categories and Age of the Participants (n=58)**

#### **4.3.2 Knowledge Level of Health Promotion for Hypertension and Work Experience (n =58)**

The finding of the study showed no statistically significant association between knowledge categories for health promotion for hypertension and work experience ( $p=0.392$ ;  $\chi^2=16.908$ ). Only



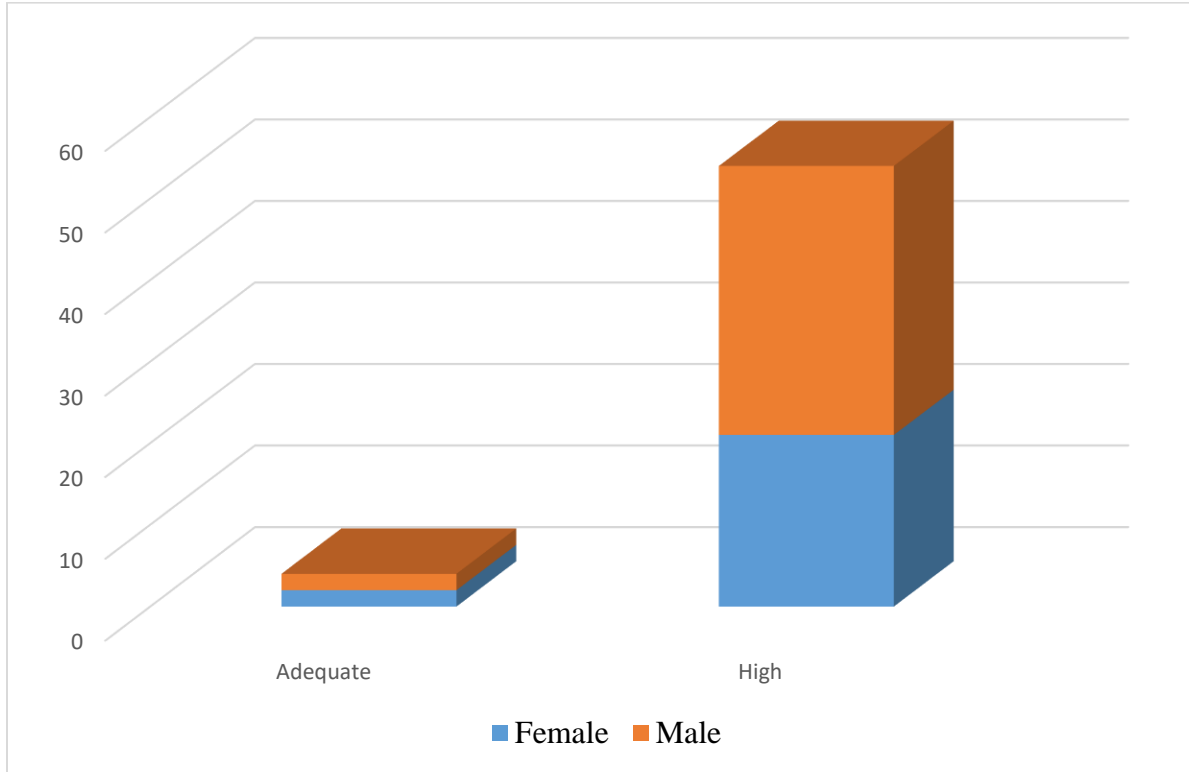
one participant with 21 years' of work experience had adequate knowledge of health promotion for hypertension. See Figure 4.2 below.



**Fig 4.2. Knowledge Categories and Work Experience of the Participants (n=58)**

### **4.3.3 Knowledge Level of Health Promotion for Hypertension and Gender (n =58)**

The only participant with adequate knowledge was a male physiotherapist (n=1, 1.7%). All the other participants had a high knowledge of health promotion for hypertension level. No statistical significant association was thus found for knowledge categories and gender of the study sample (p= 0.538;  $\chi^2= 31.121$ ). Figure 4.3



**Figure 4.3 Knowledge Categories and Gender of the Participants (n=58)**

#### **4.4 ATTITUDES OF PHYSIOTHERAPISTS REGARDING HEALTH PROMOTION FOR HYPERTENSION (n= 58)**

In order to assess the attitude of the physiotherapists regarding health promotion for hypertension, nine (9) statements were obtained from the questionnaire adopted. Participants rated each of the nine (9) statements using a 3-point Likert scale ranging from agree to neutral across the statements (2= agree, 1= disagree and 0= neutral). Table 4.4 below illustrates the participants' responses.



**Table 4.4 Physiotherapists' Attitude towards Health Promotion for Hypertension (n=58)**

Statements about attitudes toward health promotion for hypertension in physiotherapy practice.	DIPLOMA HOLDERS			DEGREE HOLDERS		
	Agree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Disagree n(%)	Neutral n(%)
A1. Physiotherapists are well positioned to integrate health promotion.	26(81.3)	4(12.5)	2(6.2)	20(76.9)	5(19.3)	1(3.8)
A2. Physiotherapists should be involved in the effects to promote physical activity.	30(93.8)	2(6.2)	0(0.0)	26(100)	0(0.0)	0(0.0)
A3. Health education on health diet should be part of the physiotherapists' treatments plan.	28(87.5)	3(9.4)	1(3.1)	19(73.1)	4(15.4)	3(11.5)
A4. Physiotherapist should be involved in education people within their work place and in the communities about hypertension.	31(96.9)	1(3.1)	0(0.0)	25(96.2)	1(3.8)	0(0.0)
A5. Physiotherapists should participate in developing health and Safety regulations for health population.	28(87.5)	3(9.4)	1(3.1)	25(96.2)	1(3.8)	0(0.0)
A6. The health educator role is appropriate for physiotherapists.	26(81.3)	4(12.5)	2(6.2)	23(88.5)	3(11.5)	0(0.0)
A7. Physiotherapists should align their practice of health promotion efforts to the ministry of health.	29(90.6)	2(6.2)	1(3.1)	23(88.5)	2(7.7)	1(3.8)
A8 Health promotion should form an integral part of physiotherapy at all a level of health care.	28(87.5)	4(12.5)	0(0.0)	24(92.3)	2(7.7)	0(0.0)
A9. Provision of time allocated for treatments should be made for integrating health promotion.	28(87.5)	3(9.4)	1(3.1)	19(73.1)	4(15.4)	3(11.5)

Pearson's chi-square test was employed to establish whether a statistically significant association existed between the statements for attitude towards health promotion for hypertension for diploma and degree holders respectively. No significant difference was found for attitude towards health promotion for hypertension and level of education of the participants ( $p > 0.05$ ). See Table 4.5 below.

**Table 4.5 Level of education differences in attitude towards health promotion for hypertension (n=58)**

<b>Statements related to attitude towards health promotion for hypertension</b>	<b>Diploma (n)</b>	<b>Degree (n)</b>	<b>Chi-square value <math>\chi^2</math></b>	<b>p-value</b>
A1. Physiotherapists are well positioned to integrate health promotion	32	26	3.228	0.520
A2. Physiotherapists should be involved in the effects to promote physical Activity	32	26	1.683	0.431
A3. Health education on health diet should be part of the physiotherapists treatments plan	32	26	5.897	0.207
A4. Physiotherapist should be involved in education people within their work place and in the communities about hypertension	32	26	0.369	0.832
A5. Physiotherapists should participates in developing health and Safety regulations for health population	32	26	3.565	0.468
A6. The health educator role is appropriate for physiotherapists	32	26	1.919	0.751
A7. Physiotherapists should align their practice of health promotion efforts to the ministry of health	32	26	1.341	0.854
A8. Health promotion should form an integral part of physiotherapy at all a level of health care	32	26	1.035	0.596
A9. Provision of time allocated for treatments should be made for integrating health promotion	32	26	6.003	0.199

The total scores for attitude toward health promotion for hypertension were tallied and the following attitude categories were created: Negative ( $\leq 50\%$  correct responses), Neutral ( $>50\leq 79\%$  correct responses) and Positive ( $>80\%$  correct responses). The results are presented in Table 4.6 below.

**Table 4.6 Physiotherapist’s Attitude Categories of Health Promotion**

<b>Attitude categories</b>	<b>Total</b>	<b>Diploma n(%)</b>	<b>Degree n(%)</b>	<b>Chi-square value <math>\chi^2</math></b>	<b>p-value</b>
<b>NEGATIVE</b>	0(0.0)	0(0.0)	0(0.0)	-	-
<b>NEUTRAL</b>	3(5.2)	1(1.72)	2(3.45)	6.978	0.728
<b>POSITIVE</b>	55(94.8)	31(53.4)	24(41.4)	6.978	0.728

The finding of the study showed that none of the physiotherapists had a negative attitude towards health promotion for hypertension. The majority of the study sample (n=55, 94.8%) had a positive attitude towards health promotion for hypertension, while a mere 5.2% (n=3) participants had a neutral attitude. In addition, the results revealed no statistically significant association between attitude categories of health promotion for hypertension and the level of education (p= 0.728;  $\chi^2=6.978$ ).

#### **4.4.1 Attitude Towards Health Promotion for Hypertension and Age, Work Experience and Gender of the Participants (n =58)**

No statistical significant observed between attitude and age (p= 0.224;  $\chi^2= 35.534$ ), work experience (p=0.329;  $\chi^2= 13.564$ ) and gender (p= 0.983;  $\chi^2= 0.164$ ).

#### **4.5 PHYSIOTHERAPISTS' INTEGRATION OF HEALTH PROMOTION FOR HYPERTENSION IN WORK PRACTICE (n=58)**

This section intended to examine physiotherapists' integration of health promotion for hypertension in their daily work practice. Participants completed ten (10) statements, the purpose of this section sought to determine how frequently physiotherapists practice health promotion for hypertension. Each statement had a possible three (3) responses, namely Always= 2, Often= 1 and Never= 0. The results are presented in Table 4.7 below.

**Table 4.7 Physiotherapists' Integration of Health Promotion for Hypertension in Work Practice (n= 58)**

Statement about integration of health promotion for hypertension in physiotherapy practice	DIPLOMA HOLDER			DEGREE HOLDER		
	Always n(%)	Often n(%)	Never n(%)	Always n(%)	Often n(%)	Never n(%)
P1. Health promotion is part of my responsibility	32(100)	0(0.0)	0(0.0)	26(100)	0(0.0)	0(0.0)
P2. Health promotion is integrated in the treatment when patient is aware of the problem	27(84.4)	5(15.6)	0(0.0)	24(92.3)	2(7.7)	0(0.0)
P3. All patients are educated about health related risks	17(53.1)	12(37.5)	3(9.4)	13(50.0)	12(46.2)	1(3.8)
P4. Emotional support is provided to patients when no any other support is available	19(59.4)	8(25.0)	5(15.6)	18(69.2)	6(23.1)	2(7.7)
P5. Patients are encouraged to talk about their health problems	30(93.8)	2(6.2)	0(0.0)	22(84.6)	4(15.4)	0(0.0)
P6. Patients are educated about available health resources in their communities	28(87.5)	4(12.5)	0(0.0)	21(80.8)	2(7.7)	3(11.5)
P7. Patients are assisted to make healthier choices about their health	28(87.5)	4(12.5)	0(0.0)	23(88.5)	2(7.7)	1(3.8)
P8. Health education and physical activity are included in the treatment	30(93.8)	2(6.2)	0(0.0)	26(100)	0(0.0)	0(0.0)
P9. Health education is integrated in treatment of all patients	27(84.4)	5(15.6)	0(0.0)	20(76.9)	6(23.1)	0(0.0)
P10. Health education is included during consultation time	23(71.9)	9(28.1)	0(0.0)	22(84.6)	4(15.4)	0(0.0)



Although the average percentage of the “always” category for diploma and degree holders are quite similar (81.6% and 82.7% respectively), the average percentage for the “never” category indicates that physiotherapists with a diploma are more likely than those with a degree to not include health promotion for hypertension in their daily work practice (12.5% vs. 6.7% respectively).

The total scores for integration of health promotion for hypertension in work practice was labelled as follows: Marginal ( $\leq 49\%$  correct responses), Adequate ( $> 50\leq 79\%$  correct responses) and High ( $>80\%$  correct responses). The findings are presented in the Table 4.8 below.

**Table 4.8 Physiotherapists’ practice integration categories of health promotion**

<b>HP practice categories</b>	<b>Total</b>	<b>Diploma n(%)</b>	<b>Degree n(%)</b>	<b>Chi-square value <math>\chi^2</math></b>	<b>P-value</b>
<b>ADEQUATE</b>	8(13.8)	5(8.6)	3(5.2)	14.201	0.435
<b>HIGH</b>	50(86.2)	27(46.6)	23(39.7))	14.201	0.435
<b>TOTAL</b>	58(100)	32(55.2)	26(44.8)		

Pearson’s Chi-square test was used to establish whether a statistically significant association exists between statements for integration of health promotion for hypertension in work practice for both levels of education domains of the physiotherapists. The results indicate no statistically significant association ( $p= 0.435$ ;  $\chi^2=14.201$ ).

**Table 4.9 Level of Education Differences in Integration of Health Promotion for Hypertension in Work Practice (n= 58)**

Statement about integration of health promotion in physiotherapy practice	Diploma n (%)	Degree n (%)	P-value	Chi-square value $\chi^2$
P1. Health promotion is part of my responsibility	32	26		
P2. Health promotion is integrated in the treatment when patient is aware of the problem	32	26	0.526	1.286
P3. All patients are educated about health related risks	32	26	0.891	1.118
P4. Emotional support is provided to patients when no any other support is available	32	26	0.128	7.153
P5. Patients are encouraged to talk about their health problems	32	26	0.194	3.281
P6. Patients are educated about available health resources in their communities	32	26	<b>0.013**</b>	12.734
P7. Patients are assisted to make healthier choices about their health	32	26	0.051	9.458
P8. Health education and physical activity are included in the treatment	32	26	0.431	1.683
P9. Health education is integrated in treatment of all patients	32	26	0.591	1.052
P10. Health education is included during consultation time	32	26	0.510	1.346

Across all ten (10) statements regarding work practice, only one statement showed statistical significance namely “*Patients are educated about available health resources in their communities*”. Physiotherapists with a diploma are more likely to educate patients about the available resources than degree holders ( $p= 0.013$ ;  $\chi^2= 12.734$ ), as illustrated in Table 4.9 above

#### **4.5.1 Integration of Health Promotion for Hypertension in Work Practice and Age (n= 58)**

When assessed the association between integrating health promotion for hypertension in work practice with age of participants, the study findings were statistically significant ( $p= 0.029$ ;  $\chi^2= 60.963$ ).

#### **4.5.2 Integration of Health Promotion for Hypertension in Work Practice and Gender and Work Experience (n= 58)**

No statistically significant association was found for integration of health promotion for hypertension in work practice and gender ( $p= 0.405$ ;  $\chi^2= 7.232$ ). Although no statistically significant association was found for integration of health promotion for hypertension in work practice and work experience ( $p= 0.47$ ;  $\chi^2= 41.647$ ), physiotherapists with work experience of up to five years are more likely to integrate health promotion for hypertension in their work practice than those in other work experience categories.

#### **4.6 ASSOCIATION BETWEEN KNOWLEDGE, ATTITUDE AND PRACTICE OF HEALTH PROMOTION FOR HYPERTENSION (n=58)**

After examining participants' knowledge, attitude and practice, this section sought to determine whether there is relationship between the three variables, that is, knowledge, attitude and practice. Pearson's chi-square test was used to determine the statistically significant association between knowledge of and attitude towards health promotion for hypertension of physiotherapists. The results revealed that the more knowledgeable a participant, the more positive attitude he/she has towards health promotion for hypertension ( $p= 0.019$ ;  $\chi^2= 35.251$ ).

#### 4.7 SUMMARY OF THE CHAPTER

The following results were obtained from the quantitative data analysis:

- The total study sample comprised of 58 physiotherapists of which 60.3% (n=35) were male.
- The study sample's ages ranged between 21 and 60 years old.
- The mean age of the participants was 37.33 years (SD=10.15) and 39.43 years old (SD=10.08) for diploma and degree holders respectively.
- More than half of the study sample's (n=32, 55.2%) highest level of education is a diploma while 26 participants (44.8%) have a degree.
- More than half of the participants (n=32, 55.2%) have six months to ten years work experience.
- The majority of the participants (n=57, 98.3%) demonstrated a high level of **knowledge** while only one (1) participant (1.7%) had adequate knowledge of health promotion for hypertension.
- No statistically significant association was found between knowledge categories of health promotion for hypertension and level of education ( $p=0.453$ ;  $\chi^2=7.802$ ), age ( $p=0.395$ ;  $\chi^2=25.195$ ), work experience ( $p=0.392$ ;  $\chi^2=16.908$ ) and gender ( $p=0.538$ ;  $\chi^2=31.121$ ).
- The majority of the study sample (n=55, 94.8%) had a positive **attitude** towards health promotion for hypertension, while a mere 5.2% (n=3) participants had a neutral attitude
- No statistically significant association was found between attitude categories of health promotion for hypertension and the level of education ( $p=0.728$ ;  $\chi^2=6.978$ ), age ( $p=0.224$ ;  $\chi^2=35.534$ ), work experience ( $p=0.329$ ;  $\chi^2=13.564$ ) and gender ( $p=0.983$ ;  $\chi^2=0.164$ ).

- Although the average percentage of the “Always” category for diploma and degree holders are quite similar (81.6% and 82.7% respectively), the average percentage for the “Never” category indicates that physiotherapists with a diploma are more likely than those with a degree to not include health promotion for hypertension in their daily work practice (12.5% and 6.7% respectively).
- The majority of the participants (n=50, 86.2%) integrate health promotion for hypertension in their daily work practice.
- Across all ten (10) statements regarding work practice, only one statement showed statistical significance, namely, “*Patients are educated about available health resources in their communities*”. Physiotherapists with a diploma are more likely to educate patients about the available resources than degree holders (p= 0.013;  $\chi^2= 12.734$ ).
- No statistically significant association was found between integration of health promotion for hypertension in work practice and the level of education (p= 0.435;  $\chi^2=14.201$ ), work experience (p= 0.47;  $\chi^2= 41.647$ ), and gender (p= 0.405;  $\chi^2= 7.232$ ).
- A statistically significant association was found between integrating health promotion for hypertension in work practice with age of participants (p= 0.029;  $\chi^2= 60.963$ ).

The next chapter will report on the findings of the analysis of the qualitative data that attempted to answer the second objective of the study, namely to explore and describe the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, Tanzania

## **CHAPTER FIVE**

### **QUALITATIVE RESULTS**

#### **5.1 INTRODUCTION**

This chapter contains the results of the content analysis of the focus group discussions that attempted to answer the third objective of this study, namely to explore and describe the perceptions of physiotherapists regarding their role in the management of hypertension in Dar es Salaam, Tanzania. Purposive sampling was employed, therefore only participants who completed the questionnaire in the first phase of the study and were willing to take part in the focus group discussions (FGDs) were invited.

#### **5.2 FOCUS GROUP DISCUSSIONS WITH PHYSIOTHERAPISTS FROM DAR ES SALAAM, TANZANIA**

A total of nineteen (19) participants, seven (7) female and twelve (12) male agreed to partake in the FGDs. One FGD took place at each of the following hospitals, namely Muhimbili National Hospital, Muhimbili Orthopedic Hospital and Agha-Khan Hospital. The FGDs took place in a relaxed and convenient setting for all the group members. A probing technique was employed, and each participant was encouraged to freely and wholeheartedly participate in the discussions.

#### **5.3 PRE-DETERMINED THEMES AND SUB-THEMES**

Based on the FGD guide, five (5) pre-determined themes were identified, as outlined in Table 5.1 below. The sub-themes are also listed in the table.

**Table 5.1 Pre-Determined Themes and Sub-Themes**

PRE-DETERMINED THEMES		SUBTHEMES
1.	Physiotherapists' understanding of health promotion	-
2.	Physiotherapists' application of health promotion	i) Media ii) Face to face iii) Social gathering
3.	Physiotherapists' role in health promotion for the management of hypertension	i) Blood pressure check up ii) Management of hypertension iii) Current practice
4.	Challenges of physiotherapists regarding the implementation of health promotion for hypertension	i) Attitude of Physiotherapists ii) Health Policy iii) Time constraints iv) Ignorance of Medical doctors
5.	The way forward	i) Physiotherapists' attitude ii) General awareness iii) Participation in clinics for hypertension

Verbatim quotes will be used to further exemplify the abovementioned themes.

### **5.3.1 PHYSIOTHERAPISTS' UNDERSTANDING OF HEALTH PROMOTION**

The participants in all three (3) FGDs displayed different understanding of what health promotion is. Two main opinions emerged from the discussions, namely health promotion, means creating awareness to the society or community, while other participants felt that health promotion is the process of involving the community and caregiver in the management of any condition or disease. The majority of the participants stated that health promotion is the process of increasing awareness regarding a condition in the community. See the excerpts below:

*“Health promotion is dealing with making awareness of the community about health.”*

**(PT 1, FGD 2)**

*“Is the way or the system of addressing health issue to the society, how to take care of their health like non-communicable diseases like diabetic and hypertension, on how to live with this lifestyle disease by doing exercise and life style in general.”* **(PT 7, FGD 1)**

*“It is the whole process of involving the community and health educator to talk about their issues regarding health status... and you give them education and ways of knowing their health status and making them live well.”* **(PT 4, FGD 2)**

*“Basically, health promotion is creating awareness either in the community or a society about health activities or practices.”* **(PT 4, FGD 3)**

How the participants perceived health promotion, depends on the stage of the condition or disease.

*“It (health promotion) is the way of alleviating health status of the society or community, depending on the condition or disease a patient has... and also, it can be implemented to those without any disease as a prevention method.”* **(PT 3, FGD 2)**

*“Health promotion is the role of preventing complications of the disease to the patient or society instead of providing treatment of such disease.”* **(PT 5, FGD 2)**



*“Health promotion, you can say, are the tools we use to promote our health services, either during prevention or during our treatment.” (PT 6, FGD 2)*

Other participants said that health promotion is the means of spreading knowledge to those who are not knowledgeable about the disease.

*“It (health promotion) is the way we people who have the knowledge of health, spread the knowledge to people who are not knowledgeable. So, we are promoting knowledge to people who do not have it.” (PT 1, FGD 3)*

*“To me health promotion is how we spread knowledge on health issues related to what we come across... to those that we attend to.” (PT 2, FGD 3)*

Other participants define health promotion in respect to policy and regulations. See the statements below.

*“I can say health promotion is the combination of policy and environmental regulations which involves health activities.” (PT 1, FGD 1)*

*“Health promotion is the process whereby the health system, through education, can change the policy of health in the nation.” (PT 8, FGD 1)*

However, the controversy regarding the difference between health promotion and health education also arise in the FGDs. The statements below confirm the debate.

*“I think health education is one of the components of health promotion. If you educate, you promote health.” (PT 4, FGD 1)*

*“Health education is what I can give my patient and the relatives one to one about A B C and health promotion is about what we do to educate the community.” (PT 5, FGD 1)*

### **5.3.2 PHYSIOTHERAPISTS’ APPLICATION OF HEALTH PROMOTION**

Physiotherapists from Dar es Salaam explained various methods they employ to implement health promotion. The participants stated that they make use of media, face-to-face consultation with patients as well as at social gatherings.

#### **i) Media**

Health promotion through media includes the use of television, radio and posters as resources of delivering the message to the community. The excerpts below explain:

*“We usually do it (health promotion) in the media.” (PT 5, FGD 1)*

*“We use posters, the tools to apply health promotion to the clients or the community... yeah.” (PT 1, FGD 2)*

*“Some of us arrange television interviews, even on radio. So, it reach the community to disseminate messages concerning health promotion.” (PT 3, FGD 2)*

## **ii) Face-to-Face**

Participants specify ways they use to include health promotion in their work place, including health face-to-face sessions with their patients, depending on the patient’s problem and the people escorting the patients. See the statements below:

*“I am assessing the patient first. I deal with the patient first, then the relatives who helps the patient. I give them education concerning the particular case, for example stroke... hemiplegia which might be a consequences of high blood pressure. So, I give them information about the causes and what happened.” (PT 7, FGD 1)*

*“At first... educating patients who are coming for treatment by telling them things concerning their condition. You educate the patients and sometimes the people with the patient. By doing so we are promoting health... we are implementing health promotion strategy.” (PT 3, FGD 2)*

*“So basically, we promote health by giving advice, depending on the condition that I am working on.” (PT 4, FGD 3)*

### **iii) Social Gatherings**

Other participants explained that they provide health promotion at social gatherings in their community. See the excerpts below:

*“I also do health promotion in my community at the church, because we are having a health section. We educate people concerning things like hypertension, diabetes and back pain. By doing so I also implement health promotion.” (PT 3, FGD 2)*

*“We have gatherings at the mosque where once in a while we are given opportunities to give a talk on any topic. So that is where I play my part as a physiotherapist to go and educate the mothers and women.” (PT 1, FGD 3)*

### **5.3.3 PHYSIOTHERAPISTS’ ROLE IN HEALTH PROMOTION FOR THE MANAGEMENT OF HYPERTENSION**

The participants view their role in health promotion for the management of hypertension as follows: checking the patient’s blood pressure, managing hypertension and their current practice regarding health promotion for hypertension.

#### **i) Blood Pressure Check-Up**

Participants indicated that as a member of the medical team they have a role to play in checking blood pressure. In addition, it could assist to curb the prevalence of hypertension within the society if people aware of their status and receive appropriate treatment.

*“We should know the status of our patients before we do our intervention. What if they are hypertensive? But, the issue of hypertension... if it (the status) is not known ...the magnitude it could have on the community...that’s the problem.” (PT 2, FGD 1)*

*In my practice, as part of history taking in the average of twenty patients I attend to daily, at least five to six patients are known hypertensive.” (PT 3, FGD 2)*

*“Of course it’s (checking the blood pressure) a role of physiotherapists. Even if he is having very minor fracture ... we need to check all the patients... it’s our role.” (PT 6, FGD 2)*

*“It’s our role to check everything if a patient come to you. For example, you have a patient with back pain. You want to prescribe some kind of exercise for your patient, but before doing anything you have to know her (blood) pressure before doing so.” (PT 3, FGD 3)*

*“Sometimes we do thing out of routinely, we don’t check, but there are some patients that are high risks patients such as patients who has stroke already and real sensitive patients we check.” (PT 5, FGD 3)*

However, some participants expressed difficulty with measuring blood pressure due to lack of blood pressure machines and high workload at the clinics. See the statements below:

*“Is not easy to say, why? Because we have assumption that every patient with a stroke is hypertensive which is not true.” (PT2, FGD 1)*

*“We are supposed to check blood pressure of the patient before attending to him or her, but you go there and find there is no BP (blood pressure) machine.” (PT 3, FGD 1)*

*“I mean... the load of our work here..., sometimes it is very difficult to monitor your patients.” (PT 6, FGD 1)*

*“Sometime the availability of blood pressure machine can be a problem. If it’s necessary the patient said maybe I am known case of hypertension you can measure it, you go find BP machine.” (PT 5, FGD 2)*

## **ii) Management of Hypertension**

Almost all the participants agreed that physiotherapists have an important role to play in the management of hypertension. Their sentiments are illustrated the statements below:

*“One of our roles is to educate the community which is one of the components of health promotion, to reach the community about their health. But again, to encourage physical activities, the more they do physical activities the more they become healthier which is part of our role as physiotherapists.” (PT 5, FGD 1)*

*“Physiotherapy as is concerned does has the role in management of hypertension.” (PT1, FGD 2)*

*“We have a big role to play in hypertensive patients. We know and usually tell our patients that hypertension is among the lifestyle diseases which can be prevented or cured or controlled by the patient himself.” (PT 3, FGD 2)*

*“Physiotherapists have a great role to play in the prevention of hypertension. In the part of prevention, I can educate the patient... I can try to explain things.” (PT 3, FGD 3)*

Apart from prevention of the development of hypertension, health promotion can also address the prevention of complications that may arise due to the condition.

*“Physiotherapists have a role to play in health promotion in the management of patients with hypertension to prevent complications.” (PT 3, FGD 1)*

*“The role of preventing complication to the patient or the society so that they cannot get complication of the disease.” (PT 5, FGD 2)*

*“We can play role in controlling, but I’m not saying we are the main role here.” (PT 4, FGD 3)*

They participants furthermore explained what they include in health promotion for hypertension, namely advice about diet and lifestyle modification, including exercises.

*“The role is to advice the patient about diet. Then another thing to advice the patient about is exercise workout that can do and to change mode of life.” (PT 1, FGD 2)*

*“At first educating the patient who are coming for treatment by... telling them concerning their condition.” (PT3” FGD 2)*

*“Yes, I believe we can play role in preventing hypertension through various physical activities, and through diet, although we are not very good as we are not dieticians.”*

**(PT 1, FGD 3)**

One participant also mentioned the importance of home exercises.

*“I will give them (patients with hypertension) aerobic activities to do at home which will not involve so much energy...and then advice on diet.” (PT 4, FGD 2)*

Although exercise is often prescribed for patients with hypertension, some patients do not adhere to the advice as they received contradictory information regarding exercise from another source.



*“There are some contradictions about doing exercise. Sometimes you find that you instruct a patient to do exercise. Then he or she will tell you someone has told them that they should not do exercise once the blood pressure is high.” (PT 2, FGD 1)*

### **iii) Current Practice**

Some physiotherapists indicate that their current practice regarding HP for hypertension yield positive results, while other participants were not sure of the outcome of their actions. Verbatim quotes below illustrate their thoughts:

*“The challenge is ...a few (patients with hypertension) who are coming regularly... we get positive results.” (PT 5, FGD 2)*

*“Yes, in terms of medication, it is reduced because of the physical activity they are doing. I have seen it... it was 10mg, now it is 5mg or it was twice a day and now it becomes once a day.” (PT 1, FGD 3)*

*“After your advice, the (medication) dose is dropping.” (PT 3, FGD 3)*

For some of the participants it is very difficult to reminisce on the effect of the health promotion they provide for the management of hypertension. Their sentiments are as follows:

*“There is no way we can measure what has brought the sustainable results. But we can say that there is positive response for people to get involved in physical activities.”*

**(PT 3, FGD 1)**

*“I can say it is very difficult to get sustainable results in the community, the Tanzanian Policy doesn't... I can say it does not encourage us to engage fully in this health promotion thing.”* **(PT 6, FGD 1)**

*“It is difficult to tell our education or our advice or our intervention is giving positive or negative results because of poor follow up.”* **(PT 3, FGD 2)**

#### **5.3.4 CHALLENGES OF PHYSIOTHERAPISTS REGARDING THE IMPLEMENTATION OF HEALTH PROMOTION FOR HYPERTENSION**

This theme captured the challenges the participants encounter in their attempt to implement health promotion at their institutions. Among the challenging factors brought to light by the participants, the following were mentioned: attitude of physiotherapists, health policy, time and ignorance of medical doctors.

##### **i) Attitude of Physiotherapists**

The attitude of physiotherapists is also seen as a challenge to the implementation of health promotion for hypertension.

*“Recently the government developed a new policy. We (physiotherapists) had a chance to contribute. None of the physios contributed. Why they did not contribute, I am not aware of. It could be lack of knowledge or skills about policy and how it will help the community.”*

**(PT 5, FGD 1)**

*“I mean... negative attitude... as we see this is not our direct responsibility to see hypertensive patients before they had a stroke. We think stroke patients are our patients, but hypertensive patients are not ours.”* **(PT 3, FGD 2)**

*“Physiotherapists’ negligence, yes. We have a big role to play on this and I think we are not doing our part as is supposed to be. I think we have not done as we should have.”*

**(PT 2, FGD 3)**

## **ii) Health Policy**

Apart from the attitude of physiotherapists being a challenge to the implementation of HP for hypertension, The Tanzania Health Policy does not incorporate physiotherapists in the health care professionals that should include or practice health promotion.

*“As professionals we can see the importance of conducting health promotion but policy is not allowing for it... they don’t see the importance. So, it (health promotion) will never be there.”* **(PT 3, FGD 1)**

*“We don’t have clear stated policy.” (PT 5, FGD 1)*

*“Most of them (policy makers)... they just make those policy without going to the field to know what is happening there. Because the one who we are practicing, I mean... they don’t want to take some of the professionals (physiotherapists) so they can advise them during policy making.” (PT 3, FGD 3)*

One participant also mentioned that the Ministry of Health does not involve physiotherapists in health promotion activities in the communities.

*“But also the government I think... the government or the Ministry of Health... if they have an outreach, they just involve nurses and doctors. They do not involve physiotherapists.”*  
**(PT 4, FGD 2)**

### **iii) Time**

Although physiotherapists themselves and policy seemed to be the main barrier, time as also mentioned as part of challenges physiotherapists are facing in practicing health promotion for hypertension. See the quoted statements:

*“... all the time we are here it is only for management. We also need time to provide health promotion to our patients.” (PT 1, FGD 1)*

*“The load of our work here... it is very difficult to incorporate health promotion.”*

**(PT 6, FGD 1)**

One of the participants also noted that due to time constraints and being based at a hospital, there is not really time to practice health promotion in the community.

*“Another challenge we are facing is time. This is a hospital. Our concern is more to see patients ... those who are sick, that’s those who are coming here to the hospital. So, we don’t real get time to go to the community.”* **(PT 5, FGD 1)**

*“The challenge is we don’t have clear setup in our hospitals”* **(PT4, FGD 2)**

#### **iv) Ignorance of Medical Doctors**

Two participants are of the opinion that medical doctors are also a barrier to physiotherapists’ involvement in health promotion activities. See the excerpts below:

*“Amongst the challenges that we are talking about ... there is also unawareness of doctors. Sometime you might find that there is a community outreach, but physiotherapists are not involved. Maybe doctors have not seen the need for us (physiotherapists) to go with them to the outreach.”* **(PT 1, FGD 2)**

*“Now the only problem which I see, why we are not getting involved (in health promotion) is the ignorance, or maybe the lack of knowledge of physicians. Maybe they don’t think we have a role to play in the management of hypertensive patients.” (PT 3, FGD 2)*

### **5.3.5 THE WAY FORWARD**

The participants outlined possible ways to improve their involvement in the implementation of health promotion for hypertension. Three specific aspects were identified.

#### **i) Physiotherapists’ Attitude**

The participants said that awareness of the role they can play in health promotion for hypertension should start in the physiotherapy community.

*“We can change our approach, when patient comes here for instance, every patient we should measure vital signs.” (PT 2, FGD 1)*

*“What I think is we have to agree that we are health promoters.” (PT 8, FGD 1)*

*“I think we can improve our facilities to make sure that we can deliver any service to our patients. We have to know their health status, especially on the side of hypertension. I mean to make sure that we do check their (blood) pressure and we do follow up and evaluate afterwards.” (PT 3, FGD 2)*

*“We as physiotherapists... we need to get up, get out and start small ... start in our own setup. I am not saying we are not knowledgeable. We can start at our own departments, educating one another on what we know of hypertension.” (PT 1, FGD 3)*

## **ii) General Awareness**

Participants also expressed the need for awareness regarding the role physiotherapists can play in the management of patients with hypertension to doctors and the community at large. Statements below illustrate their views:

*“The way forward is that we just have to continue and make the community aware.”*

**(PT 1, FGD 2)**

*“They (doctors) don’t understand or they are not aware that physiotherapists can actually play part in it (the management of hypertension). So, a huge problem is awareness. Doctors should know what we do.” (PT 4, FGD 3)*

## **iii) Participation in Hypertension Clinics**

Most of the participants expressed that it is vital for physiotherapists to be involved in clinics for patients with hypertension. Their sentiments are shared below.

*“We can be part of that (hypertension) clinic.” (PT 5, FGD 1)*

*“We should be involved in the physician’s clinic for hypertension so that we can act on it as intervention for prevention.” (PT 3, FGD 2)*

*“Maybe try and go there (hypertensive clinics). I think in my own opinion it will help a lot of patients to deal with this problem (hypertension). Because it’s a growing problem and it’s not controlled, it’s going to become a disaster.” (PT 2, FGD 3)*

#### **5.4 SUMMARY OF THE CHAPTER**

Results of the qualitative data help us to understand what physiotherapists think health promotion entails, their role in providing health promotion, as well as the challenges they experience in their daily work environment that hinder the implementation of health promotion for hypertension specifically. The next chapter will present the discussion of both the quantitative and qualitative results of the study.



## **CHAPTER SIX**

### **DISCUSSION**

#### **6.1 INTRODUCTION**

This study aimed to determine the knowledge, attitude and practice of physiotherapists from Dar es Salaam regarding health promotion for hypertension. In addition, the physiotherapists' perceptions regarding their role in the management of hypertension in Dar es Salaam, Tanzania were explored. An adapted questionnaire and focus group discussions were employed to answer the specific objectives of the study respectively. In this chapter, the discussion will outline and discuss the physiotherapists' knowledge, attitude and practice regarding health promotion for hypertension, as well as the participants' perceptions of health promotion for hypertension.

Results from the first phase of the study showed that the majority of physiotherapists from Dar es Salaam, Tanzania are knowledgeable about health promotion for hypertension. In addition, the participants have positive attitudes towards health promotion for hypertension and include it in their daily work practice.

A response rate of 98.3% (n= 58) was obtained in the present study. It was much higher than the response rate of 53% reported in a South African study by Taukobong et al. (2014). The difference could be attributed to a variance in methodology in the two studies. Furthermore, the majority of the participants in the present study have been working for up to ten years, a characteristic that correlates with a study of Laliberte et al. (2012). Contrary to the findings from the WCPT (2007)

which states that physiotherapy is a female-dominant occupation, the present study had more male than female participants.

## **6.2 PHYSIOTHERAPISTS' KNOWLEDGE OF HEALTH PROMOTION FOR HYPERTENSION**

Knowledge is defined as “the capacity to acquire, retain and use information” (Bandran, 1995: pg. 9). It is also important to know that knowledge is the precipitant of change (Whitehead, 2001). Literature alert that the incidence of hypertension is on the increase globally, despite the report that health promotion is an effective way of combating the disease. The concern of whether the current practice is based on knowledge or practitioner ideology should not be confused with knowledge of what health promotion is (Little, 2003). The notion that physiotherapist are said to be unrecognised outside their community is alarming, especially in the role they can play in health promotion.

The present study shows that physiotherapists from Dar es Salaam Tanzania demonstrate high knowledge about health promotion for hypertension. This criteria for knowledge was obtained from three categories, namely marginal ( $\leq 49\%$  correct answers), adequate ( $> 50\% \leq 79\%$  correct answers) and high ( $> 80\%$  correct answers), with higher scores indicating the person is more knowledgeable about the topic. This is a promising result and a great asset for those that provide health promotion in their working environment. Participants in the present study not only demonstrated high knowledge of the condition, they also understood what health promotion is.

The participants' understanding of what health promotion entails relates to all three components of the Health Promotion Model, namely health education, prevention and health protection. It is thus similar to the health promotion definition provided by Duplaga et al. (2016) and Tannahil (2009). This might serve as a foundation for the establishment of better delivery and implementation of health promotion for hypertension. Research reported that if health care professionals are knowledgeable about prevention and management of a disease or condition, the process of health promotion could become a regular practice (Whitehand, 2001). In addition, the researcher postulated that the understanding of health promotion and its components is vital and necessary for implementation and possible positive results.

It is known that hypertension is not limited to high income countries. The most cost-effective way of preventing the high incidence of hypertension is health promotion (Johansson et al., 2010). The participants in the present study recognise their role in blood pressure check-up and the management of hypertension. However, patients' adherence to hypertension therapy and inadequate health promotion material were mentioned as barriers in the management of hypertension, challenges that corroborate with findings from a study conducted by Ambaw et al., (2015). The findings of the current study shows that 95% of the participants agreed that health promotion interventions involve the equipment of the patients by developing personal skills to stay healthy, and agree that disease prevention programmes that advocate for participation in physical activity, for instance, is a way of employing health promotion. Furthermore, when a person is knowledgeable about the consequences of a bad health choice, it could influence them to make an informed choice that will result in better health outcomes. In the present study, the participants stated that non-adherence to medication regimes is a huge challenge in the

management of patients with hypertension. Jimmy and Jose (2011) alerted us that adherence to therapy is a primary determinant of treatment success. Failure to adhere is a serious problem which not only affects the patient, but also the health care system. Medication non-adherence in patients leads to substantial worsening of the disease, death and increased health care costs.

There is a common concern that physiotherapists, as health care professionals, are not included in health promotion practices in the Tanzanian Health Promotion Policy. This is contrary to the fact that physiotherapists from Tanzania were asked to participate in policy development. Physiotherapists' lack of interest was identified as one of the barriers which could be the reason for not participating in the policy development. Nonetheless, 95% of the participants in the present study acknowledge that health promotion activities include building health policy to promote health of the population. The participants' view of the importance of a specific health policy for hypertension, could raise the bar for including physiotherapists in the multi-disciplinary team that manage patients with hypertension, a sentiment shared by Bovet et al. (2008).

Health promotion is used to minimise curative costs (Johansson, 2010). Therefore, health promotion could be one of the effective means to be employed in the prevention and management of hypertension. In the present study, 91.4% of the participants agreed that health promotion calls for the re-orientation of health care service to include more preventive services rather than clinical and curative services, similar to a study done by Mold et al. (2013). In addition, several authors have noted the importance of hospital management in providing a clear vision and strategy for health practitioners as it plays a key role in the commitment and implementation of health promotion programmes within a hospital set up (Kemppainen et al., 2013; Johansson et al., 2010).

### **6.3 ATTITUDE OF PHYSIOTHERAPISTS TOWARDS HEALTH PROMOTION FOR HYPERTENSION**

Research asserts that the more knowledgeable a person, the inimitable positive attitude he/she possess towards a situation. In addition, a positive attitude is said to create desire and commitment to change (Whitehead, 2001). Several researchers expressed that more emphasis should be placed on the attitudes and skills of the people providing health promotion, for instance physiotherapists (Al-Kandari, et al., 2007; Wen, et al., 2005; Stark, Manning-Walsh et al., 2005). The researchers are of the view that a positive attitude helps to minimise health-risk factors and in turn increases the quality of future practice. The results generated in the present study are thus in line with the above sentiments, as the physiotherapists portrayed a positive attitude towards health promotion,

Almost all the participants in the present study (97%) agreed that physiotherapists should be involved in the promotion of physical activity and educating people within their workplace and in the community about hypertension. Patients with hypertension are reported to have improvement in their clinical symptoms of the disease (Stewart et al., 2005) and they feel comfortable when physiotherapists are involved in their management (Black et al., 2016). The study participants believe that if everyone gets involved and if the treatment facilities are improved, they can be in a better position to implement health promotion practices.

Although physicians are reported to recognise the role health promotion can play in the patients' daily management, research demonstrated a less positive attitude amongst health professionals toward health promotion in a hospital setting (Johansson et al., 2010). Similar to Swedish health care professionals who believe that health care practice should engage more in preventing ill health

and promoting good health (Johansson et al., 2010), 81% of the physiotherapists in the present study believe that health promotion could be provided in their daily management of the patients.

In the present study the participants believe medical doctors' lack of awareness regarding their (physiotherapy) role in hypertension is a major concern. It is encouraging to see physiotherapists from Dar es Salaam, Tanzania demonstrate such a positive attitude towards health promotion for hypertension despite their perception of the medical doctors' role in hindering their involvement in the management of patients with hypertension. This positive attitude of the physiotherapists could be the results of believing in a positive outcome (Bandura, 1998), as studies report positive attitude determine the amount of perseverance and ease the process of change.

Aligned to study done by Shirley, et al (2012), the majority of the study participants believed that health promotion should form an integral part of physiotherapy practice. The physiotherapists also mentioned that the health policy is one of the barriers to the implementation of health promotion for hypertension. This is alarming as health protection, attained through legal control and policy, is an important component of health promotion (Tannahil, 2009).

The current study demonstrates that physiotherapists recognise the importance of their role in the management of hypertension. This positive attitude of the participants could assist with minimising the burden of physiotherapy treatment costs for stroke patients secondary to hypertension (Yousoufa et al., 2011) and thus reduce hypertension-related mortality. Almost 80% of the present study participants agreed that they are well positioned to integrated health promotion. Therefore, if health is the objective, as stated by Bandura (2004), this may be the way forward in combating

hypertension as poor infrastructure and lack of human resources were reported to be barriers within health care systems (Gebrezgi et al., 2012).

#### **6.4 PHYSIOTHERAPISTS' PRACTICE OF HEALTH PROMOTION FOR HYPERTENSION**

Several aspects in the daily practice of the study participants as it relates to health promotion for hypertension were identified in the present study, namely blood pressure measurements, education regarding the prevention hypertension complications and advise about exercise and/or physical activity. All these roles can be accomplished within the hospital setting as part of health care delivery. This corroborates with findings from Van der Ploeg et al. (2007), which asserted that health care facilities are suitable and an ideal place for health care practitioners to provide health promotion.

It is very positive to note that all the participants in the present stated that they always consider health promotion as part of their responsibility, especially following the call from WCPT (2007) for physiotherapists to include health promotion in their work practice. Furthermore, Taukobong (2014) also suggest that physiotherapists from low income countries should assume a health promotion role, similar to physiotherapists from high income countries. It is also evident from the findings that physiotherapists from Dar es Salaam provide health promotion using media, face-to-face and during social gatherings. In the current study, 97% of the participants include education and physical activity in their treatment, a finding that is congruent with results of Lein et al (2017), who stated that physiotherapists are well positioned to provide health promotion.

The results of the present study is promising as 81% of the current study participants integrate health education in the treatment of patients, contrary to only 48% of physiotherapists from a South African study (Taukobong, 2014). It is important to note that to provide relevant education about hypertension, one should know the blood pressure status of the patient. Most of the participants in the present study do agree that it is their job to know the blood pressure readings of all their patients, but due to high workload and poor availability of blood pressure machines, it is not done. Furthermore, the perceptions of some of the study participants that the management of hypertension is not part of a physiotherapist's job, might also contribute to the physiotherapists' lack of taking blood pressure readings in physiotherapy clinics in Dar es Salaam, Tanzania.

Non-adherence to medication is one aspect that hamper the management of hypertension (Pedrosa et al, 2011). Barriers to the effective use of medicine specifically include poor provider-patient communication, inadequate knowledge about a drug and its use, not being convinced of the need for treatment, fear of adverse effects of the drug, long term drug regimens, complex regimens that require numerous medications with varying dosing schedules (Tarn et al., 2006; Rodondi et al., 2006; Osterberg et al., 2005). Poor awareness as well as poor knowledge regarding the consequences of non-adherence could be contributing factors to patients' non-adherence to medication in the present study. The majority of physiotherapists (88%) assist their patients to make positive choices about their health which could increase awareness in general, including the negative effects of non-adherence to medication.

In the present study, health promotion practice for hypertension was insignificant with the level of work experience. These results contradict the findings of a study conducted by Saliba et al. (2011).



The researchers revealed that a person's years of experience in clinical practice had a high significant association with practicing health promotion. However, in the present study, participants with a diploma qualification were more likely to provide education regarding available resources like medication and regular visitation to hypertension clinics. The possible reason for this tendency is unknown, but the researcher postulates that it could be due to most of the physiotherapists in the present study obtained a diploma qualification a while ago. The degree qualification is quite new to Tanzania. According to the Tannahil Health Promotion Model (2009), the findings of the present study reveal that physiotherapists only use health promotion in their practice to provide education, even though they are aware that is not enough. It is imperative to integrate all the three components of the model for better health outcomes.

## **6.5 CHALLENGES FACED BY PHYSIOTHERAPISTS IN PRACTICING HEALTH PROMOTION FOR HYPERTENSION**

Most of the physiotherapists in the presents study believe that they cannot do much regarding patients with hypertension, since they are only working in a hospital and not in the community. They think managing hypertension within the hospital environment is not actually their responsibility. This is a very big challenge due to the fact that health promotion about hypertension in Tanzania is lacking in primary and community level, due to lack of qualified personnel as well the Health Policy. Due to the latter, patients diagnosed with hypertension are referred to tertiary hospitals for management (Peck et al., 2013). Since only 18% of secondary and tertiary level clinics and hospitals offer physiotherapy services in Tanzania (Magesa et al., 2001), it is imperative for these few physiotherapists to change the way hypertension management is viewed within their hospitals.

The Health Policy was mentioned as a barrier to health promotion practice. However, physiotherapists' lack of interest to assist with the development of the policy could be seen as a challenge in establishing the "*protection aspect*" of the Health Promotion Model (Tannahil, 2009). It is noted from the present study that the Health policy in Tanzania is not clear about health promotion for hypertension, as well as the role physiotherapists have in health promotion. According to Armstrong et al (2007), knowledge is the key link between policy and research practice. Physiotherapists in the present study have very good knowledge about health promotion. Therefore, is it vital for them to apply their knowledge to facilitate changes in the Tanzania Health Policy, an aspect emphasised by Bryant (2002).

Similar to the studies done by Bezner et al. (2015) and Lloyd et al (2006), time was another challenge mentioned by the study participants. Physiotherapy clinics seem to be busy, which makes physiotherapists more concerned about the patients' actual treatment, rather than health promotion. This might be because of insufficient manpower or lack of clear hospital and clinic setup. The same sentiment regarding time constraints are shared by Aweto, Oligbo, Fapojuwo and Olawale (2013), who stated that insufficient consultation time was the main factor that influenced health promotion practice for physical activity.

Since health promotion became a global issue (WHO, 2004), practicing it should involve all health practitioners and stakeholders. Medical doctors' ignorance was stated to be a barrier, supporting a study done by Mostert-Wentzel et al (2013). Ignorance of medical doctors regarding the role that physiotherapists can play in health promotion might be due the fact that they do not have enough

knowledge about physiotherapy practice, especially in the field of health promotion. Physiotherapists should ensure other health worker are aware of their scope of practice and areas of expertise.

## **6.6 THE WAY FORWARD FOR BETTER IMPLEMENTATION OF HEALTH PROMOTION FOR HYPERTENSION**

The participants proposed several recommendations to provide health promotion for hypertension more efficiently, namely change of attitude of the physiotherapists, general awareness of medical doctors and the community and physiotherapists' participations in clinics for patients with hypertension. These suggestions will enhance and facilitate the establishment of health promotion for hypertension in hospitals in Tanzania.

Participants of the current study proposed a change of attitude of the physiotherapists toward health promotion in general. Physiotherapists should acknowledge that they have a major role to play in the prevention and management of patients with hypertension. In addition, the participants should revise their clinics setup to accommodate health promotion. The current study shows that the physiotherapists have a positive attitude towards health promotion, a determinant factor for change of practice (Whitehand, 2001).

Another suggestion was to create awareness among all health promotion stakeholders and the community regarding hypertension management as well as the role physiotherapists can play in health promotion for hypertension. Despite the reported global increase in hypertension awareness (Mills, 2016), participants stated that it is imperative for individual physiotherapists to create

awareness within their social circles, for instance at mosque and churches. This may help to minimise the burden of hypertension within communities.

## **6.7 SUMMARY OF THE CHAPTER**

This chapter discussed the results obtained from both studies. The research elaborated and presents the summary of both quantitative and qualitative phase of the study in determination of physiotherapists' knowledge, attitude, practice and perception following health promotion for hypertension. The following chapter will present conclusion, limitation and recommendation of the study.

## **CHAPTER SEVEN**

### **CONCLUSION, LIMITATIONS AND RECOMMENDATIONS**

#### **7.1 INTRODUCTION**

The final chapter provides a summary and conclusion of the study. In addition, the limitations of the study will be discussed. Recommendations that emerged based on the findings of the study are also outlined.

#### **7.2 SUMMARY OF THE STUDY**

A global effort in addressing NCDs have gained momentum since 2010 (WHO, 2013). Responding to the growing threat of hypertension, Tanzania's third phase of the Health Sector Strategic Plan (HSSP), under the umbrella of the Ministry of Health, stated that "the provision of health promotion at the community level should be provided at primary health centers" (HSSP, 2008 pg. 20). Despite the intention of the HSSP (2008), health promotion for patients with hypertension is still lacking at primary health centres in Tanzania due to various reasons, including poor infrastructure and lack of qualified personnel.

Hypertension is said to be the leading modifiable risk factor for stroke in Tanzania (Yusuf, 2013). An increase in the admission of stroke patients in tertiary hospitals in Tanzania was noted by Walker et al., (2015). The burden of the disease is not limited to loss of human resources and medical treatment cost but it causes extra financial costs due to physiotherapy treatment and more indirect cost required for the patients affected (Youssoufa et al, 2011). Tanzania, like other developing countries faces a great challenge due to the shortage of health care professionals at all

levels of health delivery. Due to the shortage of health care professionals, a mere 18% of secondary level hospitals offer physiotherapy services (Magesa et al, 2001). The above mentioned call for physiotherapists working in secondary and tertiary hospitals to re-orient their health care service towards a more preventive service by including health promotion in the management of hypertension.

The overall aim of the present study was to determine physiotherapists' knowledge, attitude and practice of health promotion, as well as their perceptions regarding health promotion for hypertension. Health promotion is a cost-effective, user-friendly approach, especially for LIMCs to assist in the management of a condition such a hypertension. A combination of prevention, treatment and rehabilitation would offer a far more holistic approach in the management of hypertension.

Health promotion looks at the provision of knowledge to various stakeholders in order to empower the population with skills on how to avoid the development of various conditions and their complications. The physiotherapists in the present study demonstrated very high knowledge regarding and a positive attitude towards health promotion for hypertension. Participants in the present study not only demonstrated high knowledge of the condition, they also understood what health promotion is. In addition, the participants recognised their role in the management of hypertension. However, barriers to the management of hypertension includes patients' adherence to hypertension therapy and inadequate health promotion material.

The majority of the participants practice health promotion for hypertension in their daily work environment. Although the participants agreed that health promotion calls for the re-orientation of health care service to include more preventive services rather than clinical and curative services, a gap was identified with regards to the prevention and protection components of health promotion in the daily physiotherapy practice.

There is paucity of research regarding effective health promotion strategies to manage hypertension, especially in LMICs that are already struggling with health funding. The majority of the study participants believed that health promotion should form an integral part of physiotherapy practice. The physiotherapists also mentioned that the health policy is one of the barriers to the implementation of health promotion for hypertension. This is alarming as health protection, attained through legal control and policy, is an important component of health promotion.

In the present study, the participants stated that non-adherence to medication regimes is a huge challenge in the management of patients with hypertension. It is a serious problem which not only affects the patient, but also the health care system. Medication non-adherence in patients leads to substantial worsening of the disease, death and increased health care costs.

### **7.3 LIMITATIONS OF THE STUDY**

The findings of the present study should be interpreted in light of the following limitations:

- Collecting data by means of self-report are subjected to bias and misreporting, especially where certain knowledge, attitude and practice seem inappropriate to the subject desired.

- Present study findings determined the knowledge, attitude, practice and exploring the perceptions of physiotherapists in one designated area of Tanzania only, namely Dar es Salaam. The findings cannot be generalised to all physiotherapists from Tanzania due to differences in environmental, type of hospitals as well as patients found in a particular area.
- The study sample was highly homogenous as it included only physiotherapists. The results can thus not be interpreted as the views of all health care professionals, as it could have been completely different if other health carers were involved in the study.

#### **7.4 RECOMMENDATIONS**

The following recommendations are made based on the study findings. The possible way forward for health promotion for hypertension are:

##### **HEALTH PROFESSIONALS**

- It is of utmost importance that all physiotherapists include health promotion in their daily work practice.
- Physiotherapists should create awareness regarding the role they can play in the management of patients with hypertension, especially in the non-pharmacological management of the condition. This could assist with appropriate and early referral which could assist with improvement in the quality of life of patients affected by the condition.
- Health promotion should be included in the undergraduate curriculum as well as in the continuous training of all health professionals.



- Physiotherapists should be more involved in community-based educational programmes. This could assist with patients' understanding of the role physiotherapists can play in the prevention and management of hypertension, including patient adherence to treatment.

## **GOVERNMENT**

- Physiotherapists should be recognised as primary health care providers in Tanzania. This could assist with early identification of patients with hypertension, as well as appropriate management and bridge the inconsistent referral practices of medical practitioners.
- The National Health Policy regarding hypertension management should include physiotherapists in the multi-disciplinary team that manage patients with hypertension.
- Staff shortages at all health care facilities should be addressed as it contributes to health promotion not being practiced due to time constraints.
- Training curricular from the schools should emphasise health protection rather than disease management. This could delay the onset of NCDs such as hypertension.
- Providing education to community workers to assist in the identification of people at risk as well as the monitoring of patients affected by hypertension in the communities.
- Provision of funding for health promotion activities in the communities.

## **7.5 SUMMARY OF THE CHAPTER**

The final chapter summarised the findings of the study. In addition, limitations and recommendations of the study are also given.

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**QUESTIONNAIRE**

**ID CODE** \_\_\_\_\_

This questionnaires aimed at obtaining information on knowledge, attitude and practice of physiotherapists. It contain section A and B. You are requested to respond to both sections and if you have any question, the researcher will be at hand to give you clarity. Your participation and contribution will be very helpful in attaining the objectives of this study. I therefore request that you respond as honest and objective as you can be

**INSTRUCTIONS: Please tick in the box for your best response.**

**SECTION A**

**DEMOGRAPHIC DATA**

1. Age of participant:

- 21-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51+

2. Gender of the participant:    male                        female           

3. Highest level of education:

- Diploma  Bachelor  Masters  PhD

4. Work experience:

- < 6 month
- > 6 month -5 years
- 5-10 years
- 10-15 years
- 15-20 years
- >20 years

<b>SECTION B</b>
------------------

**This section evaluates your knowledge, attitudes and practice regarding health promotion with regards to hypertension**

<b>Statement related to knowledge about health promotion. N (%)</b>	<b>Yes</b>	<b>No</b>	<b>Unkno wn</b>
K1. Health promotion activity involves building health policy to promote health of the population			
K2. HP intervention calls for professionals to be involved in improving and maintaining health status for all			
K3. Health promotion intervention involves early detection and Prevention of diseases			
K4. Health promotion intervention involved strengthening community action to prevent diseases			
K5. Health promotion intervention involves developing personal skills to stay health			
K6. Health education is a process of implementing health promotion			
K7. Health promotion can be achieved through environmental modification			
K8 Diseases prevention program such as physical activity is a method of health promotion			
K9. Health promotion includes the implementation of life style and behavioral changes programme			
K10. Health promotion calls for reorientation of health care services beyond clinical and curative services			
<b>Statements about attitudes toward health promotion service in physiotherapy practice. N (%)</b>	<b>Agree</b>	<b>Disagree</b>	<b>Neutral</b>
A1. Physiotherapists are well positioned to integrate health promotion			

A2. Physiotherapists should be involved in the effects to promote physical Activity			
A3. Health education on health diet should be part of the physiotherapists treatments plan			
A4. Physiotherapist should be involved in education people within their work place and in the communities about hypertension			
A5. Physiotherapists should participates in developing health and Safety regulations for health population			
A6. The health educator role is appropriate for physiotherapists			
A7. Physiotherapists should align their practice of health promotion efforts to the ministry of health			
A8 Health promotion should form an integral part of physiotherapy at all a level of health care			
A9. Provision of time allocated for treatments should be made for integrating health promotion			
<b>Statement about integration of health promotion in physiotherapy practice</b>			
	<b>Always</b>	<b>Often</b>	<b>Never</b>
P1. Health promotion is part of my responsibility			
P2. Health promotion is integrated in the treatment when patient is aware of the problem			
P3. All patients are educated about health related risks			
P4. Emotional support is provided to patients when no any other support is available			
P5. Patients are encouraged to talk about their health problems			
P6. Patients are educated about available health resources in their communities			
P7. Patients are assisted to make healthier choices about their health			
P8. Health education and physical activity are included in the treatment			
P9. Health education is integrated in treatment of all patients			
P10. Health education is included during consultation time			

**FOCUS GROUP SEMI STRUCTURED GUIDE**

- Health promotion:**
1. What do you understand by the term health promotion?
  2. How do you apply health promotion within your hospital(s) you work?

**Hypertension**

1. What is the prevalence of hypertension in your hospital(s) you work?
2. Do you think physiotherapists can play a role in the management of hypertension?
3. What kind of interventions can physiotherapist employ in the management of hypertension?
4. At what level do you provide physiotherapy services in the management of hypertension?
5. How do you think health promotion can be used to manage hypertension?
6. As physiotherapists, how often do you apply health promotion strategies for hypertension in your practice?
7. Is your current application of health promotion for hypertension producing sustainable results?
8. What is your perception of physiotherapy practitioners with regard to health promotion for hypertension?
9. Do you face any challenges in the use of health promotion for hypertension?
10. What are some of these challenges?
11. How do you think these challenges can be overcome?
12. Finally, what do you think is the way forward for the management of hypertension?

Thank you for your participation



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## FOCUS GROUP CONFIDENTIALITY BINDING FORM

**Research Title: Health promotion for hypertension: knowledge, attitudes, practise and perception of physiotherapist from Dar es salaam, Tanzania**

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way. I hereby agree to uphold the confidentiality of the discussions in the focus group by not unveiling the identity of other participants or any aspects of their contributions to members outside of the group.

I agree to be audiotaped during my participation in this study

I do not agree to be audiotaped during my participation in this study

**Participant's name.....**

**Participant's signature.....**

**Date.....**





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### INFORMATION SHEET

**Research Title: Health promotion for hypertension; knowledge, attitude, practise and perception of physiotherapists from Dar es Salaam, Tanzania.**

#### **What is this study about?**

This study is being conducted by **MWENGENGWA JUMANNE KALEGELE**, a Masters student at the University of the Western Cape, South Africa. The purpose of this research is to determine your knowledge, attitude and practice as well as to explore the perceptions of physiotherapists with regard to their role in health promotion against hypertension. Exploring the perception of physiotherapist regarding their role in health promotion could provide valuable information that can be used to change their work culture into a more preventative one. In turn it could reduce the high cost of managing hypertension and its secondary effects. Furthermore, this study will provide policy makers and health care administrators with evidence-based information of physiotherapists with regard to hypertension management. This could influence the designing of feasible interventions for the prevention of hypertension.

#### **What will I be asked to do if agree to participate?**

You will be asked to:

- Complete a self-administered questionnaire regarding your knowledge, attitude and practice with regards to health promotion consisting of two parts. The completion of the questionnaire will take approximately 10 minutes.
- Participate in a focus group organised by the researcher. The focus group discussion will be recorded after you have signed the consent form. The focus group discussion will take about 30 to 45 minutes. The information from the tapes will help the researcher to comprehend what transpired in the discussion.

### **Will my participation in this study be kept confidential?**

Your participation in this study will be kept confidential at all times and to help enhance this confidentiality, the following measures have been put up.

- **Questionnaires** will not contain any information that will identify you personally as your name will not be included. Only codes known to the researcher will be used for identification purposes. The researcher will be the only one who will have access to this information. The data collected will be stored in a locker only accessible to the researcher.
- **Focus group discussions:** Confidentiality is dependent on your fellow participants. However, all participants will sign a focus group confidentiality binding form. From the researcher's point, your name will not be included in the recordings and the typed documents. Only codes will be used to identify you. All the tapes will be destroyed once the data has been transcribed and documented. The transcribed verbatim data will be stored on a password protected computer of which only the researcher will have access to and discard after five years.

If a report or article about this study is published, your identity will be protected as Pseudonyms will be used to protect participants' identities when results are published.

**What are the risks of this research?**

Minimal risks are anticipated in this study. However, all human interactions and talking about one's experience or just the profession at large carry some amount of risk. Risks will be reduced by encouraging each participant to respect each other's opinion during the discussion. Any sensitive issues or questions which may arise from the study and could affect the participant will be observed and carefully handled accordingly or referred to an expert for appropriate attention.

**What are the benefits of this study?**

This research is not designed to benefit you personally but your participation and the results of this study will help the researcher to learn more about your perceptions in health promotion with regard to hypertension management. The information you will provide will be used to help policy makers in their implementation of health promotion strategies based on the results of this study. Furthermore, this study may serve as an area of further research based on the findings.

**Do I have to be a part of this research and can I withdraw my participation at any time?**

You are free to decide whether or not to take part in this study. If you decide to participate, you are free to withdraw from the study at any time and you will not be penalised in anyway.

**What if I have questions?**

This research is being conducted by **MWENGENGWA JUMANNE KALEGELE**, a Masters student in the Physiotherapy Department at the University of the Western Cape. If you have any questions about this research, contact Mwendengwa Jumanne Kalegele on +255717365229 or +27640331995 or email me at 3707740@myuwc.ac.za.

**Who to call if you have questions or problems with this study?**

Dr Nondwe Mlenzana  
Head of Department:  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
[nmlenzana@uwc.ac.za](mailto:nmlenzana@uwc.ac.za)

Prof Rhoda  
Dean of the Faculty of Community  
and Health Sciences  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
chs-deansoffice@uwc.ac.za

**This study has been approved by the University of the Western Cape's Biomedical Research Ethics Committee (BMREC).**



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## CONSENT FORM

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

\_\_\_ I agree to be audiotaped during my participation in this study.

**Participant's name**.....

**Participant's signature**.....

**Date**.....



OFFICE OF THE DIRECTOR: RESEARCH  
RESEARCH AND INNOVATION DIVISION

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03 May 2018

Ms M Kalegele  
Physiotherapy  
**Faculty of Community and Health Science**

**Ethics Reference Number:** BM18/3/5

**Project Title:** Health promotion for hypertension: knowledge, attitude, practice and perceptions of physiotherapists from Dar es Salaam, Tanzania.

**Approval Period:** 20 April 2018 – 20 April 2019

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

**Please remember to submit a progress report in good time for annual renewal.**

The Committee must be informed of any serious adverse event and/or termination of the study.

A handwritten signature in black ink, appearing to read 'Josias', on a white rectangular background.

*Ms Patricia Josias  
Research Ethics Committee Officer  
University of the Western Cape*

**PROVISIONAL REC NUMBER -130416-050**

# MUHIMBILI NATIONAL HOSPITAL



## ETHICAL CLEARANCE CERTIFICATE

Ms. Kalegele Mwangengwa,  
School of Physiotherapy,  
University of Western Cape,  
Private Bag X 17, Bellville 7535,  
South Africa.

**Date:** 31<sup>st</sup> May, 2018

**Certificate Reference Number:**

MNH/IRB/I/2018/183

**Project Title:**

“Health promotion for hypertension:  
Knowledge, Attitude, practice and  
perceptions of Physiotherapists from  
Dar es Salaam, Tanzania”.

**Principal Investigator:**

Dr. Tania Steyl

**Date of Approval:**

31/05/2018

**Expiration Date:**

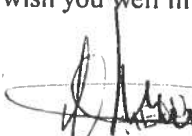
30/05/2019

On behalf of the Muhimbili National Hospital's Institutional Ethics Review Board (MNH-IRB), I am pleased to inform you that ethical approval has been granted in respect to the undertakings of the above-mentioned project.


The Principal investigator must ensure the following conditions are fulfilled:

- 1 Progress report is submitted to the MNH-IRB where applicable, annually, and final report at the conclusion of the project
- 2 Amendments to the approved project (including change of personnel) are not effected before submission of request for amendment to MNH-IRB and a written approval from MNH-IRB.
- 3 Other investigators are aware of the terms of approval and the project is conducted as approved by MNH-IRB

We wish you well in your research

  
Dr. Faraja S. Chiwanga  
Head of Teaching, Research  
and Consultancy Coordination Unit

TEACHING RESEARCH & CONSULTANCY UNIT  
MUHIMBILI NATIONAL HOSPITAL  
P. O. BOX 65000  
DAR ES SALAAM

  
Mr. Makwata Makani  
for: Executive Director