

**DEVELOPMENT OF A SELF-CARE MANAGEMENT PROGRAMME
FOR ADULT PATIENTS DIAGNOSED WITH HYPERTENSION IN
KHOMAS REGION, NAMIBIA**

by

Johanna Penduka Kemanguluko Tuyakula Hanyanya

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SUPERVISOR: Prof SH Khunou

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DEDICATION

This thesis is dedicated to my Heavenly Father, Almighty God, for His righteous right hand upon me. This research study has been completed with His strength and sufficient grace in my life. *“I will strengthen you and help you; I will uphold you with my righteous right hand”* Isaiah 41:10.

DECLARATION

Name: Johanna Penduka Kemanguluko Tuyakula Hanyanya

Student number: 12902616

Degree: Doctor of Philosophy in Nursing

DEVELOPMENT OF SELF-CARE MANAGEMENT PROGRAMME FOR ADULT PATIENTS DIAGNOSED WITH HYPERTENSION IN KHOMAS REGION, NAMIBIA

I proclaim that this thesis is my work and that all the sources used or cited have been recognised and acknowledged using comprehensive list of references. This thesis has also been subjected to a reliable software testing to check its originality. I further confirm that this thesis has never been submitted at any institution of higher learning elsewhere before, including submission to Unisa for any degree purposes.

Signature:



Date:

14/11/2025

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STUDENT NUMBER: 12902616

STUDENT: JOHANNA PENDUKA KEMANGULUKO TUYAKULA HANYANYA

DEGREE: DOCTOR OF PHILOSOPHY IN NURSING

DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF SH KHUNOU

ABSTRACT

Hypertension (HPT) remains a major community health challenge in Namibia, where the adoption of sustainable, patient-centred measures is required to improve the disease management. The study was carried out to develop a self-care management programme for empowering adult patients diagnosed with HPT to control the disease while at home in the Khomas region of Namibia. A convergent parallel mixed-methods research design was employed to explore the knowledge, attitudes, practices, experiences and perceptions of adult patients and primary health care (PHC) nurses about HPT self-care management. Quantitative and qualitative data were collected simultaneously, analysed separately, and later combined at the interpretative stage. Quantitative data were obtained through a descriptive cross-sectional study while qualitative component adopted an exploratory descriptive design. Data collection was done through self-administered questionnaires involving 328 adult patients and 112 PHC) nurses, and in-depth individual interviews with 16 nurses and 12 adult patients. The descriptive and inferential statistical methods were used to analyse quantitative data via the SPSS software, and the thematic analysis was utilised to analyse qualitative data. Quantitative findings revealed that patients had partial knowledge on management of HPT and overall expressed positive attitudes towards self-care management and had supportive nursing practices. Patients had significant gaps in their lifestyle change, dietary consciousness, and regular behavioural follow-up. PHC nurses were perceived as facilitators of the follow-ups, exercise, and weight monitoring, with minimal involvement in dietary education and monitoring medication side effects. Based on the integrated findings, a patient-centred HPT self-care management programme was developed. The programme focused on nurse-based

education, lifestyle change, psychosocial interventions and community engagement to enhance patient empowerment and better blood pressure (BP) management. Recommendations were made for the key stakeholders, which are the Ministry of Health and Social Services (MoHSS), PHC providers, non-governmental organisations (NGOs), and community-based organisations aiming at enhancing health promotion and training self-care through multisectoral measures. The results obtained from this study add to the body of knowledge concerning the dangers of potential complications arising out of HPT and their impact on stroke prevention, early diagnosis of nephrological disorders and avoiding disabilities. For future studies, should undertake longitudinal studies that focus on evaluating the cardiovascular and renal health of patients who have undergone a self-care management programme devised by this study. Practical importance of the results is determined by success of developing and expanding the programme into PHC facilities.

Keywords: Health education, hypertension, patient empowerment, primary health care, programme development, self-care management

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LIST OF ACCRONYMS

ACC	American College of Cardiology
ACE	Angiotensin-Converting Enzyme
AHRQ	Agency for Healthcare Research and Quality
AHA	American Heart Association
AIHW	Australian Institute of Health and Welfare
ARB	Angiotensin II Receptor Blockers
BP	Blood Pressure
CDC	Centres for Disease Control and Prevention
COVID 19	Coronavirus Disease 19
CVD	Cardiovascular diseases
DASH	Dietary Approach to Stop HPT
DHIS	District Health Information System
DRC	Democratic Republic of Congo
HER	Electronic Health Records
HPT	Hypertension
LMICs	Low- and Middle-Income Countries
MMRDs	Mixed Methods Research Designs
MoHSS	Ministry of Health and Social Services
NCD	Non-Communicable Illness
NDHS	National Department of Health South Africa
NICE	National Institute for Health and Care Excellence
NGOs	Non-Governmental Organisations
NHS	National Health Service
NSA	Namibia Statistics Agency
PHC	Primary Health Care
POT	Practice-Oriented Theory
QOL	Quality of Life
RAAS	Renin angiotensin aldosterone system
SPSS	Statistical Package for the Social Sciences

SRS	Simple Random Sampling
SSA	Sub-Saharan Africa
U.S.A	United States of America
UK	United Kingdom
UNISA	University of South Africa
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Since hypertension (HPT) is a non-communicable illness (NCD), a person cannot get it from another person. Worldwide, HPT, commonly known as high blood pressure (BP), significantly raises the risk of early death, heart, brain, kidney, and other conditions (Eldawati, Said & Umar 2022:488; Mills, Stefanescu & He 2020:5). Also, according to the World Health Organization (WHO) (2022a:2), all nations, including Namibia, are still struggling with serious cases of public health problems related to HPT.

HPT has a wide range of underlying causes. Some of the causes of HPT include unhealthy eating habits, sedentary lifestyles, mental health pressures, alcohol use and obesity (Gafane-Matemane, Craig, Kruger, Alaofin, Ware, Jones & Kengne 2025:95). HPT can be decreased by self-care management and a lifestyle change (He & Jiang 2021:2). To assist patients in Namibia's Khomas Region to manage HPT, the study's objective was to develop a self-care management programme. This chapter provides a summary of the entire thesis. It starts with background information on the study's focus topics, which include the global self-care management of the disease and the contexts of Sub-Saharan Africa (SSA) and Namibia. The methodology, research design, and theoretical foundations of the study are also briefly explained. However, Chapter 3 has more information on the research design and methodologies. The definition of the significant terms, the description of the scope of the study and the conclusions are other components of this chapter.

1.2 BACKGROUND OF THE RESEARCH PROBLEM

HPT remains a major public health problem globally and is one of the leading causes of premature deaths, disability and loss of health-related quality of life globally. WHO estimates that there are 1.28 billion adults aged 30-79 years with HPT in the world today, of which two-thirds live in low- and middle-income countries (WHO 2025:2). In

2021, elevated systolic BP was associated with about 10.9 million deaths and over 225 million disability-adjusted life years (DALYs) worldwide; elevated systolic BP continues to be one of the most important risk factors for stroke, heart failure, chronic kidney disease and cardiovascular disease (CVD) across the globe (He et al. 2025:5). In addition to death, HPT has a major impact on quality of life due to long-term disability, decreased productivity, psychological stress and cost of chronic treatment and complications.

The prevalence of HPT in Africa remains one of the highest in the world, with adult prevalence rates still above 30%, especially in urban settings where lifestyle changes, obesity, and physical inactivity are growing HPT risk (Gafane-Matemané et al 2025:95; Olowoyo et al 2025:1816). The prevalence of HPT remains high in many African countries and is continuing to increase due to rapid urbanisation, unhealthy dietary practices, sedentary lifestyles, alcohol consumption, psychosocial stress, and weak healthcare systems (Gafane-Matemané et al 2025:95). Similarly, Namibia continues to urbanise, lifestyle-related risk factors and the prevalence of non-communicable diseases (NCDs) in the PHC setting are still a significant public health problem in the country (MoHSS 2021:283; Mashozhera, Bamitale, Godman & Kibuule 2021:57). With this increasing burden, however, the comprehensive self-care management programmes are still underutilised in national HPT management interventions.

Continuous self-care management is needed as HPT progresses and is linked to a higher risk of stroke, myocardial infarction, chronic kidney disease, heart failure, cognitive decline and premature death (WHO 2025:2). The WHO (2022b:2) also highlights that self-care interventions enable people to play an active role in prevention and long-term management of a disease. HPT prevention and BP control are enhanced through community-based and patient-centred interventions. Azami-Aghdash et al (2025:2) concluded that community-based interventions were effective in enhancing treatment adherence, health education, lifestyle modification and BP outcomes for HPT patients. In the same vein, research in low-middle income countries like India and Ethiopia showed that improving treatment coverage and medication adherence is cost-effective interventions to reduce disability, complications and health care expenditure (Das et al 2021:11; Davari et al 2022:18). Self-care strategies, such as educational programmes and self monitoring, have also been found to lead to

benefits in BP control, self-efficacy and patient outcomes in resource-limited environments (Boitchi et al 2021a:2; Azami-Aghdash et al 2025:2).

Technological advances present opportunities for improving HPT management and preventing complications. Digital technologies like telemonitoring, mobile health applications, wearable BP devices and machine learning-based risk prediction models have significant potential to enhance early detection, treatment adherence and prevention of HPT related complications (Fujiwara & Kario, 2026:285). Such innovations may be particularly beneficial in African settings where access to specialist healthcare services is limited.

Ethnicity, genetics and contextual social determinants of health can affect HPT in the African population. African populations have been shown to be at higher risk of developing uncontrolled HPT and associated complications due to genetic and socioeconomic risk factors, poor access to healthcare and low health literacy (Ogunniyi, Commodore-Mensah & Ferdinand 2021:2463; Powell-Wiley 2021:2). African contexts and the Khomas region in particular, have been identified as having major social determinants that drive HPT, including poverty, unemployment, food insecurity, low health literacy and limited access to PHC services (Sunde 2024:206).

The positive results of international models, like the educational programs (Ashraf, Aamir, Nadeem, Hassan, Raza, Rauf, Din, Shah, Khan, Akram, Ishaque and Hanifand 2024:8; Egekeze, Chukwu, Vieira, Gyamfi and Allegrante 2025:10) and self-monitoring programs (Boitchi et al 2021a:2) are shown with significant changes in patient outcomes. These strategies are significantly absent in the present HPT management system in Namibia which is mainly based on pharmaceutical interventions (MoHSS 2021:283), despite the established shortcomings of medication-only strategies. In Namibian research, there is still a gap in the existing research regarding HPT management, with the deficit in patient education (Nakwafila, Sefuko & Amutenya 2022:9) and insufficient attention to non-pharmacological management (Mashozhera et al 2021:57). Whereas other studies have explored issue of medication adherence (Ashipala, Nafuka and Shilunga 2024:8) and HPT risk factors (Ashipala and Lukolo 2021: 115), no detailed self-care program is constructed within the Namibian context. It is a very important missed opportunity as it has been proven that culturally adapted

programs yield substantial health literacy, self-efficacy and clinical outcomes (Miezah & Hayman 2024:46).

1.3 RESEARCH PROBLEM

MoHSS has produced guidelines for controlling HPT, which suggest that people with the illness can be treated with medication or non-medication methods such counselling and lifestyle adjustments (MoHSS 2021:283). Regardless of the fact that national standards have been laid down in managing HPT and standardised protocols of treatment have been developed, the prevalence of HPT remains high, especially in the Khomas region (Kaputjaza, 2017:3; Namibia Statistics Agency (NSA) 2020:44). MoHSS (2017:8) and (WHO 2023c:2) describe a large challenge of HPT in Namibia with a prevalence rate of 45, Khomas region being the highest of the other regions with prevalence rate of 57 (Kaputjaza 2017:3; NSA 2020:44). The gap in knowledge and practice identified by this research is the lack of an organised, evidenced-based self-care management programme based on the Namibian context. Although there are medication regimens, no extensive programme has been established to enable adult patients with HPT to cope with the condition at home.

Poverty, unemployment, overcrowding, food insecurity and poor living conditions have an impact on the incidence and self-care management of HPT in Khomas Region and informal settlements of Windhoek. The residents of informal settlements often have poor access to basic sanitation services, poor access to food and limited means to afford necessary healthcare services which hinders their utilisation of health care services and compliance to the treatment of HPT (Sunde 2026).

Namibia has taken steps towards improving PHC services, however, there are gaps in health system that make it difficult to control HPT. PHC facilities experience challenges related to inadequate patient follow-up systems, insufficient health education, inconsistent medication supplies and inadequate staffing ratios that negatively affect HPT management (Nakwafila et al 2022:9; Ashipala et al 2026:8). Low-income populations face various challenges, including financial constraints, transport difficulties, psychosocial stress, limited access to healthcare services, and missed clinic appointments, which result in poor continuity of care (Ashipala et al

2026:7). Such difficulties negatively impact the ability of the interventions of PHC to control HPT including self-care management.

In addition, social determinants of health remain a major driver of the increasing burden of HPT in resource-poor communities. There is evidence that strengthening PHC systems, improve access to medication, enhance community-based health education and implement social protection interventions that are cost-effective for improving HPT outcomes in underserved populations (WHO 2024; Ruano 2024:393).

While there have been studies on HPT and poverty in Namibia, there is limited context-specific evidence of the influence of gaps in the healthcare system and social determinants of health on the occurrence of HPT and its self-care management by adult patients in Khomas Region. Furthermore, little emphasis has been placed on the creation of sustainable, self-care strategies that will enable patients to manage HPT effectively at home.

Additionally, the researcher, as a nurse educator, who accompanies students during clinical placement at local PHC state facilities in Khomas Region, observed a high prevalence of uncontrolled BP among adult patients diagnosed with HPT. The researcher also observed that adult patients with HPT cannot adequately take care of themselves while at home. This can result in uncontrolled HPT, disability, loss of jobs, overwhelming health system and eventually mortality.

Furthermore, the researcher observed inadequate understanding of self-care management in terms of knowledge, attitudes, and practices of adult patients diagnosed with HPT at PHC state facilities in Khomas Region. In this regard, to improve the overall management and treatment outcome in patients with HPT, self-care management is a crucial intervention to enhance the quality of life for adult patients diagnosed with HPT. In support of sustainable development goal number three of Namibia, a self-care management programme for HPT may improve health outcomes, reduce chronic illness effects and enhance overall well-being among those affected by this condition (NSA 2021:13). Therefore, this study addressed self-care management of adult patients diagnosed with HPT. For the high prevalence of HPT as well as the high prevalence of uncontrolled HPT in Namibia, and there is no specific

self-care management in places that can help patients to cope with a disease while at home, this gave rise to an interest of a researcher in the necessity for the study.

1.4 AIM OF THE STUDY

1.4.1 Research purpose

The purpose of this research study was to develop a self-care management programme to empower adult patients diagnosed with HPT to control the disease while at home in Khomas Region, Namibia.

1.4.2 Research objectives

The following specific research objectives were categorised into two phases:

Phase 1 Quantitative objectives:

- Identify and describe the knowledge, attitudes and practices of self-care management for adult patients diagnosed with HPT.
- Measure and describe the perceptions of PHC nurses regarding self-care management for adult patients diagnosed with HPT.

Phase 1 Qualitative objectives:

- Explore and describe the lived experiences of adult patients diagnosed with HPT in Khomas Region, Namibia.
- Explore and describe the perceptions of PHC nurses regarding self-care of adult patients diagnosed with HPT.

Phase 2 Programme development objectives:

- Identify and conceptualise the framework for self-care management programme development for adult patients diagnosed with HPT.
- Develop a programme to enhance self-care management of adult patients diagnosed with HPT.

1.4.3 Research questions

- What is the knowledge, attitudes; practice of self-care adult patients diagnosed with HPT?
- What is the level of perceptions of PHC nurses regarding self-care management of adult patients diagnosed with HPT?
- What are the experiences of adult patients diagnosed with HPT in Khomas Region, Namibia?
- What are the perceptions of PHC nurses regarding self-care of adult patients diagnosed with HPT?
- How can the framework for self-care management programme development for adult patients diagnosed with HPT be identified and conceptualised?

1.4.4 Research hypothesis

Hypothesis for the study

According to the literature, it seems that self-care management programme can empower adult patients diagnosed with HPT to control BP while at home and reduce the high prevalence of HPT.

Null Hypothesis

A self-care management programme designed to empower adult patients on self-care management does NOT control HPT while at home, nor does it reduce the prevalence of HPT.

1.5 SIGNIFICANCE OF THE STUDY

The findings of the study will be availed and create awareness to the policy makers about the self-care management programme that can improve the health outcomes of HPT adult patients. The programme could also assist to better empower and enhance the quality of life and health outcomes of the adult patients diagnosed with HPT. The self-care management approach created by this study may enable adult patients with HPT to take better control of their condition, lessen complications, and prevent HPT-related fatalities. The findings of this study could address the practice and knowledge

gaps by empowering the PHC nurses on important health education contents for the adult patients diagnosed with HPT. It is also hoped that the developed HPT self-care management programme will be used as a teaching tool for the nursing education institutions and in-service training. The findings of this study will be published in peer reviewed accredited journals and thus add to the body of knowledge.

1.6 DEFINITIONS OF KEY TERMS

- Adult: Oxford University Press 2025, sv" adult")
- Development: refers to the whole process of designing and planning an intervention, from initial conception through to feasibility (Skivington, Matthews, Simpson, Craig, Baird, Blazeby, Boyd, Craig, French, McIntosh, Petticrew, Rycroft-Malone, White & Moore 2021:6).
- HPT: Is a medical term used to describe a BP that consistently has a systolic $\geq$ 140 mmHg and/or diastolic of $\geq$ 90mmHg for adults 18 years and above (MoHSS 2011:283). There are age-based thresholds in literature for older adults (60+ years), which state that higher levels (150/90 mmHg) are acceptable, but these are not the focus of this study as this study involved adults aged less than 60 years (MoHSS 2011:291).
- Khomas Region: This is an area in the central part of Namibia (NSA 2022:9).
- Management: Is to coordinate the efforts of people to accomplish goals and objectives using available resources efficiently and effectively (American Nurses Association [ANA] 2021:7).
- Programme: Refers to a complex intervention consisting of multiple interacting components to produce health outcomes in a target population (Skivington et al 2021:2).
- Self-care: According to Orem's self-care theory, self-care is the practice of activities individuals initiate and perform on their own behalf to maintain life, health and well-being (Orem 1985:84).

1.7 OPERATIONAL DEFINITIONS

- Adult: In this context, an adult is a person who is 18 years and above, diagnosed with HPT and has been on HPT treatment for 1 year and above.

- Development: In this study, development means the process through which people diagnosed with HPT gain greater control over the circumstances of their lives.
- HPT: In this study, HPT is an elevated BP when it is measured on two different days, the systolic BP readings on both days is at 140mmHg and diastolic BP readings on both days is at 90mmHg or higher.
- Khomas Region: In this study, Khomas Region is referred to the area in Namibia where the research study was conducted.
- Management: Is the whole system of care and treatment of HPT focusing mainly on non-medicinal therapy.
- Programme: A plan that has been developed for the purpose of empowering adult patients diagnosed with HPT in order to control the disease.
- Self-care: In this study, self-care is the practice of activities adult patients diagnosed with HPT initiate and perform on their own behalf to maintain life, health and well-being.

1.8 THEORETICAL FOUNDATION OF THE STUDY

The theoretical foundation of the study is a formal, peer-reviewed theoretical model or models that can be used to explain the issue that is driving the research (Watson 2020:2). There were elements of the philosophical paradigm that ultimately informed the chosen approach and methodology; the researcher used a pragmatic paradigm.

1.8.1 Research paradigm

A paradigm is a model or pattern containing a set of legitimated assumptions and a design for collecting and interpreting data (Polit & Beck, 2021:9). A research paradigm provides an idea for the researcher to choose the methods and designs to be followed for the lens or organised principles through which a researcher approaches and interprets reality. Moreover, Polit and Beck (2021:9) describe a paradigm as a set of philosophical assumptions that guide the researcher's approach to inquiry. Understanding paradigm-specific assumptions help illuminate the quality of findings that support scientific studies and identify gaps in generating sound evidence (Park, Konge & Artino 2020:690). Therefore, Brink van der Walt and van Rensburg (2022:

20) concluded that health care practice requires multiple paradigms for interpreting observations and providing structure to systematic study.

This study used MMRDs with convergent parallel approach. The study was based on the pragmatic paradigm. Pragmatism involves addressing positivist and post-positivist rigid worldviews, replacing them with the goal of problem-solving through understanding wider experiences of various phenomena for better goal outcomes by using various knowledge (Whitehead et al. 2020:260). Furthermore, pragmatism focuses on the consequences of research, the questions being asked are of primary importance and multiple methods of data collection to inform the problem under study (Creswell & Plano Clark 2023:37). Pragmatic paradigm was used in this study to draw inferences to describe the experiences of the adult patients diagnosed with HPT and perceptions of the PHC nurses regarding self-care management of HPT as the phenomena. The ontology, epistemology, methodological and axiology assumptions of the paradigmatic perspective were applied to this study as explained in the next session.

1.8.2 Philosophical views and assumptions

Philosophy is the fundamental nature of knowledge, reality and existence as human beings (Fouche et al 2021:4). Moreover, Creswell and Plano Clark (2023:34) indicate that articulating philosophical assumptions in the MMRD study includes acknowledging the worldview that is providing a foundation for the study, describing the elements and specific procedures. Hence, the study adopted the pragmatist's standpoint, the assumptions and philosophical stance are as follows: *Ontological, epistemology, axiology and methodological*.

1.8.2.1 Ontology

The ontological assumption is about the nature of reality. The ontological assumption asserts that reality is multiple and subjective and, as such, reality is mentally constructed by the individuals participating in the study and reality is reliant on the realisation of a valued outcome in a given context (Ling & Ling 2020:37; Polit & Beck 2021:9). The researcher was interested in accessing the truths or reality with different views on self-care management for HPT. Therefore, the reality was constructed from

multiple experiences and perceptions of the various individuals who participated in the study.

1.8.2.2 *Epistemology*

Epistemology is about the nature of knowledge. According to Polit and Beck (2021:9) an epistemological assumption questions the relationship between the enquirer and phenomenon being studied, to form a link between the researcher and the research subject. However, Park et al (2020:691) indicate that knowledge when appropriately developed, is the truth, certain, congruent with reality and accurate but absolute separation should exist between the research participant and the researcher to reduce bias in the study. The researcher believed that knowledge would be best obtained through questionnaires, in-depth interviews to address overall research questions from a pragmatic paradigm perspective. Pragmatic paradigm is concerned with the outcome of the study and also with social contexts of the research that sought to understand those approaches and methods that work best in providing the answer to the research problem of high prevalence of and uncontrolled HPT in Khomas Region (Ling & Ling 2020:37). Epistemological assumption was that self-care management empowers adult patients to control BP while at home and reduce the high prevalence of HPT.

1.8.2.3 *Axiology*

The researcher proceeded from own value position, using a convergent parallel approach as MMRD research design, context, strategies and actions perceived to bring the best outcome of this study (Ling & Ling 2020:37). The assumption was that the beliefs and values regard the information obtained from the participants as the most important experiences and perceptions in order to help adult patients diagnosed with HPT to self-manage the disease.

1.8.2.4 *Methodological*

Methodological assumptions refer to how the researcher obtains knowledge (Polit & Beck 2021:13). The assumption was that individuals have freedom of choice about

methods, techniques and procedures of research (Creswell & Poth 2023:45). Therefore, different methodologies were used in order to answer the research questions. Numerous dimensions were utilised, for example a mix of participants' perceptions and experiences regarding self-care management of adult patients diagnosed with HPT for better outcome (Whitehead et al 2020:260). The study employed pluralistic stances of gathering all types of data that best answered all six research questions of this study. The details of the methodological pragmatic paradigm perspective are explained in chapter three.

1.8.3 Theoretical framework

Theoretical framework serves as the focus of the study and puts the research problem being studied into consideration. Theoretical frameworks provide an explanation and interpretation of the phenomenon under study, motivate the question, determine nature of methods to be used in collecting and analysing data, and frame results discussion (Luft, Jeong, Idsardi & Gardner 2022:3). Three theories were applied in the study, namely: Orem's self-care theory, theory of self-care of chronic illness and practice-oriented theory.

1.8.3.1 *Orem's theory of self-care*

The study used Orem's self-care theory (1985:106) as the theoretical foundation for this investigation. The theory emphasises the value of the ways that adult patients with HPT can conduct self-care management at their homes, as well as how PHC nurses can assist adult patients with HPT in their diagnosis and management. The constructs in Orem's theory, which are shown in Figure 1.1, include self-care, self-care agency, nursing agency, self-care demands, self-care requisites, and conditioning elements that are relevant to the management of HPT.

To comprehend and characterise the experience, knowledge, and attitudes of self-care management in individuals with HPT, Orem's self-care theory was employed as it poses the notion of self-care that can be used to comprehend and characterise the self-care actions that persons with HPT take on their own behalf to maintain their quality of life, health, and wellbeing (George 2014:129). Additionally, the study has

built its theoretical lens based on the contribution from Younas and Quennell (2019: 540) stress the importance of self-care in the prevention and treatment of HPT. The Orem's theory posits the learned behaviours that are intended to control human structural integrity, functioning, and development constitute self-care in the management of HPT (Orem 1985:36). Figure 1.1 illustrates Orem's philosophy of self-care.

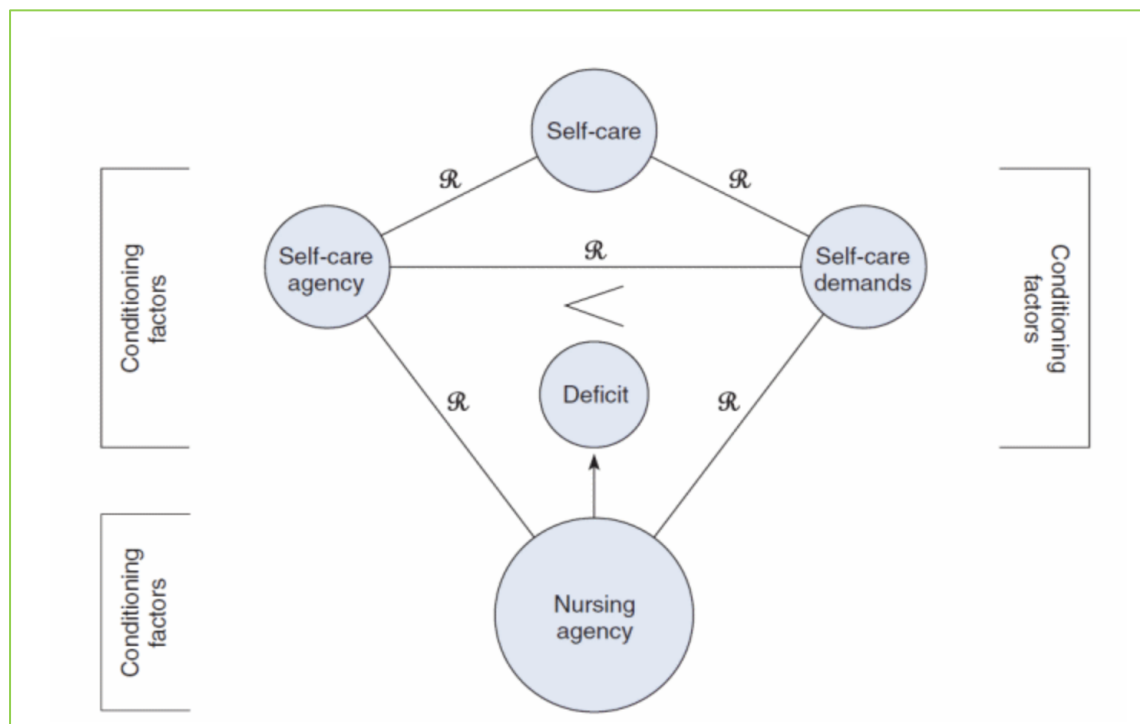


Figure 1.1: Orem's Self-care Theory (Orem 1985:106; Alligood 2014:249)

1.8.3.2 Theory of Self-Care of Chronic Illness

To comprehend the phenomenon of self-care management by people with this chronic illness known as HPT, it was necessary to integrate Orem's theory of self-care with the idea of self-care of chronic illness. Utilising the paradigm of self-care for chronic illness was done to get a more comprehensive perspective of persons with HPT. The approach was also applied to improve knowledge of self-care management of HPT as a chronic illness. In addition, the idea emphasises the self-care process rather than particular activities as in Orem's approach. As shown in Figure 1.2 below, the idea of self-care for chronic illness is composed of three basic concepts: self-care management, monitoring, and maintenance.



Figure 1.2: Self-Care of Chronic Illness (Riegel, Jaarsma & Strömberg 2012:194; Jaarsma, Cameron, Riegel & Strömberg 2017:72)

1.8.3.3 Practice-oriented theory

Adopting a theoretical framework that is in line with the applied nature of nursing science was crucial to the development of a strong, evidence-based self-care management programme for adult patients with HPT in Namibia's Khomas Region. In light of the necessity of directing contextually grounded practical interventions, Dickoff, James, and Wiedenbach's Practice-Oriented Theory (POT) (1968:415) offers an appropriate basis for this investigation. Because of integrating theory and practice by emphasising goal-directed activities meant to produce significant change in health outcomes, practice-oriented theory is particularly well-suited for nursing research. The theoretical approach is based on the premise that nursing is essentially an action-oriented discipline that requires practical applicability as well as a strong theoretical basis (Orem 1968:415). A specific nursing goal, a set of activities to achieve that goal, and the identification of nursing actions that offer structure and direction for implementation within clinical settings are the three main components that define this type of theory (Chinn & Kramer 2017:157; Walker & Avant 2014:16).

Dickoff et al 's (1968:415) practice-oriented theory was particularly required for this study's objectives five and six, which were centred on the creation and verification of

the self-care management programme. Since HPT is a chronic, non-communicable disease that necessitates constant patient involvement and adherence to lifestyle changes, the theory's focus on action and tangible results made it particularly pertinent for developing a programme meant to enhance self-care management behaviours among patients. The conceptual underpinning for the self-care management programme was formed in large part by the application of the practice-oriented theory in this study.

According to Dickoff et al (1968:415), the framework was built around six essential elements: the agent, recipient, context, method, dynamics, and terminal. Together, these elements created the researcher's thinking map, which acted as a guide for organising the intervention. The rationale map indicated the intended outcomes of the self-care programme in the Khomas Region by defining the functions, processes, and anticipated outputs of the intervention. Chapter 3 of this thesis provides more details on the operationalisation of the practice-oriented theory as well as a graphic representation of the reasoning map.

1.9 OVERVIEW OF THE RESEARCH DESIGN AND METHODS

The research design provides the framework which identifies the type of information to be collected (Brink et al 2022:102). Research design means the overall framework that a researcher adopted to integrate different components of the study in a consistent and logical manner, ensuring that the research problem is adequately addressed. While research methods are ways, tools used by a researcher to carry out the study inquiry. Below are the research design and methods presented, the details have been presented in chapter three.

1.9.1 Research design

In order to answer the research questions, the study used a Mixed Method Research Design (MMRD) to collect, analyse, and interpret quantitative and qualitative data. According to Creswell and Creswell (2022:305), integrating both qualitative and quantitative approaches complemented each other and enhanced the achievement of the research objectives. MMRDs can be categorised into four types: convergent

parallel, explanatory, exploratory, and embedded (Hall 2020:85). Therefore, this study adopted the convergent parallel MMRD, which includes concurrent data collection of both qualitative and quantitative data, concurrent analysis of results, and interpretation to formulate an HPT self-care management programme for adult patients in the Khomas region of Namibia. Details of the design and methods are summarised in Table 1 below and further elaborated in Chapter 3.

- **Phase 1:**

In Phase 1 of the research process, two distinct designs were employed to comprehensively investigate adult patients' knowledge, attitude, practice, experiences and perceptions of PHC nurses regarding the HPT self-care management. The phase consists of quantitative and qualitative designs which are described briefly in the following sections.

- ❖ ***Quantitative descriptive cross-sectional design:***

The initial design employed in Phase 1 was a quantitative descriptive cross-sectional methodology. The objective of this design was to offer a statistical analysis and description of the perspectives held by adult patients and PHC nurses regarding the HPT self-care management. Using this method, numerical data was gathered to measure and describe the viewpoints of the participants.

- ❖ ***Qualitative exploratory descriptive design:***

The design used in phase 1 was a qualitative exploratory descriptive design. The objective of using this approach was to investigate the subjective views and insights of adult patients and PHC nurses on HPT self-care management. Qualitative approaches, such as interviews were used, with the objective of delving into and elucidating the intricate perspectives of the participants in a more comprehensive manner.

- **Phase 2:**

Phase two, objective 5 that based on findings of phase one the framework for self-care was conceptualised. Furthermore, during this phase of the research process, the attention was redirected towards the creation of the HPT self-care management programme. This stage involved various important stages that were mostly related to concept identification, categorisation, and development. The programme's development was directed by a strong conceptual framework, which was created by combining the outcomes of Phase 1, ideas from existing literature, and a theoretical framework.

- ❖ ***Concept identification and classification:***

The first step in Phase 2 was to identify and classify relevant concepts essential for the development of the HPT self-care management programme. The following steps have been undertaken in this process: A set of systematic reviews of the results obtained in the course of Phase 1 have been conducted to determine recurring themes, categorised and compiled them in specific conceptual domains. In this section a short description of the conceptual framework and development of the self-care management programme for adult patients diagnosed with HPT is provided.

- ❖ ***The conceptual framework-based development:***

This conceptual framework was based on the compilation of the combined insights of Phase 1 and formed the foundation of the development of the HPT self-care management programme. The programme design aligning with the conceptual framework guaranteed that the programme met the major concerns, needs, and preferences identified between the adult patients and PHC nurses in relation to self-care management of HPT.

❖ ***Literature contextualisation integration:***

Also, the contributions of current literature to the development of the programme were used in terms of the management of HPT and self-care practices. Placing the programme in the context of the overall body of literature, the appropriate evidence-based practices and interventions were incorporated to make it more effective and relevant.

❖ ***The alignment of the theoretical frameworks:***

Also, a theoretical basis of Dickoff et al (1968:423) offered a theoretical prism by which the process of development was directed. This ensured that the theoretical basis of intervention was strong, as the programme development was based on the known theoretical perspectives in relation to health behaviour change or management of chronic illnesses. The two phases covered by the research process are exemplified in Figure 1.3.

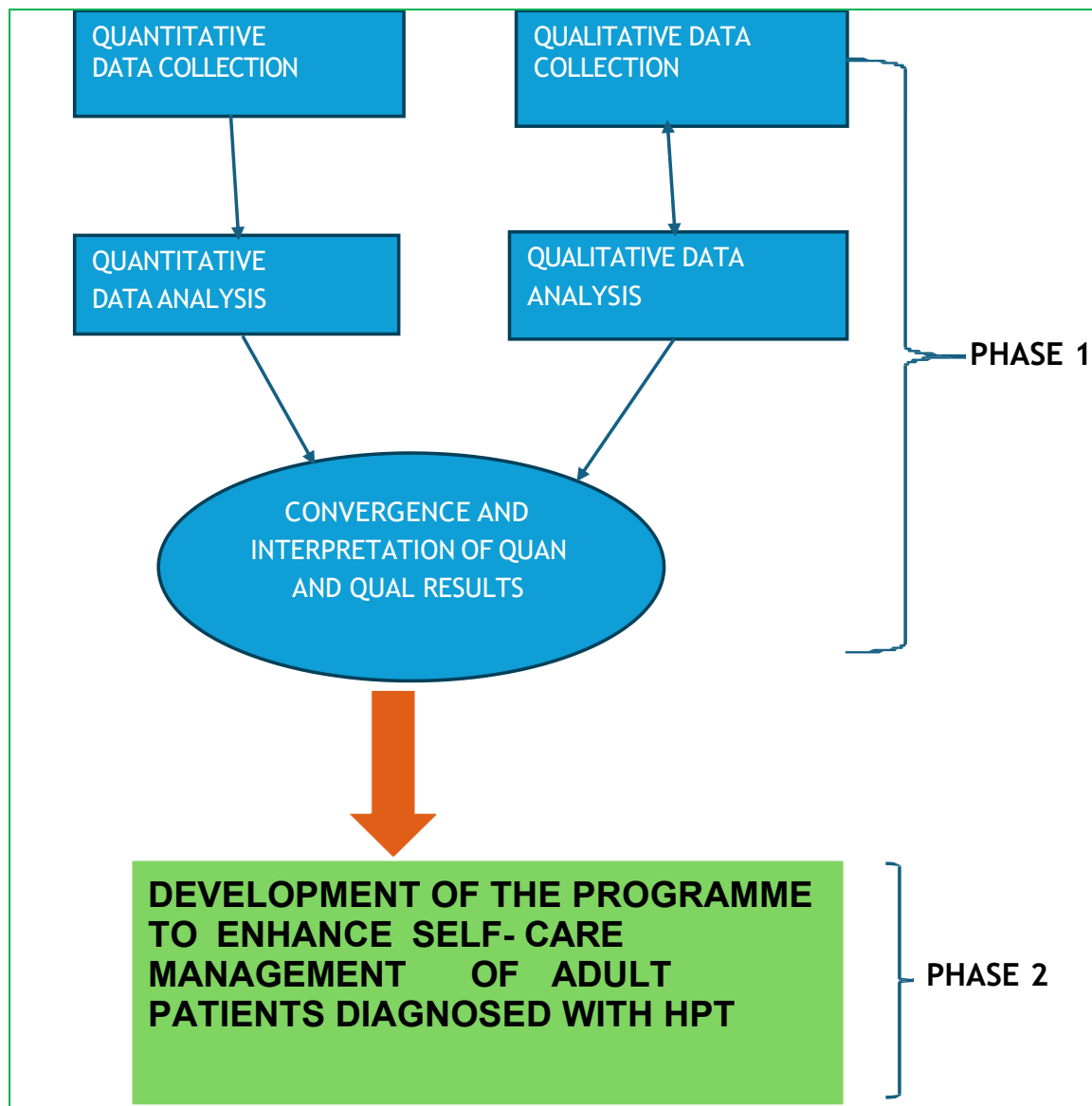


Figure 1.3: Research process showing phases 1 and 2

1.9.2 Research methods

The research method is a systematic procedure a researcher proposes to follow that involves the forms of data collection, analysis and interpretation for the study (Creswell & Creswell 2023:335). Table 1.1 briefly illustrates the methods used in this study. Details are sufficiently discussed in Chapter 3.

Table 1.1: Summary of the research methodology

Component	Objectives	Design	Population	Sampling method	Data collection	Data analysis
Quantitative	1. Identify and describe the knowledge, attitudes and practice of self-care management for adults diagnosed with HPT. 2. Measure and describe perceptions of PHC nurses regarding self-care management for adults diagnosed with HPT.	Quantitative descriptive Cross-sectional design	1. All nurses who have been working at PHC facilities for 1 year and above. 2. All the patients who have been on HPT treatment for 1 year and above.	proportionate stratified sampling techniques (probability sampling) for PHC nurses. Non-probability sampling (consecutive sampling technique for adults diagnosed with HPT	Structured questionnaires Structured questionnaires	Descriptive And inferential statistics Statistical Package for Social Sciences (SPSS) version 27
Qualitative	3. Explore and describe experiences of adults diagnosed with HPT in Khomas region, Namibia. 4. Explore and describe perceptions of PHC nurses regarding self-care of adult diagnosed with HPT.	Qualitative exploratory descriptive design.	1. All the patients who have been on HPT treatment for 1 year and above. 2. All nurses who have been working at PHC facilities for 1 year and above.	Non-probability sampling technique (Convenient sampling) for PHC nurses and adults diagnosed with HPT	Semi-structured interviews Audio recorders	Thematic analysis NVivo Version 20.2

1.10 SCOPE OF THE STUDY

The current research focuses on self-care management of HPT in adult patients diagnosed with HPT at home. All PHC facilities were sampled in the Khomas Region, the capital of Namibia, and the administrative centre is Windhoek. Khomas covers an area of 37,590 km² and has three health centres, like Okuryangava, Khomasdal and Katutura and nine PHC clinics: Maxuilili, Wanaheda, Donkerhoek, Robert Mugabe, Hakahana, Groot Aub, Dordabis, and Baumgart Brunn. These clinics are six in Windhoek, and the other three cater to rural electoral constituencies. Chapter 3 is a general representation of PHC facilities distribution in the Khomas Region.

1.11 STRUCTURE OF THE THESIS

The chapters are arranged in the following manner in Table 1.2.

Table 1.2: Structure of the thesis

CHAPTER	DESCRIPTION
ONE: Orientation of the Study	This chapter presents an overview of the whole study and highlights the study background, purpose, problem, significance, aim, objectives and questions. Research hypothesis, definitions of key terms, theoretical foundation, design, methods, and scope are also outlined
TWO: Literature Review	This chapter presents literature review based on HPT, self-care management of HPT and theoretical framework of the study.
THREE: Research design and method	The details of the research design and methodology of both quantitative and qualitative parts for the study.
FOUR: Data analysis, presentation and description of the quantitative research findings	The presentation of quantitative data according to the study objectives.
FIVE: Presentation of qualitative findings and literature control	Description of the analysis and presentation of qualitative data according to the study objectives.
SIX: Convergence and interpretation of qualitative and quantitative research findings.	This chapter presents the details of merged quantitative and qualitative results and development of conceptual framework for self-care management programme.
SEVEN: Development of a programme to enhance self-care management of adult patients diagnosed with HPT.	This chapter describes the overall process of planning and developing a self-care management programme as well as a full description of proposed guidelines to operationalize the programme.
EIGHT: Conclusions and recommendations	This chapter describes the summary of research findings, recommendations, limitations and conclusion of the study.

1.12 SUMMARY

This chapter presented an overview of the study starting from the background of the problem, source of the research problem, the aim of the study, the objectives, research question, hypothesis, significance, definition of key terms, and operational definitions was discussed. Theoretical framework, research design and methodology, ethical considerations, scope of the study and structure of the thesis are also outlined. The next chapter presents the literature review of the research study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter outlined the orientation of the study. Chapter 2 presents a narrative literature review on self-care management for HPT. A literature review is a method of searching, analysing, and synthesising relevant existing research to reach conclusions, understand what gaps exist and inform future research (Brink et al 2022:26; Burns and Grove 2020:96). Polit and Beck (2021:87) highlight its influence in critically reviewing existing knowledge to develop a foundation on research, whereas Aveyard (2023:2) define it as a comprehensive study and interpretation of literature related with a certain question. Reviewing is used to prevent redundancy as the previous empirical findings are built upon, and research design, methodology, and theoretical underpinning are informed. This chapter explores self-care management in HPT by integrating the views of different scholars, including its aims, important concepts, and literature.

2.2 REVIEW OF THE LITERATURE

Keywords to the research were: self-care; HPT in Namibia; HPT prevalence globally, internationally, and in Namibia; self-care management programme; guidelines of self-care management of HPT; and barriers to self-care management of HPT. The researcher searched the institutional repository of Unisa, Google Scholar, PubMed, and Z-library on relevant data and materials. The literature had both empirical and non-empirical justifications on how the self-care management programme was developed. In an attempt to complement the empirical evidence, the researcher reviewed the materials that were not related to the HPT and self-care research, but included government websites, policy recommendations, books and dictionaries, and academic publications (Schmidt & Brown 2021:96). A conceptual literature review was also done as a means of further understanding and characterising the issues of interest to this investigation, and of comprehending and describing the important concepts involved. The research omitted any publication that was more than five years

old with the exception that some other extraordinary importance or absence of peer review justified inclusion.

The researcher focused on works published in the last five years (2020-2025) to ensure relevance. Significant publications, published more than five years ago, were only included when they provided essential theoretical frameworks (e.g. Orem 1985) or in the absence of recent literature on specific issues of HPT self-care management in the Namibian and sub-Saharan African context.

2.2.1 Purpose of the Review

According to Brink et al (2022:56), the purpose of literature review includes the following:

- To conduct a critical and analytical appraisal of recent scholarly work on the topic,
- To identify the research problem and refine research questions,
- To contextualise the study within the general body of knowledge to minimise the possibility of duplication,
- To obtain clues about the methodology and instruments to use,
- To refine certain aspects of the study: problem statement, hypothesis, conceptual framework, design and data analysis process,
- To compare the existing studies' findings with those of the proposed study that demonstrate the relevance of the proposed study to the existing body of knowledge.

Therefore, the goal was to critically evaluate what is currently known about self-care management for HPT, including substantive findings, theoretical and methodological contributions. The goals of the literature review were to: (1) provide an overview of existing knowledge, attitude, practice, and experiences of self-care management for adult patients diagnosed with HPT; (2) comprehend the concepts related to self-care management of HPT; and (3) identify and critique research methods in self-care management of HPT research studies, as well as develop the conceptual framework that was used in the study.

2.2.2 Review of the Literature

The following terms were central to the study: self-care; HPT; HPT in Namibia; HPT and its complications; HPT prevalence; globally, internationally, and in Namibia; self-care management programme; guidelines for self-care management of HPT; factors impeding self-care management of HPT. The researcher used Unisa's institutional repository, Google scholar, Pubmed, and Z-library to search for relevant data and materials. For the development of the self-care management programme, the literature study provided support from both empirical and non-empirical data. In an effort to supplement the empirical data, the researcher combed through sources other than studies on HPT and self-care, including government websites, policy recommendations, books, dictionaries, and academic publications (Schmidt & Brown 2021:96). A conceptual literature review was also performed to further comprehend and characterise the topics of interest to this investigation. As part of this research, a conceptual literature review was conducted to better understand and describe the key concepts at play. The study excluded publications that had been published for more than five years, except for those of exceptional significance and those that had not undergone peer review. The literature review addressed and discussed the following topics:

2.3 OVERVIEW OF HPT

People around the world suffer from HPT, commonly known as high BP. As the researcher digs deeper into this topic, navigating the various dimensions that begin with definition of HPT, pathophysiology, causes that contribute to its development. In addition, this theme uncovers the signs and symptoms that helps in diagnosing the disease, potential complications that can arise from uncontrolled HPT and management.

❖ Definition of HPT

HPT is a medical condition that is marked by a consistently abnormal high BP in the arteries. HPT is diagnosed by a sustained systolic BP of 140 mmHg and a diastolic BP of 90 mmHg (MoHSS 2021:283). BP is a measure of the pressure produced by a

moving blood against the walls of the arteries and can rise as cardiac output increases (WHO 2022a:59).

❖ Pathophysiology

HPT is a disorder with contributory factors that lead to its occurrence. One of the mechanisms, behind HPT is the constriction of arteries and arterioles which lead to a high level of resistance to blood flow. This constriction is brought about by the lopses in the renin angiotensin aldosterone system (RAAS), the sympathetic nervous system (SNS) and natriuretic peptides (Jain, Trivedi & Singh 2021:82). When BP decreases or the amount of blood makes the kidney release renin, it turns angiotensinogen into angiotensin I (Rogers 2022:1063).

- **The causes of HPT can be divided into two broad categories:**

Primary HPT: This is generally a gradually onset disorder, and it is the most common form of HPT, with no particular underlying cause. Nevertheless, there are known factors, which contribute to its development, such as genetic predisposition, unhealthy lifestyle decisions, including: poor diet, physical inactivity, and tobacco use, obesity, stress, and aging Zhang, Liu, Zhang, Wang & Chen 2022:212). Primary HPT is also referred to as essential or idiopathic HPT.

Secondary HPT: This form of HPT is one that is brought about by a determinable underlying condition or factor. Some of them are kidney disease, hormonal imbalances like abnormalities in adrenal glands or thyroid disorders, some medications such as nonsteroidal anti-inflammatory drugs or birth control pills, and sleep apnea (Alreshidi, Alharbi, Aljohani, Alshammari, Alshammari, Alomrani, Alotaibi, Alharbi, Al Thabbahi, Alharbi, Khabarani, Albehadi, Alosimi, Alzahrani & Alharbi 2025:166).

❖ Signs and symptoms

Signs and symptoms HPT is the so-called silent killer as in most cases, it does not produce manifestations in the initial period (Tan, He & Macgregor 2022:12).

Nevertheless, certain people might suffer such symptoms like occasional headaches, dizziness, high BP, chest pain, shortness of breath, drowsiness, blurred vision, heart palpation etcetera in serious cases.

- **Diagnosis of HPT**

Diagnosis of HPT is identified by taking BP with a BP cuff. The two figures obtained in the process of measurement are systolic pressure (top number) and diastolic pressure (bottom number). Normal BP is at about 120/80 mmHg. HPT is described as a chronic increase of BP to 140/90 mmHg and above. BP is always measured after at least 5 to 10 minutes of rest with the appropriate cuff size and measured at heart level (MoHSS: 2021:283).

- **Complications of HPT**

HPT can lead into many problems. The study found that persons in the United States who have uncontrolled or poorly managed HPT have an increased risk of dying from stroke, intracerebral haemorrhage, coronary heart disease, and heart failure (Sato, Ohkubo, Miura, Harada, Tsutsui, Hozawa, Shimizu, Ishikawa, Kokubo, Okamura & Murakami 2025:1430). Chronic HPT can lead to blood vessel and tissue damage, which can impair target organs like the heart, kidneys, brain, and eyes (WHO 2025:2). A person's health and quality of life are in threat when HPT is undetected or mistreated. Table 2.1 below illustrates the complications of HPT associated with uncontrolled or inadequately managed HPT. All the issues related to HPT affect vital organs which significantly increase the chances of morbidity and mortality.

Table 2.1: The Complications of HPT (American Heart Society (AHS) 2020:2)

Problems	Results
Heart attack	High BP damages arteries that can become blocked and present blood flow to the heart muscle
Stroke	High BP can cause blood vessels that supply blood and oxygen to the brain to become blocked or burst.
Heart failure	The high BP workload may lead to an enlarged heart that is not able to pump blood successfully to the body.
Kidney disease or failure	The high BP may damage the arteries surrounding the kidneys and disrupt their filters in their duties.
Vision loss	High BP may overstretch or harm blood vessels in the eyes.
Sexual dysfunction	High BP can cause erectile dysfunction in men and also lowers libido in women.
Angina	Over time, high BP can lead to heart disease including microvascular disease. One of the common symptoms is angina or chest pain.
Peripheral artery disease	Atherosclerosis caused by high BP can lead to narrowed arteries in the legs, arms, stomach and head, causing pain or fatigue.
Blood vessel damage	When the BP is high for too long, it damages blood vessels and bad cholesterol accumulates along tears in artery walls.
Increased workload on the circulatory system	Arteries loose elasticity due to overstretching, plaque build-up and scarring, the heart pumps harder to get blood through the narrowed arteries. Eventually, increased workload effects into damage of the heart itself.

These problems occur more frequently in less economically developed nations compared to highly industrialized countries, leading to severe financial costs being placed on the patients, and making their health care expenses catastrophic (Dalaba, Doegah, Folson, Immurana, Ayanore, Akazili, Bosu & Edwin 2025:5).

Lifestyle interventions as weight loss, following the Dietary Approaches to Stop HPT (DASH) diet, physical activity, alcohol intake, and cessation of smoking contribute to the increased therapeutic effect and BP control (Ruopp & Cockrill 2022:1384). Effective HPT management reduces the necessity to resort to specialist referrals and, at the same time, enhances the quality of life of patients (Valenzuela et al 2021:255). This investigation aimed at developing a self-care management programme for HPT patients to manage their condition at home.

- **Management of HPT**

HPT management is designed to lower BP and decrease the risk of related complications. The management options can consist of:

- ❖ **Lifestyle modifications**

Healthy diet, physical activity, weight management, alcohol intake, sodium intake, and stress management are necessary to stay healthy (Zaccagnini & Pechacek, 2021:21; Zhou, Perel, Mensah & Ezzati 2021:785)

- ❖ **Medications**

Treatment is not just about lifestyle adjustments, but drugs can be administered by the health professional to reduce the BP. The drugs that are frequently prescribed include diuretics, beta-blockers, Angiotensin-Converting Enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), calcium channel blockers, and more (Zhang et al 2022:212). Different factors are considered when selecting medication, including the age of an individual, general health, and some medical conditions.

- ❖ **Regular monitoring**

Patients diagnosed with HPT are advised to attend scheduled medical examinations regularly to check their BP level and determine the effectiveness of their treatment plan (Surya, Angelica & Insani 2025:5280). Continuous assessment can require modification of lifestyle changes and medication.

- ❖ **Prevention**

The prevention of HPT is the adoption of a healthy lifestyle at a young age as discussed in the section of this chapter on lifestyle modifications. It should be mentioned that HPT is a chronic disease, and it is to be managed continuously. Follow-ups with the doctor and adherence to the treatment plans play an essential role in managing BP and suppressing the possibility of complications. In order to successfully

control BP and reduce the risk of complications, it is crucial to follow a recommended treatment plan, maintain a healthy lifestyle, and make regular medical check-ups.

2.4 HPT PERSPECTIVES

In high-income regions, the prevalence of HPT has significantly decreased, while in low- and middle-income countries, the prevalence of HPT is currently higher than in high-income countries (Zhou et al 2021:785). However, almost one in five (21%) persons with HPT has it under control (WHO 2021a). A comprehensive HPT perspective is discussed, in terms three different dimension: global, SSA and Namibian context. Studies have shown that populations with African ancestry have genetic risk variants for HPT. Variants of the APOL1 gene (G1 and G2, which confer protection against trypanosomiasis) are linked to increased hypertension-associated kidney disease. And mutations in the renin-angiotensin-aldosterone system (RAAS) lead to salt-sensitive hypertension, which is more common in African populations. In the Namibian context, the black African population (87.5% of this study's sample) may possess these genetic risk variants, but was not tested for this study.

Sex differences in HPT prevalence: In this study, there was a higher number of females (64.02%) than males (36.98%). This could be due to women being more likely to report the condition and consent to follow-up appointments; oestrogen is cardio-protective, delaying the onset of HPT, but HPT incidence increases in postmenopausal women; pregnancy-induced hypertension (pre-eclampsia, gestational hypertension) increases the risk of chronic HPT in later life; and the oral contraceptive pill can increase blood pressure in susceptible women.

❖ Global prevalence of HPT

HPT is a major global health challenge, affecting approximately 1.13 billion people (Nawi, Mohammad, Kavita, Razak, Ramli, Wan Ibadullah & Ahmad 2021:9). Prevalence exceeds 50% in some Central and Eastern European, Central Asian, and Latin American nations, with the highest rates observed in Paraguay, Jamaica, and the Democratic Republic of Congo (DRC) (Zhou et al 2021:957; WHO, 2021b).

Conversely, Canada, Switzerland, and Peru report among the lowest prevalence. In the U.S, nearly half of adults have or are at risk of HPT (CDC 2022:369; Yatim et al 2019:5), managed through guidelines from the American Heart Association (AHA) and American College of Cardiology (ACC) (Obieniu 2022:16).

Similarly, the United Kingdom (UK)'s National Health Service (NHS) prioritises HPT control for over 12 million affected adults (Galiè, McLaughlin, Rubin, & Simonneau 2019:56), guided by evidence-based NICE protocols (Konlan & Shin, 2023:33–34). European data reveal varying burdens: the Netherlands reports 29% prevalence (Ma 2018:137), Poland 40% (Ling & Ling 2020:68), and Germany 35% overall rising to 70% in seniors (Hanssen et al 2022:210). China's aging population has driven HPT rates to 27.9% (330+ million cases) (Holmes et al 2020:4322). The lifestyle changes such as diet, exercise and medication with regard to individual risk are universally combined by the management. Authorities in nations like Germany Deutsche Hochdruckliga 2024:2), Poland (Polish Society of HPT (PTNT) (2024:235) and Australia (Heart Foundation) offer national guidelines on care provision and include the consideration of HPT as a non-communicable disease necessitating global action.

❖ **Sub-Saharan Africa (SSA)**

HPT has become an increasing problem in Africa, with SSA showing significantly high prevalence levels (57% on average), poor detection, and low control (Gafane-Matemané et al 2025:95; Bosu, Reilly, Aheto & Zucchelli 2019:15). The prevalence is also greatly varied (22.3-90%), but adults older than 50 are disproportionately affected (Bosu et al 2019:15). In 2016, HPT caused 900,000 deaths (10% of Africa's mortality), an 82% increase since 1990 (Bosu et al 2019:2). As rural SSA is poorer than North Africa, this group is not only underdiagnosed and undertreated, but the low-income level also leads to a decreased knowledge and adherence (Cernota 2020:144).

Egypt and Somalia are indicative of regional imbalances: in Egypt, urban rates (26.3) are more common than rural rates (17.3) (Alhamad & Donyai 2021:58), whereas in Somalia, the issue of healthcare infrastructure gaps is higher despite the increasing knowledge rates (Niriayo et al 2019:218). HPT prevalence in Algeria (37.4) is age-dependent (AIHW 2019:5), and urbanising Ethiopia faces a prevalence of 19.6%

(Chimberengwa & Naidoo 2018:17). The burden in Southern Africa is also of the same nature: HPT prevalence in Botswana stands at 32.3% with the data being concentrated in the urban population and older age groups (Alvarez et al 2022:45; Chimberengwa & Naidoo 2018:34). HPT prevalence rates are critical in Zimbabwe (30.7%), South Africa (27-58%), and Nigeria, and the crisis in Nigeria requires immediate data gathering to provide specific solutions (Noubia, Nansseu, Nkeck, Nyaga & Bigna 2018:115). Uncontrolled HPT has continued to be a widespread problem in Namibia and the rest of SSA, pointing to institutional failure in prevention and management.

❖ **Namibia**

HPT is one of the major health challenges in Namibia, and Ministry of Health can offer management guidelines. Although there is not much national data, regional research suggests alarming prevalence rates: 32.2% in certain areas (Ashipala & Lukolo 2021:115), 57% in Windhoek, and 46% in the whole country (Mashozhera et al 2021:55). Khomas has higher rates in women (57.3%) than in men (56.5%) and HPT is the second-leading cause of death in Namibia (NSA 2023:31). Although it is highly prevalent in urban areas, there are research gaps in self-care management in a population with 57.8% under 25 years old (Craig et al 2018:2).

Comparatively, Namibia has a high burden as compared to other low- and middle-income countries (LMICs). According to the MoHSS (2013:237), HPT was reported in 44-45 percent of adults aged 35-64 which is above LMIC averages of 22.4-29.4 percent. The rates in Windhoek (57%) are higher than the rates in Tanzania (23.7%) and are within the American figures (31-38.6, which indicate the necessity of targeted interventions) (Garrib et al 2019:809; Zhou et al 2018:3). The urban-rural differences reflect regional patterns, where percentage of low-income communities in Windhoek is 41 (Janse van Rensburg & Vincent-Lambert 2025:5). This is similar to the trends in Kenya and Nigeria, where the urban centres are experiencing greater burdens (Cernota 2020:176). Epidemic-level rates in Namibia, similar to HICs, indicate the need to further examine the causes and develop specific prevention methods.

❖ Literature synthesis, research gaps and implications for Namibia.

It is evident from the reviewed literature that there is convergence in findings concerning the rise of HPT at a global level, in the SSA, and Namibia (Gafane-Matemané et al 2025: 95; Nawi et al 2021: 9). The prevalence of HPT is increasing in many parts of the world, especially LMICs due to urbanization, unhealthy lifestyle, lack of physical exercise, improper dieting, stress and poor medication adherence (WHO 2021a; Nawi et al 2021: 9). Likewise, several studies in SSA show poor BP control, low awareness, poor medication adherence and lack of access to healthcare facilities as key causes of uncontrolled HPT (Gafane-Matemané et al 2025: 95).

Furthermore, there is convergence in findings that show that the urban population is more likely to be suffering from HPT than any other population group (Alvarez et al 2022: 45; Mashozhera et al 2021: 55). Several research studies have found that HPT prevalence rates in countries such as Egypt, Botswana, Kenya and Nigeria are relatively higher in urbanized areas because of changes in lifestyle (Alhamad & Donyai 2021: 58; Alvarez et al 2022: 45). Similar findings are observed in Namibia with regards to the HPT prevalence rates in the Khomas Region (Mashozhera et al 2021: 55; Ashipala & Lukolo 2021: 115).

Despite similarities in findings, divergence exists regarding the factors most strongly associated with poor HPT control. Research conducted in Sub-Saharan Africa and Namibia identifies healthcare system challenges, including inadequate infrastructure, medication shortages, and limited access to healthcare services, as major barriers to effective HPT management (Cernota 2020: 144; Nakwafila et al 2023; Gafane-Matemané et al 2025: 95). On the other hand, according to other scholars, BP control challenges arise from issues associated with lifestyle choices, health literacy, self-care management skills, and non-adherence to treatment regimens (Alsaqer & Bebis 2022:13; Valenzuela et al 2021:251; Ashipala & Lukolo 2021:115). Specifically, in the Namibian context, both healthcare system-related challenges and behavioral issues are considered to be contributing to BP control difficulties among individuals suffering from HPT, according to the works by Mashozhera et al (2021:55) and Ashipala and Lukolo (2021:115).

Based on the literature reviewed, there is significant gap in relation to Namibia, since existing studies have primarily concentrated on HPT prevalence, its causes, and treatment compliance while paying little attention to the self-management strategies for patient centered (Mashozhera et al 2021:55; Ashipala & Lukolo 2021:115; Nakwafila et al 2022:4416). In addition, there is minimal information about the existence of self-management programmes within the context of the adult HPT population of Khomas Region, which records some of the highest prevalence in the country (Mashozhera et al 2021:55; NSA 2023:31).

The other research gap that can be identified from the literature is the lack of investigation into how behavioural, cultural, and socio-economic determinants can be included as part of the self-care management strategy for HPT among patients in Namibia. While international literature acknowledges the significance of including strategies such as patient education, behaviour intervention, lifestyle changes, and emotional support in effective blood pressure management (Alsaqer & Bebis 2022: 13; Valenzuela et al 2021: 251; Avery et al 2021: 934), there has been no effort from Namibian researchers to incorporate the same into the self-care management programmes for HPT patients (Mashozhera et al 2021: 55; Ashipala & Lukolo 2021: 115; Nakwafila et al 2022: 4416).

These gaps therefore warrant the need for the establishment of a self-care management programme among adult individuals with HPT in Khomas Region. This would help to enhance patient education, increase compliance with medications and lifestyles, self-care management, and ensure sustained BP levels among the patients. Also, such a self-care programme can help PHC nurses deal with behavioral, socio-cultural, and health systems factors that lead to poor HPT control in Namibia.

2.5 SELF-CARE MANAGEMENT FOR HPT

2.5.1 Definition of Self care management of HPT

Self-care management of HPT pertains to the measures and tactics that individuals employ in order to regulate and handle their BP levels by means of lifestyle adjustments, self-observation, and compliance with prescribed treatment regimens

(McGoon, Miller & Frost 2019:61). The concept suggests being actively involved in his/her own health through the active choice and adoption of behaviours that support BP management, reduce the risk of complications, and increase overall wellness. Self-care management allows the people to engage in health-promoting activities such as balanced nutrition, physical activity, stress management, medication, and home BP monitoring to facilitate individual health (Masupe, Mosepele, Makhema, Lockman & Hunter 2020:77). The first goal is to make people responsible in their health and work with medical workers to reach optimal BP levels and reduce risks of complications and HPT. The process entails making prudent decisions and embracing behaviours that have the potential to mitigate and manage elevated BP levels. There are various benefits associated with self-care management of HPT.

2.5.2 Benefits of self-care management of HPT

Self-care management allows people with HPT to actively manage their condition, enhancing BP and cardiovascular health (Alsaqer & Bebis 2022:11). Patients who follow the dietary habits such as eating healthy, physical activities, stress mitigation, and smoking quitting are in a good position to lower BP levels and diminish cardiovascular risks Basenero, Neidel, Ikeda, Ashivudhi, Mpariwa, Kamangu, Mpalang Kakubu, Hans, Mutandi, Jed & Tjituka 2022:26). This initiative strategy leads to self-efficacy, which promotes regular compliance with treatment and lifestyle modification (Borgese, Lombardi & Rossini 2023:47). Self-care can also lead to the decrease in dependence on medication, allowing dose to potentially be adjusted under the guidance of a doctor (Barus, Siregar & Lubis 2023:74). This does not only reduce the side effects but also relieves financial strains over time. In addition, long-term BP management with self-care helps to avoid heart disease and stroke, which positively affect long-term health outcomes (Joseph et al 2022:205).

Self-care improves the overall quality of life, increasing the level of energy, sleep quality, and fitness (Avery, Flynn, Van Wersch, Sneath & Trenell 2021:934). It is a long-term measure that helps to ensure a lifetime well-being because it stabilises BP and minimises risk of complications (Farley 2020:31; Avegno, Mills & Harrison 2023:52). To conclude, self-care management provides an individual with the ability

to take control of HPT, resulting in improved health outcomes and long-term well-being.

2.5.3 Factors involved in self-care management of HPT

There are a number of related factors, such as personal, cultural, social and economic determinants, that can influence the ability of people to take care of their HPT. Healthy lifestyle modification is an important aspect of HPT management, comprising of healthy diet, exercise, medication adherence, stress management, and regular blood pressure monitoring (Ashipala & Lukolo 2021:115). All of these factors contribute to patients' capacity to undertake and maintain self-care behaviours.

- **Personal factors**

Personal factors significantly influence self-care management of HPT (Abel et al 2023:336). These factors involve knowledge, beliefs, motivation, emotional well-being and health prioritisation, which influence an individual's willingness and capability to engage in self-care practices.

-Knowledge and understanding

When HPT and complications are understood, positive self-care behaviors are encouraged, including adherence to medicines, managing blood pressure, and healthy lifestyle (Alsaqer & Bebis 2022:11). Health literacy, self-efficacy and long-term disease management are enhanced by educational interventions such as counselling and patient-centred information programmes (Masupe et al 2020:34; Eldawati et al 2022:488). With better knowledge, patients can better take an active role in managing their disease.

-Beliefs and attitudes

Patients' beliefs and attitudes about HPT affect treatment adherence and lifestyle changes. Positive attitudes towards HPT management are linked to good self-care behavior and negative attitudes are linked to poor self-care behavior and outcome (Bosu & Bosu 2021:97; Alsaqer & Bebis 2022:13). Education and counselling are

therefore important elements in breaking down misconceptions and healthcare professionals play an important role in this through their work (WHO 2022b:22).

-Motivation and emotional well-being

Motivation affects medication adherence, dietary habits, and exercise (Valenzuela et al 2021:251). Emotional well-being is also a factor affecting self-care management, as stress, anxiety and depression can decrease adherence to treatment plans (Otubuah 2022:98). Goal setting, stress management and psychological support interventions have been found to have positive effects in the management of BP and self-care behaviours (Farahmand, Ozoemena & Nashilongo 2020:44).

-Health prioritisation

People who are health oriented and understand the significance of self-care are more likely to regularly engage in actions that prevent complications associated with HPT (Adeola et al 2020:11).

○ Cultural and social factors

Beliefs, attitudes and behaviours about health and illness are influenced by cultural and social factors (Fevrier-Paul Soyibo et al 2021:77). All of these can facilitate or interfere with self-care management practices for people with HPT.

-Cultural norms and beliefs

The perception of HPT and willingness to participate in HPT related behaviours is influenced by cultural beliefs about sickness and traditional healing, and about health in general (Fevrier-Paul Soyibo et al 2021:77). Patients' beliefs and practices can be incorporated into culturally sensitive interventions, which are likely to enhance participation and adherence to treatment.

-Social support and networks

Social support from family members, peers, and healthcare providers has proven to be a positive factor in medication adherence, lifestyle changes, and BP control (Ukoha-Kalu et al 2020:72). Interventions that involve emotional support, practical support, and peer support have been linked to enhanced self-care outcomes (Avery

et al. 2021:41). On the other hand, poor social support can have a negative impact on adherence and disease management (Alsaqer & Bebis 2022:9).

- **Economic factors**

The economic factors, especially income and employment conditions, play a major role on HPT self-care management (AHA 2020:12). Limited finances can hinder access to healthcare services, medication, healthy food, and BP monitoring resources, impacting disease control (AHRQ 2020:11).

-Occupation

Patients' capacity to perform healthy behaviors and adhere to therapy may be affected by the demands of work, challenging work environments, and inflexible work schedules (Gholamnejad et al 2020:206). Wellness programmes and stress management programs in the workplace and flexible working hours have been found to contribute to the management of chronic disease (Alshaikh 2020:167).

-Access to healthcare resources

Accessible health services and health treatment resources are critical to effective self-care management (Muleya 2021:67; Adelaye & Headley 2024:8). Patients living in underserved areas tend to face challenges with healthcare accessibility and cost, which can impact BP management and adherence (Nakarmi et al. 2023:204). Policymakers should therefore focus on equitable access to healthcare and resource allocation in order to improve health outcomes. Economic stability, supportive work environments, and access to resources for healthcare are important factors to consider when it comes to managing HPT by self.

Therefore, the lack or presence of any of these factors can greatly help or hinder a patient's ability to control HPT. This complex interplay of factors directly influenced the design of the data collection instruments used for this study, such that the developed self-care management programme would not only cover the clinical knowledge, but the whole context of the adult patient in Khomas Region.

2.5.4 Knowledge of self-care for HPT

Self-care information about HPT is important because patients should have the knowledge of how to manage condition to boost cardiovascular health. It is knowing the different self-care measures, their significance and how to apply it in the day-to-day limit.

- **Seeking professional guidance**

Self-care knowledge, according to Alsaqer and Bebis (2022:123), involves the seeking professional advice. Patients ought to learn about significance of frequent follow-up visits to clinics, hospitals and check their BP, as well as discuss the efficacy of medications and provide patients with tailored instructions. Moreover, Fevrier-Paul et al (2021:21) found that collaborative care models, which include healthcare providers, medication management, lifestyle counselling, and patient education, are life changing in the management of the BP and self-care practices. Additionally, it is important because of the shared decision-making between patients and health professionals on HPT self-care management. In self-care of HPT, family and support networks should also be incorporated because it provides a conducive environment where effective management action and general well-being can be encouraged.

- **Educating family and support mechanism**

It is helpful to provide knowledge about HPT to family members, friends, and support networks by sharing information about self-care measures. This would facilitate the provision of a conducive atmosphere where other people may comprehend and aid in keeping a healthy lifestyle, motivate compliance with self-care measures, and enhance overall well-being. Training of the family members, friends and support networks on HPT and self-care practices can have a positive impact on how individuals cope with the condition. Emotional support also boosts incentive to provide care through giving individuals encouragement and inspiration of the loved ones (Nazeri, Mohamad, Redzuan & Mulud 2022:286). Continuous learning plays a vital role in enabling people to cope well with their illness and make informed choices regarding self-care management of disease.

- **Continuous learning**

Self-care management of HPT is a phenomenon to change and evolve (WHO 2022a:91). It is important that people keep abreast of HPT literature, guidelines, and developments to make educated choices regarding their self-care management (Avegno et al 2023:52; WHO 2021a:101). Lifelong learning helps one to incorporate new content and techniques into their own self-care schedule and thus improve their ability to successfully control their BP (WHOa 2021:101). Interventions used in education involve instruction seminars, interactive talks and provision of education materials.

Moreover, technological development, especially smartphone applications, improves HPT self-care education. Findings revealed that medication adherence, BP self-monitoring, and HPT knowledge were higher among participants who used smartphone application than those who did not (Alhamad & Donyai 2021:61). Thus, lifelong learning is relevant to healthcare workers as it is necessary to guide and support patients in self-care management practices of HPT.

2.5.5 Practice of self-care of HPT

Self-care of HPT involves the embrace of various practices and behaviours to effectively manage BP and improve cardiovascular wellbeing. The critical elements of self-care in HPT are the following unpacked:

- **Regular healthcare check-ups**

Self-care is essential in HPT through a regular check-up with the healthcare provider. People are advised to undergo regular medical examinations to ensure there is wellbeing and elimination of anomalies concerning HPT. Medical professionals give individualised recommendations, administer required tests, and modify treatment plan according to the needs and medical conditions. Boulware, Massie, Levan and Segev (2022:105) discovered that individuals who were regularly attending care and frequently visited healthcare providers controlled their BP better than those that did not have frequent visits or no visits. The results also placed special importance on the

regular check-up as a technique of monitoring BP and the optimal management of HPT (Boulware et al 2022:105). The results highlighted that the regular healthcare interaction enabled HPT management to be optimized with the help of patient portals that enabled improved self-monitoring, medication adherence, and the communication between the patient and the provider (Davis 2021:167).

- **Education and empowerment of self**

Patients need to have the full knowledge of HPT, its implications, and the rationale behind self-care practice to encourage self-empowerment. Individualized health education interventions, the empowerment of individuals and their monitoring at the hands of health workers lead to permanent behaviour linked to self-care, self-knowledge and influence behaviour change (Kurnia, Melizza, Ruhyanudin, Masrurroh, Prasetyo, Setyowati & Khoirunnisa 2022:184). This can involve reading credible materials, attending learning activities or conferences, and actively asking questions of the health professionals.

HPT management has to empower, motivate and retain self-care behaviour in the long run. Similarly, how education, self-monitoring, medication management, lifestyle changes including goal-setting, and other interventions enhance self-care behaviours and control BP in HPT Ukoha-Kalu, Isah, Biambo, Samaila, Abubakar, Kalu & Soyiri 2023:2). Moreover, the interventions consisting of education, medication management, and self-monitoring of BP. Out of several self-care behaviours that are crucial in coping with HPT, proper sleep habits are important but, at times, forgotten.

- **Sleep hygiene**

In self-care of HPT, adequate sleep is a necessary part. The good sleep hygiene habits include regularity of sleep, creation of a favourable sleep environment, avoidance of stimulants like caffeine in the evening, and relaxation methods before sleep. According to He and He (2022:8), short sleep period (less than 6h/day) is associated with the increased risk of HPT, which means that the ideal amount of sleep plays the protective role with respect to the occurrence of the condition.

Sleep is an essential component to maintain overall health, and it has been accepted as an essential practice of self-care to maintain BP (Valenzuela et al 2021:252). Equally, as it is stated by Ogugu, Catz, Bell, Drake, Bidwell & Gangwisch (2022:63), the inclusion of sufficient sleep in the guidelines on HPT management is potentially capable of improving the BP control in patients with the condition. Measures in self-care to deal with HPT are important in addressing sleep disorders and conditions that may compromise quality of sleep. Poor sleep interferes with neurocognitive processes and influences health-related cues, which results in a rise of BP because of poor focus on exercise (Ogugu et al 2022:60). Besides good sleep hygiene, patients with HPT develop personal health goals and self-monitor BP at home with the assistance of PHC nurses.

- **Goal setting and self-monitoring**

Goal setting and self-monitoring can prove valuable techniques in helping patients with HPT practice effective self-care management. It is seen that patients who set goals regarding their diet, exercise, and drug use achieve good BP control than patients who have no self-care management goals (Avery et al 2021:934). Likewise, the process of self-monitoring by conducting self-BP checking, recording food intake, and using digital health apps contributes to awareness, responsibility, and adherence to medical and lifestyle advice (WHO 2022b:22; Borgese et al 2023:47). When the setting of goals and the use of self-assessment are combined, patients are able to maintain the changes in behaviour over a long period of time and attain quantifiable health outcomes. This two-fold approach considers motivation and real-time feedback, hence a pillar of efficient HPT management.

2.5.6 Attitude of self-care of HPT

Attitude is also an important factor in the efficient execution of self-care in HPT. It includes the beliefs, attitude, and impetus of the person in terms of coping with his or her condition. Among the main factors that lead to a positive attitude towards self-care, there are:

- **Awareness and acceptance**

Positive attitude towards self-care depends on the development of awareness about the diagnosis of HPT and the need to realise it as a chronic disease. The recognition of the possible dangers of the uncontrolled BP and the positive effects of self-care can encourage persons to take active measures in the control of their condition. Alsaqer & Bebis 2022:13) found that people with self-reported awareness of having HPT were more apt to self-care behaviour like medication adherence, dietary change, and physical exercise. Individuals who know the risks involved if one does not control BP and the advantages of self-care are more willing to adopt positive self-care behaviors like taking their medication, maintaining a healthy diet, and engaging in physical activities.

The role of illness perception in shaping self-care behaviour is very important in creating effective measures of assisting HPT patients to manage the condition. Moreover, patients who have accepted their diagnosis and view HPT as a chronic ailment are more devoted to adopting proper self-care practices and BP control (Liu, Jiang, Zhang, Niu, Cao, Du, Chen, Wang, Gong, Rao & Wu 2024:7). This indicates that acceptance of the condition contributes greatly toward encouraging individuals to focus on self-care. To advocate a proactive attitude to dealing with HPT, there is a necessity to understand the interaction of awareness, acceptance, and personal responsibility in order to conduct a deep study. The promotion of a proactive approach to managing HPT requires a deep understanding of the interplay between awareness, acceptance, and personal responsibility.

- **Personal responsibility**

It is essential to be personally responsible to take care of one's own health and to realise that self-care is a life-long process. The positively minded persons understand that they have a proactive task to complete in controlling their BP and are ready to change the lifestyle and behaviour as required. It is a duty of persons with HPT to be active participants in interacting with health care providers, posing questions and seeking resources for improving knowledge and skills in managing HPT. This points to the role of individual responsibility in dietary self-care practices. Individual

responsibility creates a feeling of confidence, which leads to greater self-assurance in managing HPT by making positive health changes.

- **Motivation and persistence**

The adherence to self-care management of HPT is a long-term process that requires motivation and perseverance. Positive attitude makes people strive to better their health results and ready to work hard and attain their aspirations. Personal motivational and beliefs held by individuals show their willingness to change their behavior in order to improve self-care management for HPT (Kurnia, Hariyati, Melizza, Al Husna, Amatayakul & Handoko 2023: 206). Motivated people are more prone to maintaining self-care behaviors, which results in good control of BP over time (Liu et al 2024).

Moreover, Huang, Xu, Wang, Sun and Guo 2023:8) concluded that interventions based on motivational-interviewing which employ collaborative goal setting, feedback and self-monitoring result in BP reductions, and enhance adherence-related self-care behaviours, than usual care. Perseverance and motivation encourage the people to act proactively to gather information, communicating with the healthcare providers and making lifestyle changes, and eventually managing HPT self-care.

- **Positivism and optimism**

The preservation of positive and optimistic perception could have an important effect on self-care behaviours. Positive attitude is what individuals believe in their skills to cope with challenges, deal with stress and reach their health objectives. The emphasis on the advantages of self-care and perceive it as a possibility of making the overall conditions better. Positivism and hopefulness have been identified to relate to enhanced self-care practices and superior health results in numerous groups, including persons with chronic illnesses such as HPT (Chinnadurai, Raghunath & Bhattacharya 2021:103). Craig, Mortazavi, Nelson and McKinley (2022:9) found that optimism is associated with a reduced incidence of cardiovascular disease events and improved heart-health outcomes. Positive people had a higher tendency of adopting healthy lifestyles that result in improved BP management (Chinnadurai et al

2021:103). The interventions may entail strategies of boosting positive feelings, optimism, and resilience. Increased optimism has been found to be positively correlated with improved quality of life, and interventions targeting promotion of self-care behaviors (Taherkhani, Kaveh, Mani, Ghahremani & Khademi 2023:9; Arslan, Aydoğdu, & Uzun, 2025:849).

2.6 SELF-CARE MANAGEMENT THEORETICAL FRAMEWORK

In line with the theoretical background in Chapter 1 (section 1.8.3), three theories were used in this study: Orem self-care theory, the theory of self-care of chronic illness and the practice-oriented theory. The three theories were chosen due to their complementary role in understanding self-care management for HPT. These theories were applied to the study during data collection, discussion of results and development of self-care management programme for HPT.

2.6.1 Theory of self-care

Orem's self-care theory has been applied in nursing, practice, and education to shape adult care, according to the literature (McEwin & Wills 2019:18). Therefore, in order to arrange the care for adult patients and construct a self-care management programme for HPT, the study made use of Orem's self-care theory, which is appropriate in this circumstance. Orem's theory of self-care is composed of four components: self-care, self-care agency, self-care requisites, and self-care demands. These constructs are described in the next section:

- **Self-care**

According to Orem (1985:84), self-care is the act of initiating and carrying out actions for one's own benefit in order to maintain one's life, health, and well-being. In this sense, self-care refers to how adult patients take care of themselves and manage HPT at home without being constrained by the condition. Self-care is a conscious activity to supply or assure the supply of vital materials needed for continuous existence, growth, and development as well as the maintenance of human integrity, according to McEwin and Wills (2019:151). In order to sustain human functioning and the wellbeing of adult patients with HPT, self-care, should be learnt and purposefully practised

throughout life. Additionally, individuals with HPT manage to maintain the motivation necessary for continuing to take care of themselves and their dependents on a daily basis by learning and exercising intellectual and practical abilities (Orem 2001:143).

- **Self-care agent**

A self-care agent is someone who offers self-care (Orem1985:84). The self-care agents in the study are adult patients with HPT diagnosis. The PHC nurses were also necessary in the self-care management of HPT in addition to the individuals who had been diagnosed with the disease. Orem (1985:110) states that nurses should: comprehend and have necessary skills and make decisions about how to assist adult patients with HPT in performing the self-care. Additionally, the self-care agent varies with health status, educability-influencing factors, learning-enabling experiences, exposure to cultural influences, and resource utilisation in daily life (Orem 2001:254). Moreover, the ability of an adult with HPT to participate in self-care may be influenced by age, level of development, social-cultural orientation, health, and availability of resources.

- **Self-care requisites**

The different forms of intentional self-care that people need are expressed by self-care requirements (Orem 1985:89). Taking care of oneself; actions that persons with HPT should do to reduce environmental or social influences that negatively impact how they operate or grow (McEwin & Wills 2019:151). For people to maintain their health and ability to function, there are three different sorts of self-care requirements: universal, developmental, and health deviation requirements (Orem 1985:90). The term universal self-care refers to practises that are intended to address daily demands and preserve human structure and wellbeing in general (Orem 1985:90). Adult patients with HPT should continue to meet their daily needs for things like enough access to clean water, nutritious food, fresh air, and a healthy balance of activity and rest in the context of this study.

Additionally, health deviation self-care entails getting the right medical attention, successfully implementing all recommended measures, changing one's self-image in

order to accept oneself, and learning to live with HPT (Orem 2001:235). Adult patients with HPT should be given a thorough explanation of self-care management's purpose and actionable steps in order for it to be effectively provided.

- ***Self-care demands***

Self-care demands are the total number of self-care chores that must be completed within a certain time frame in order to fulfil a set of self-care requirements. Demands for therapeutic self-care vary depending on the person and their environment (Orem 2001:247). The author also stated that therapeutic self-care demands typically include three different types of actions: (1) those directed to the person performing the care measure or for whom the care measure is performed, (2) those directed to necessary resources, and (3) those that satisfy the self-care requisite. Orem (2001:249). Adult patients with a diagnosis of HPT should recognise their own need for self-care management as a preventative approach that must be practised on a daily basis. As a result, it is necessary to establish human capacities, as shown in Figure 2.1 below, for adult patients with HPT to engage in self-care management activities.

- **Application to this study**

Orem's theory was utilized in:

(a) Development of the research instruments:

The questions on the ability of patients to engage in self-care actions, the need for self-care activities, and the need for nurses' intervention (Part B, C and D on both the patient and nurse questionnaires) were based on the Orem's concepts.

(b) Conceptual framework:

The concept of self-care deficits enabled one to identify the areas where the patients lacked ability to care for their health problems, particularly the HPT, independently, thereby creating the problem area addressed by the intervention programme.

(c) Elements of the programme

The educational interventions were designed based on the concept of the supportive educative nursing systems while the partly compensatory systems helped to develop the nursing interventions.

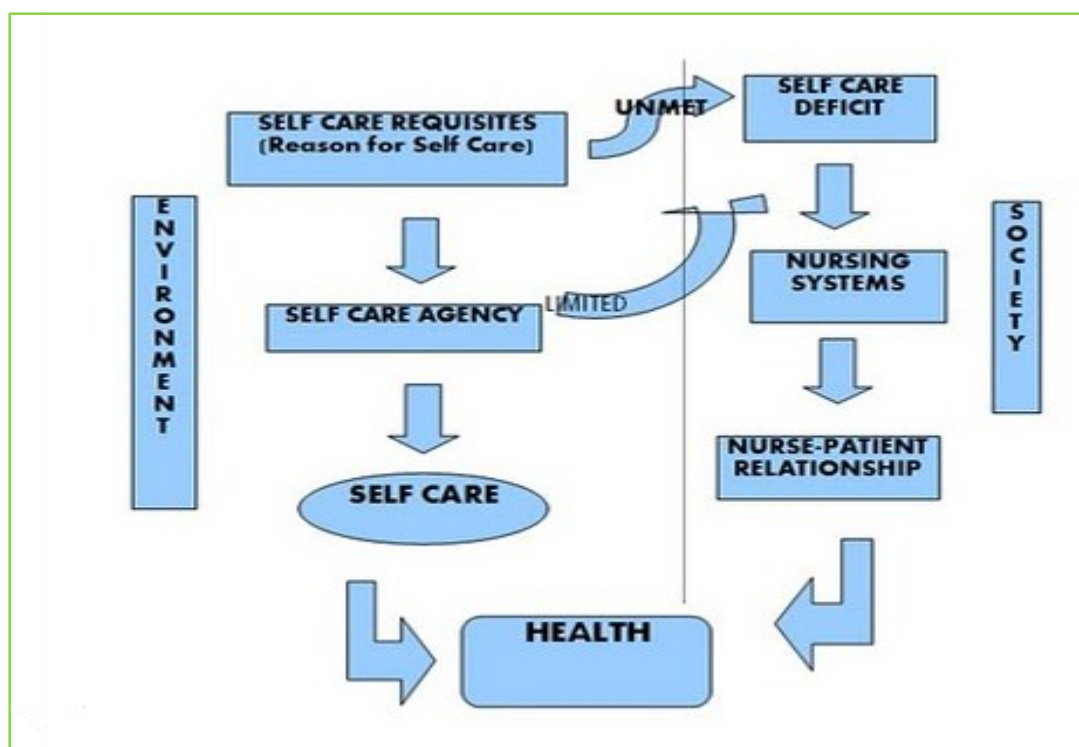


Figure 2.1: Power Components enabling for self-care operations (Orem 2001:264)

2.6.2 Self-Care theory for chronic illness

The self-care for chronic illness was created in 2012 by Professor Riegel, Jaarsma and Strömberg (2012:194). To gain a more comprehensive understanding of persons with HPT, the notion of self-care of chronic illness was used. The clinical work of (Riegel et al 2012:194) caring for adult patients with heart failure led to the development of this philosophy of self-care. The following are three constructs of this theory: self-care maintenance, self-care monitoring and self-care management.

- **Self-care maintenance**

According to Riegel et al (2012:194), self-care maintenance refers to the actions taken by people with a chronic illness to maintain their physical and emotional well-being. There are two types of behaviour: those that promote health, such as making healthy food, managing stress, quitting smoking, and those that are related to illness, such as taking medication as directed to keep things stable and prevent an exacerbation (Riegel et al 2012:194). The behaviour of health care promotion such as the lifestyle modification in the self-care management of HPT. Similarly, the behaviours that are

related to HPT include medication adherence, follow ups and BP monitoring as aspect of self-care management programme. The benefits of self-care maintenance are enhanced by reflection on the behaviours' utility, vigilance while engaging in it, continual benefit assessment, and efficiency of the activities (Smith & Liehr 2018:343).

- **Self-care monitoring**

Self-care monitoring involves keeping an eye out for any changes in one's own signs and symptoms (Riegel, Barbaranelli, Sethares, Daus, Moser, Miller, Jaarsma, Haedtke, Feinberg, Lee & Stromberg 2018:3). Self-care monitoring is the regular attention and consideration of the body. An adult with HPT can regularly check their BP as one of their self-care and self-monitoring activities. Self-care management is the response to signs and symptoms when they occur, so self-care management behaviours are necessary for the early detection of a health change (Riegel et al 2018: 4).

- **Self-care management**

In order to decide whether action is required, self-care management involves assessing changes in physical and emotional signs and symptoms (Riegel et al 2012:195). The authors added that these modifications might be brought on by disease, medical care, or environmental factors (Riegel et al 2012:195). Situation awareness in this context entails being aware of bodily sensations in adult patients with HPT and having the capacity to accurately predict how these sensations change in response to non-pharmaceutical treatments (Smith & Liehr 2018:344). As shown in Figure 2.2 below, the idea of self-care for chronic illness is composed of three basic concepts: self-care management, self-care monitoring, and self-care maintenance.

- **Application of the theory to the study**

The application of the theory by Riegel et al (2012:195) was for:

(a) Development of research instrument

Maintenance, monitoring, and management constructs were applied to establish the structure of Section D (Practice of self-care management) of the patient questionnaire.

(b) Conceptual framework

The distinction between self-care maintenance (taking medicines, eating healthy foods), monitoring (self-monitoring of BP), and management (reaction to symptoms) provided a framework to analyze patients' self-care behaviors.

(c) Programme components

The maintenance, monitoring, and management constructs were captured in various programme activities such as maintenance of lifestyle change (lifestyle change education), monitoring (home BP monitoring training), and management (symptom identification).

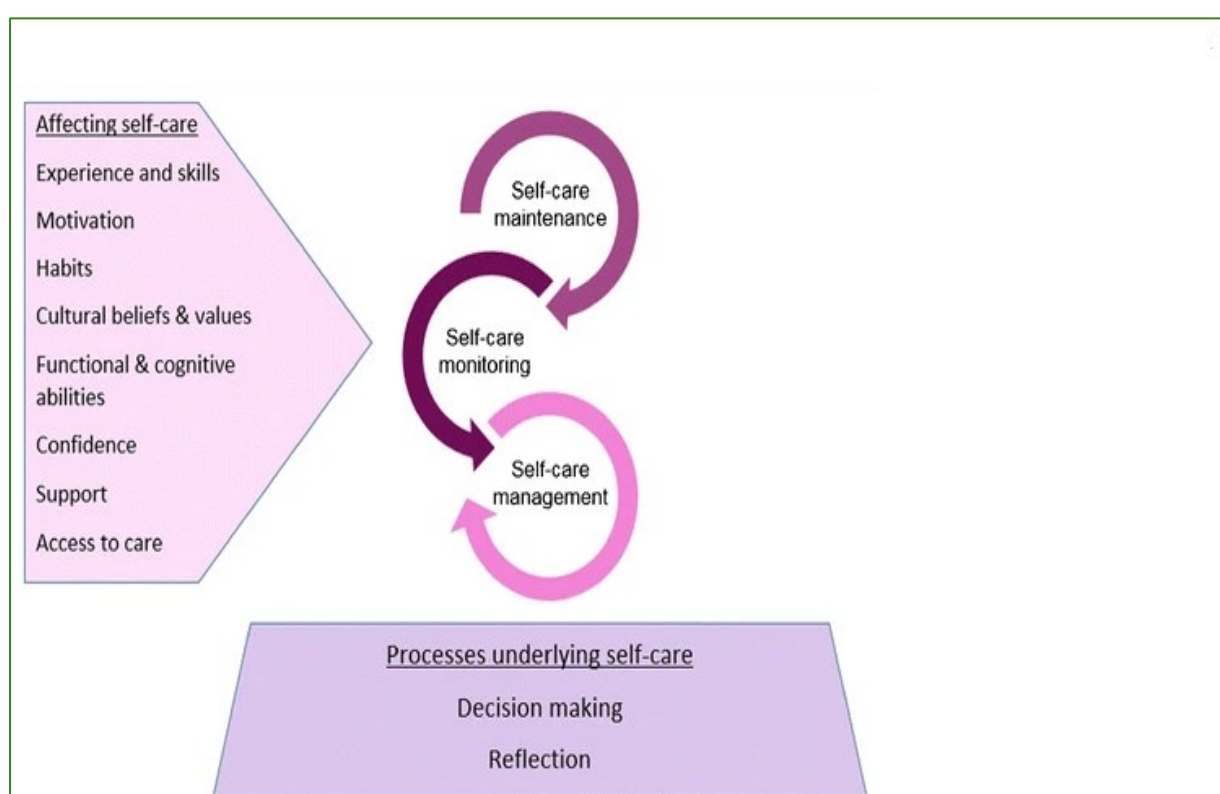


Figure 2.2: Self-Care of Chronic Illness (Jaarsma et al 2017:72)

2.6.3 Practice-oriented theory

The Practice-Oriented Theory (POT) was originally defined by Dickoff et al (1968:415) nearly 50 years ago and its generalisability is still relevant to the modern health research and practice. Its systematic and result-oriented character makes it especially helpful to lead the creation and application of self-care programmes in practice, which coincides with the growing focus of nursing on acting as a discipline.

There are three main components of practice-oriented theory namely; (1) the goal content which is the intended outcome of the activity; (2) prescriptions that define the activity needed to accomplish the goal content and finally (3) a survey list that to complement the current prescription and prepares the further prescriptions that are applicable to the activity towards the goal content (Dickoff et al 1968:421). It gives a systematic means of organising nursing interventions by concentrating on the six key items of the survey list; agent, recipient, context, procedure, dynamics, and terminus (Dickoff et al 1968:423). Later studies affirm that these six components are consistent with the concept of evidence-based practice and patient-centred care, thus making POT an effective tool in nursing scholars and practitioners in need of providing effective care in public PHC clinics (Nesengani, Downing, Poggenpoel & Stein 2021:4).

As Dickoff et al (1968:423) put it: The six components of the survey are as follows:

Agent - a person or group that performs the action to achieve the goal; the patients, PHC nurses, and other health care providers.

Recipient - the object of the activity; adult patients diagnosed with HP.

Context - the environment within which the activity is taking place; home or PHC facility.

Dynamics - the causes of the activity.

Procedure(s) - the leading processes or guidelines of the activity.

Terminus - the expected outcome of the activity. These six aspects of the survey list of POT are represented by the figure 2.3 below.

- **Applicability to this study**

The theory by Dickoff et al (1968:423) was applied to:

The six elements (agent, recipient, context, procedure, dynamics, terminus) organised the whole programme development process as seen in Figure 7.1. The specific programme activities (agents (PHC nurses, patients, families), recipients (adult HPT patients), context (PHC facilities and home environments), procedure (educational workshops, monitoring protocols), dynamics (motivation, support systems), terminus (improved BP control, patient empowerment) were operationalised.

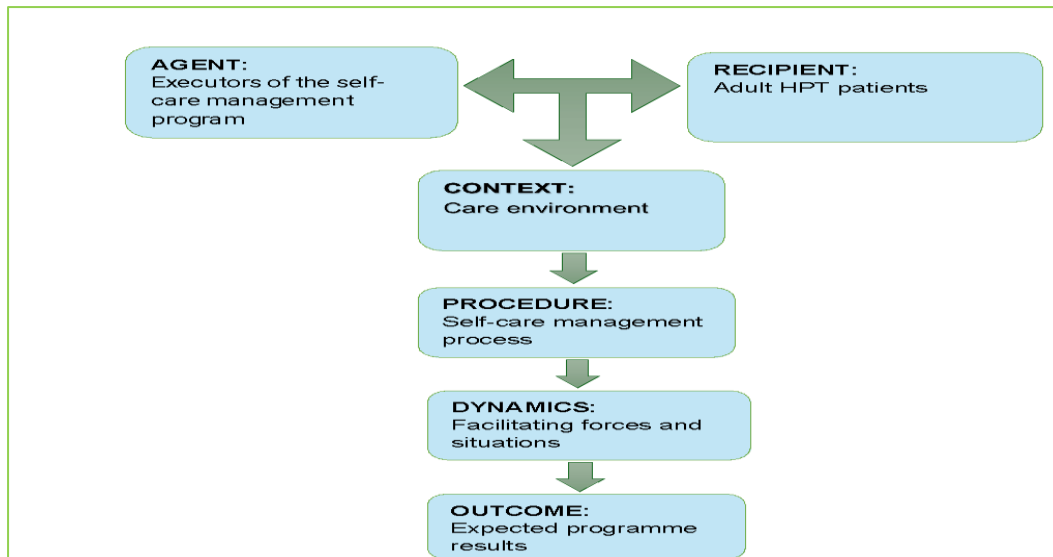


Figure 2.3: The survey list for practice-oriented theory (Dickoff et al 1985:423)

2.7 SUMMARY

The aim of this chapter was to review the literature related to HPT and self-care management of HPT. The self-care measures, knowledge, practice, and attitude of self-care for HPT were explained. Theory of self-care, theory for chronic illness and practice-oriented theory as theoretical framework were discussed as they were applied in the study.

CHAPTER 3

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

Chapter two discussed the vast literature concerning the topic of the research. The research design and methodology adopted in this study is thorough in that, a tailored self-care management programme that enables adult patients with HPT in the Khomas Region, Namibia is developed. The sampling technique was also crafted to accommodate a large sample of people of the target population, considering ethical considerations of choosing and consenting on the basis of sampling. Data collection was done in a systematic way through semi-structured interviews and use of structured questionnaires that are well designed where appropriate designed questionnaires were designed using thematic self-care management of HPT. Participant anonymity and autonomy were preserved during the data collection process as the ethical tenets were strictly followed. Research employed strict data analysis methods to help in ensuring data validity and reliability thus enhancing validity of the research findings. The main aim of the study was to address a critical health problem by developing an efficient self-care management programme that, at the same time, complies with ethics, in addition, upholding rigour of the study. The overarching goal of this research as described in Chapter 1 was to come up with a personalised self-care management programme on adult patients with HPT in the Khomas Region of Namibia. The following research questions were outlined to make the research undertaking more precise. To be more exact, the following were research questions of the given study:

- What is the knowledge, attitudes; practice of self-care adult patients diagnosed with HPT?
- What is the degree of perceptions of PHC nurses in self-care management of adult patients diagnosed with HPT?
- What is the experience of adult patients diagnosed with HPT in Khomas region, Namibia?
- How do PHC (PHC) nurses perceive self-care of adult patients with HPT diagnosis?

- The question is how to find out and conceptualise the framework of developing the self-care management programme to be applied to adult patients diagnosed with HPT.
- What is the programme to be designed to improve self-care management of adult patients having the diagnosis of HPT?

3.2 RESEARCH DESIGN

In this study, MMRD was applied with the purpose of measuring, exploring and describing the perception of PHC nurses. In addition, MMRD was applied in the study to investigate and explain the experiences of adult patients with HPT and prepare a self-care management programme based on practice-oriented theory (Dickoff et al 1968:415).

3.2.1 Mixed methods research design

The term mixed methods research design (MMRD) used by Leavy (2022:164) and Creswell and Creswell (2023:297) implies collecting and synthesising quantitative and qualitative data in one study. The method aims to achieve a deeper understanding of the phenomena under investigation by taking the benefits of quantitative and qualitative methods. The combination and integration of quantitative and qualitative data is a common practice in the research of MMRDs. This is to demystify, use, create databases or incorporate them in a much larger context, which facilitates the analysis and interpretation of the data.

Hall (2020:85) discovered several heterogeneous MMRDs, including convergent parallel, explanatory sequential, and exploratory sequential designs. The design used in this study was a convergent parallel design that entails simultaneous collection of qualitative and quantitative data and its analysis separately. The obtained findings were compared or synthesised in the interpretation phase (Hall & Roussel 2020:62). The explanatory sequential design involves a first step of quantitative data collection and analysis, followed by a second step of qualitative data collection and analysis. This method helped to increase the depth of understanding of the quantitative results as it left a deeper knowledge about the phenomenon in question (Poth 2023:88).

Conversely, an exploratory sequential design entails the gathering and analysis of qualitative data first and then followed by quantitative data collection and analysis to validate the findings of the qualitative analysis (Leavy 2022:172).

The qualitative part consisted of an exploratory descriptive design. Such design was used to explore and document the subjective experiences of adult patients suffering from HPT and the perceptions of self-management of HPT by PHC nurses. It is important to note that the term lived experiences here is used in its ordinary sense, which means it refers to the participants' subjective experiences of living and coping with HPT and does not refer to the more complex notion of phenomenology. Given the term lived experience in the study, it was critical to recognize the participants' personal perceptions, as is usually done in exploratory descriptive studies (Creswell and Poth 2023:123).

3.2.1.1 *Application of the MMRD*

The flexibility of changing and personalising methodology offered by the utilising variety of MMRD allowed addressing the study questions and objectives in an effective manner (Creswell & Creswell 2023:297). The research aimed to take the benefit of both quantitative and qualitative methods in MMRD and downplay its disadvantages. There are several strengths of MMRD study, which make it a useful method of researching complex research questions and adding depth and breadth of knowledge regarding a particular issue. The ability to answer confirmatory and exploratory questions at the same time is an important advantage since it is possible to verify and to construct a theory within one study (Tashakkori, Johnson & Teddlie 2020:33).

3.2.1.2 *Weaknesses and strengths of the MMRD*

A MMRD, which was used in this study, offered a balanced approach as it integrates the strong points of the quantitative and qualitative design. This methodology gave an in-depth understanding of self-care management of HPT, but it also presented some of the methodological and practical constraints. Such factors include the complexity of conducting the study design, methodological issues that could be encountered in integrating quantitative and qualitative data, and resource-consuming nature of data collection and analysis. MMRD has its strengths and weaknesses. MMRD offers a

researcher a scalable approach to comprehensively research problems through the combination of benefits of quantitative and qualitative processes and reduction of their limitations. As presented in Table 3.1 below, MMRD has its merits and demerits as it is used in this study. The important characteristics that were relevant to the richness and applicability of findings are also indicated in Table 3.1 as comprehensive understanding, triangulation, complementarity, and applicability.

Table 3.1: Advantages and disadvantages of MMRDs design

Ensured features	Advantages	Disadvantages
Comprehensive Understanding	-The research problem was thoroughly comprehended by integrating both methods -Combination of both descriptive and explorative findings enhanced better lucidity regarding self-care management.	Mixed method required skills and knowledge in both qualitative and quantitative techniques, as well as it was time-consuming and resource-intensive (Creswell & Creswell 2023:297).
Triangulation	- Triangulation of results improved the credibility and validity of research outcomes. -Compared the findings on quantitative self-care management with self-care management experiences and perceptions' themes.	May experience challenges in integrating qualitative and quantitative data, particularly in terms of reconciling conflicting results or divergent interpretations which were not encountered in this study (Denscombe 2021:205).
Complementarity	-The integration of qualitative and quantitative methods was enhanced and enabled utilisation of each approach's strengths. -Used abundant data from both methods for the development of the self-care management programme for adult patients diagnosed with HPT.	The use of mixed methods required a careful planning process and organisation to make sure that the diverse methodological elements are successfully put together, which may be a logistically complex exercise (Denscombe 2021:205).
Applicability and Relevance	The research findings were made more applicable and relevant by enhancing understanding of complex phenomena for adult patients' experiences and nurses' perceptions regarding self-care management of HPT.	May face scepticism or resistance from traditionalists who advocate for the primacy of either qualitative or quantitative research methods which was not encountered in this study (Tashakkori et al 2020:137).

3.2.1.3 *Key elements in conducting MMRD design*

This study employed MMRD research design as it considers both qualitative (QUAL) and quantitative (QUAN) approach in providing nature understanding and correlation of data. Timing, weighting and mixing are the three crucial elements to be used in carrying out MMRD research as shown in Table 3.2.

Table 3.2: Key elements in conducting MMRDs design (Hitchcock & Onwuegbuzie 2022:27; Zou & Xu 2023:91)

Elements	Descriptions	Application in the study
Timing	Denotes when QUAL and QUAN data are collected, analysed and interpreted	PHC nurses and adult patients diagnosed with HPT were simultaneously given questionnaires and interviews.
Weighting	Relative importance of the QUAL and QUAN methods to answer identified problem.	Both QUAL and QUAN methods contained the same weight.
Mixing	The integration of data between multiple sources.	Mixing was done through merged QUAL and QUAN results. Combined questionnaire responses and interview themes, enhanced understanding of self-care management for HPT.

3.2.2 **Convergent Parallel MMRD**

Convergent Parallel MMRD is the research method in which the gathering of several but related types of information relevant to the phenomenon under study takes place (Polit & Beck, 2021:584). The primary intention behind the adoption of convergent parallel MMRD approach is the consolidation of various pieces of evidence that provided a comprehensive view of the issue under investigation (Polit & Beck, 2021:584). This approach was adopted for the entire research process and both

quantitative and qualitative data was gathered at once followed by analysis that was conducted separately and integrated during the interpretation process.

The purpose of convergent parallel MMRD was the intentional choice and achievement of the triangulation, complementary, and breadth goals to increase the quantitative and qualitative results (Zou & Xu 2023:89). The given strategy implies co-gathering quantitative data and qualitative data simultaneously, which allowed achieving a complete understanding of the topic of the research and carefully examined the phenomenon under study. The desired result was to use the convergent parallel MMRD to synthesise, compare and verify, and integrate the findings of both types of data, and thus achieved the kind of exhaustive body of knowledge, which could not be achieved by the use of a single type of data. To support a large variety of data collection tools at the various steps, convergent parallel MMRD was used, which allowed simultaneous data collection, discrete analyses, and integration at the last stage analysis, which was the interpretation stage.

3.3 RESEARCH PROCESS

The process of the research is described in Figure 3.3. The current research was carried out in the following steps:

Phase 1

- Recognition and characterisation of the self-care management knowledge, attitudes, and practices of the adult patients diagnosed with HPT.
- Discovery and explanation of the experiences of adult patients with the diagnosis of HPT in the Khomas region of Namibia.
- Measurement, description and exploration of nurses' self-care practices on adults diagnosed with HPT.

Phase 2

- Recognition and conceptualisation of the framework for developing a self-care management programme for adult patients with HPT.
- Designing a programme that would improve self-care management in adult patients with HPT.

The research process of the multiple method research design that is used in this study is illustrated in Figure 3.3.

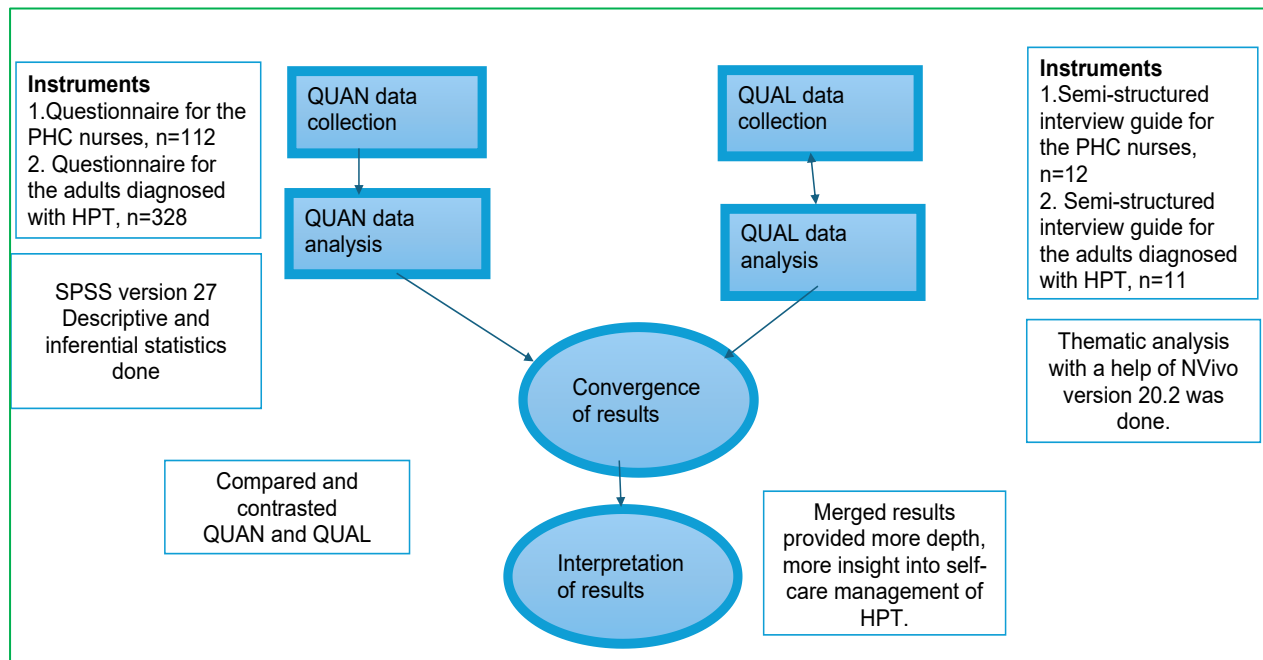


Figure 3.1: The research process of MMRDs (Creswell & Creswell 2023:300)

3.3.1 Phases of the study

Phase one was designed as a convergent parallel mixed-method design that combined quantitative and qualitative data, which were used to investigate how self-care management can be practised by patients with HPT and to understand perceptions of nurses of PHC. The results of the two modalities were synthesised to build a self-care management care programme.

- **Phase one: Qualitative and quantitative investigation of self-care management of HPT.**

Phase one involved two different research methods: a quantitative and qualitative component. The quantitative element was a descriptive, cross-sectional study in order to determine knowledge, attitudes, and self-care practices among patients and the perception of PHC nurses related to HPT self-care. Data were measured at one time with the help of a standardised questionnaire (Brink et al 2022:97), thus, allowing the systematic quantification of the variables and correlation analyses, which contribute to the increased objectivity and generalisability of findings (LoBiondo-Wood 2022:89;

Polit and Beck 2021:78). Quantitative inquiry is based on measurement and involves connecting the empirical results with mathematical expressions of relations (Burns & Grove 2020:127). Research also involved quantitative hypotheses, which are statements by researchers about what they expect to happen among variables and use estimates of population value used in sample data in numeric form (Creswell & Creswell 2023: 58).

Qualitative aspect employed an exploratory-descriptive methodology to draw in-depth lived experiences of adult patients who have to cope with HPT. This methodology allowed subtle insights into the beliefs, attitudes, and behaviours that are related to self-care, thus allowing the researcher to probe into the complex contextual and experiential variables (Schmidt & Brown 2021:254). Qualitative inquiry is powerful because it helps to shed light on the complex experience of health services by exploring the perspectives of patients and providers in detail (Creswell and Poth 2023:123). Qualitative research helped obtain the data of rich narrative, which once again highlights its capacity to uncover the complex experience of health services (Squires & Dorsen 2023:87).

The process of collecting both qualitative and quantitative data was simultaneous (done at the same time). Participants in both the questionnaire and interview belonged to the same population, but they were all different from each other and none of them did both a questionnaire and an interview. Such technique gave an advantage of: Being unaffected by prior in-depth conversation about the subject matter, thereby ensuring the purity of quantitative data. Qualitative data were spontaneously generated. Participants were not overworked as only one form of data collection was carried out on each respondent. Data were collected within four months (January 2023-April 2023) in twelve public health clinics.

Two elements generated complementary knowledge, as quantitative data unveiled those trends that could be measured, and qualitative results enriched the knowledge by discussing the participants' stories. Equal value was given to the two strands, and their combination strengthened the foundation of evidence on the programme development in the second phase.

- **Phase two: Identification, conceptualisation and programme development.**

The second phase was the development of a self-care management programme based on a synthesised understanding of the quantitative and qualitative information, with the help of the related literature and theoretical frameworks.

- **The framework identification and conceptualisation.**

The conceptual framework articulation was an informer to the development of the programme. Three key components of a conceptual framework were highlighted, including goal content, the prescription of activities, and a survey list (Dickoff et al 1968:423). The activities included in the conceptual framework were based on quantitative and qualitative results, specifically suggestions and aspects that have been mentioned in data-collection tools and the academic literature. This led to the development of a conceptual framework of self-care management programme based on the practice-oriented theory by Dickoff et al (1968:423), including six elements: agent, recipient, context, method, dynamics, and endpoint. These aspects provided a conceptual framework for outlining the relationships between healthcare practitioners, patients, and environmental determinants of self-care.

- **Programme development**

Self-care management programme had clear objectives after the conceptual framework had been established. The programme will prepare the patient with the skills, knowledge, and resources needed to control his or her condition. It is assumed on the basis of an extensive knowledge of HPT, its complications, and the importance of lifestyle changes. The fundamental elements of the programme are HPT education, diet, medication compliance, and stress-management strategies. The role played by the healthcare providers in providing support in terms of follow-ups and monitoring is also highlighted in the programme.

The self-care management of self-care is the general aim of the self-care management programme because adult patients with HPT need to be empowered to become active

in self-care using behaviour change and self-efficacy to manage their disease at home. Besides, the programme aims at educating patients to carry out health-related activities in a manner that facilitates structural functional competence, and overall wellbeing (Orem 1985:84; George 2014:129). The programme development process consists of four detailed steps (Chinn & Kramer 2018:163; McEwin & Wills 2019:57).

Step 1: Concept analysis, identification and definition

Important themes, sub-themes, and other associated ideas derived from research findings and theories were determined and defined using theoretical and philosophical and operational definitions to provide accuracy as they would further be included in the programme. McEwin and Wills (2019:73) and Smith (2019:135) define a concept as a phenomenon that takes place in the world either physically or mentally, and which enables transfer of meaning about the world's reality. The basic themes from the data were expressed in major concepts that were necessary in the construction of the programmes.

Step 2: Development of interrelated statements

According to McEwin and Wills (2019:80), and Smith (2019:135), formulations of interrelated statements that explain the associations between concepts must be made. These statements could determine, forecast, interpret, or manage relevant phenomena.

Step 3: Programme evaluation

At the later stage the developed self-care management programme will be evaluated by the subject and research experts. The subsequent criteria will be used for evaluation as proposed by Chinn and Kramer (2018:199): clarity, simplicity, generality, accessibility, and importance. By the time of conducting this research, the programme was designed, but it had not been in the validation process. The proposed validation method will include specialist checks, pilot testing within the PHC facilities, and continuous improvements based on the feedback of healthcare professionals,

patients, and policymakers. Chapter 7 talks about the details of the developed programme.

Step 4: Development and description of guidelines for the operationalization of the programme

Guidelines were developed to operationalise the programme, even though not yet implemented. WHO (2015:2) defines guidelines as information products that are intended to help end-users make informed decisions regarding a clinical intervention and public health measures to ensure the achievement of optimum individual or collective health outcomes. Chapter 7 covers the proposed guidelines of operationalization of the self-care-manage programme for HPT.

3.4 RESEARCH SETTING

The study setting is the geographical, societal, and cultural context of the study implementation (Brink et al 2022:188). The current study took place in the Khomas Region of Namibia that covers the capital of the country, Windhoek. This area is given its name after Khomas Highland, which is a huge plateau that covers the administrative borders of the region. The region is mountainous with several valleys. Due to its location, the Khomas Region is the most densely populated with its population density of 16.2 per cent compared to all other 14 regions in Namibia; however, it covers only 4.5 per cent of the total land area in the country (Khomas Regional Council 2023:2). It is necessary to stress that this region is viewed as one of the economic centres, which increase its population density (MoHSS 2017:1).

The country of Namibia consists of fourteen administrative regions: Erongo, Hardap, Karas, Kavango East, Kavango West, Khomas, Kunene, Ohangwena, Omaheke, Omusati, Oshana, Oshikoto, Otjozondjupa and Zambezi. The country is categorised as an upper to middle income country by the World Bank and it is located in southwest Africa. Namibia is the fifth-largest country on the continent with an area of 824,292 km² in size. It borders Angola, Botswana, Zambia, South Africa and Atlantic Ocean (McIntyre 2015:35). Cultural diversity of Namibia leads to the nickname of the country as a rainbow nation due to heterogeneous population that is dispersed across fourteen

regions of the country (MoHSS 2017:1). NSA (2024:5) estimates that its population was about 3,022,401 in the year 2023.

The reason why this study was done in Khomas Region was because it ranks as the region with the highest prevalence of HPT (57%) among the rest of the fourteen regions (NSA 2020:44). The location is a perfect place to conduct research on HPT management due to its urban healthcare facilities, a wide range of patient demographics, and presence of both modern and traditional lifestyle factors that influence the management of chronic diseases. The load of PHC facilities and specialised services in the region offers convenient benefits to conduct research on the perception of nurses and their patient experience on HPT self-care management.

Moreover, Khomas Region is centrally located in the health system of Namibia, and it is a wide range of health facilities. The MoHSS (2022:12) estimates a large population density in the region and a strong healthcare infrastructure that is able to cater to both urban and peri-urban residents. These characteristics make Khomas a perfect place to study self-care management among the adult patients with a diagnosis of HPT.

HPT has become a growing health issue in Namibia especially in an urbanised environment like Windhoek. The lifestyle changes, shift in diet, physical inactivity, and the mental stress factors in urban environments have contributed to the increase in prevalence of non-communicable diseases such as HPT (WHO 2021:6). The current research was carried out in PHCs serving the population of the capital city of Windhoek (Khomas Region), and covers an area of 37,590km² (MoHSS 2020:2). Table 3.3 below summarises all the twelve PHC public facilities in Khomas Region. The existing literature did not find a map showing the Khomas Region and the PHC facilities.

Table 3.3: PHC Public Health Facilities in Khomas Region

PHC public health facilities	Geographically situated in Windhoek urban constituency	Geographically situated in Windhoek rural constituency	Number of facilities
Health Centres	1. Okuryangava		3
	2. Khomasdal		
	3. Katutura		
PHC Clinics	1.Maxuillili	1. Groot Aub	9
	2.Wanaheda,	2. Dordabis	
	3. Donkerhoek	3. BaumGart brunn	
	4. Robert Mugabe		
	5. Otjomuise		
	6. Hakahana		
Total number of PHC facilities included in this study			12

3.5 RESEARCH METHODS FOR QUANTITATIVE COMPONENT

The procedures or methods that are applicable in the research process. Research technique is a proposed course of action, which a researcher intends to follow and also includes steps of data collection, analysis, and interpreting of the data to be used in the study (Creswell & Creswell 2023:335). The subsequent research methods are discussed:

3.5.1 Population

The study was designed to provide the background to the research project, starting with a thorough description of the particular cohorts that were to be studied, which corresponds to the recommendations that are outlined by Creswell and Creswell (2023:158). It concentrated on PHC nurses and the HPT diagnosis of adults. The relevant and representativeness of the sample was achieved through the definition of the populations based on clear standards. PHC nurses were considered those who had served in their respective facilities in the Khomas Region for at least one year. On the other hand, the adult patients with HPT were identified with the number of years of treated history of no least one year recorded in the 2021 District Health Information System (DHIS).

The overall size of the population of nurses was also determined to help in a comprehensive appreciation of the sample frame. The research recorded 156 PHC nurses who were working in 12 health institutions in the Khomas Region, which are accessible to the public. The number of patients diagnosed with HPT was taken as 1,814, as per the DHIS records of 2021.

3.5.2 Sampling

Sampling is the procedure of picking out a few individuals to represent the entire population (Leavy 2022:291). Sampling strategies and sample sizes that were used in the study were:

3.5.2.1 *The sample size and method of sampling of PHC nurses.*

The sample size of the nurses of the PHC sector in each healthcare facility in Khomas Region was determined by a proportionate stratified sampling method. Strata consisted of the 12 PHC clinics and participants were distributed proportionately based on the number of nurses working in each PHC clinic. This resulted in larger facilities having more participants than smaller facilities and ensured that all facilities were represented in the study. The total sample size calculated by Krejcie and Morgan (1970:607) formula was then proportionately allocated across the 12 PHC facilities. For instance, Katutura Health Centre, the biggest nursing population with 42 nurses, had 31 participants, while the Baumgartsbrunn Clinic, with a nurses population of three, had two participants. The allocation was thus based on the size of each facility.

All qualified PHC nurses in each facility were obtained from a facility management as a sampling frame of the names of all registered qualified PHC nurses in each facility. From then on, Simple Random Sampling (SRS) as a probability sampling method was applied in each stratum to choose participants. All eligible nurses were given equal and independent opportunities for selection to participate in the study (Leavy 2022:291).

The study comprised registered and enrolled nurses who worked in the selected PHC facilities during the data collection period. PHC nurses who were on leave, away from work during the data gathering period, or unwilling to be part of the study were

excluded from the study. In the case where a selected nurse could not take part or refuse to participate in the study, another nurse was selected at random within the facility's sampling frame until sufficient numbers of PHC nurses were obtained.

The sample size determination was done by use of Krejcie and Morgan (1970:607) formula: $n = N * Z^2 * p * (1-p) / [(N-1) * e^2 + Z^2 * p * (1-p)]$. The values considered for this formula included; population size (N) of 156, confidence level of 95% (Z=1.96), 5% margin of error and 50% response distribution (p=0.5). Substituting the above values in the formula and doing the necessary calculations yielded a sample size of 112 participants. Complete formula and step-by step calculations (see Annexure T) The total sample size of the PHC nurses is shown in Table 3.4. below.

Table 3.4: The sample size of PHC nurses from each health facility

<i>PHC Facility</i>	<i>Registered Nurses</i>	<i>Enrolled Nurses</i>	<i>Total Population</i>	<i>Sample Size</i>
Orkuryangava HC	9	14	23	16
Khomasdal HC	9	10	19	14
Katutura HC	21	21	42	31
Maxuilili Clinic	5	7	12	8
Wanahaeda Clinic	5	5	10	7
Donkerhoek Clinic	5	6	11	8
Robert Mugabe Clinic	4	6	10	7
Otjomuise Clinic	5	5	10	7
Hakahana Clinic	6	3	9	7
Groot Aub Clinic	1	2	3	2
Dordabis Clinic	2	2	4	3
Baumgratbrunn Clinic	1	2	3	2
Total	73	83	156	112

The Krejcie and Morgan (1970:607) formula, which was used after rounding off to the nearest integer, gives a recommended sample size of 112 nurses (Table 3.4) (see Annexure T). The population of the registered and enrolled nurses in 12 major PHC units in the Khomas area was 156 and hence the selected sample is representative subset which can yield valid and generalisable results.

3.5.2.2 *Sampling method and sample size for adult patients diagnosed with HPT*

The adult participants with HPT diagnosis were obtained using non-probability consecutive sampling method. This involved sampling all target population who met the inclusion criteria and were available at the time of conducting research until the required number is achieved. The target population comprised of adult patients diagnosed with HPT and attending selected PHC facilities in the Khomas Region. Based on the 2021 District Health Information System (DHIS), total number of adult patients diagnosed with HPT was 1,814. The sample size was calculated based on Yamane's (1967: 886) formula at 95% confidence level and 5% margin of error for finite population. This was computed as follows: $n = N / (1 + N(e^2))$. Where: $N = 1,814$ (population size); $e = 0.05$ (margin of error); $n = 1814 / (1 + 1814(0.05^2)) = 1814 / (1 + 1814 \times 0.0025) = 1814 / (1 + 4.535) = 1814 / 5.535 = 327.85$

Fractions rounded to the nearest whole number: $n = 328$.

The overall sample size that was achieved was 328 (100 percent response rate).

All adult patients eligible for inclusion and diagnosis of HPT who visited the selected PHC facilities were approached sequentially, asked to participate in the study, and this process was repeated until the desired sample size was achieved.

Table 3.5 shows that the population and sample size of adult patients attending PHC facilities for HPT in the Khomas Region. These HPT patients were from various PHC facilities across the Khomas Region from January 2020 to January 2021.

Table 3.5: Population and sample size for adult patients diagnosed with HPT

PHC facilities (Strata)	Population (N) (HPT patients of Jan 20-Jan 21)	Sample Size (n)
Okuryangava HC	281	55
Khomasdal HC	323	77
Katutura HC	470	109
Maxuilili clinic	206	22
Wanahaeda clinic	16	4
Donkerhoek clinic	8	2
Robert Mugabe clinic	79	7
Otjomuise clinic	229	24
Hakahana clinic	31	10
Groot Aub clinic	163	16
Dordabis clinic	5	1
Baumgratbrunn clinic	3	1
Total	1814	328

3.5.2.3 *Inclusion criteria*

- **Adult patients diagnosed with HPT**

Adult patients who qualified for participation in the study had been suffering from HPT and were:

- 18 years old or more;
- diagnosed with HPT at least a year prior to data collection;
- taking anti-HPT medication from state pharmacies;
- residents in Namibia;
- able to read and write English language; and
- capable of giving an informed consent.

- **For PHC nurses**

Eligible PHC nurses in this case were:

- registered or enrolled nurses;
- aged 18 years or more;
- working in PHC facilities in the Khomas Region;
- at least one year of PHC practice experience; and
- be able to provide informed consent.

3.5.2.4 *Exclusion criteria*

Adults HPT patients who:

- were obviously too ill or tired to take part;
- had communication problems that would impede their ability to participate;
- were pregnant (due to different physiological blood pressure measurements).

PHC nurses:

- were assigned to work in the emergency room on days of data collection;
- on leave or absent for other reasons from the PHC facility during data collection

3.5.3 Data collection method

Data collection involves the methodical acquisition of observations or measurements that are susceptible to the research issue using approved measures and methods (Creswell & Creswell 2023:189). This part explains the real process of obtaining data from the predefined participants. The PHC nurses and adult patients with HPT in the twelve PHC settings of the Khomas Region were used as sources of data. The nurses working at PHC facilities during the time of data collection process were selected for this study. Adults with HPT diagnosis who visited the chosen PHC facilities for follow up visits during the period of data collection process were contacted consecutively and requested to participate in the study till the desired number of participants was achieved. The tools used by nurses and patients are discussed below.

3.5.3.1 *Development of a data collection instruments*

Data collection was in the form of closed-ended, structured self-administered questionnaires (Annexure G and H). Questionnaires were especially useful since they simplify the economical gathering of standardised data in large samples, as researchers have the opportunity to obtain both objective data and subjective views within a rather short period of time (Burns, Grove & Gray 2023:212). The quantitative data were in the form of multidimensional data, since the researcher was interested in establishing the condition of self-care management among PHC nurses and patients with HPT. The Likert-scale questions were included to measure the perception of

nurses and the knowledge, attitudes, and practices of patients in terms of HPT management (Brink et al 2022:159).

- **PHC nurse questionnaire**

Section A: Background information

This part gathered demographic and professional information of the involved PHC nurses. The participants were requested to give their age, sex, professional level, years of experience working at the PHC facility, their highest qualification, the level of the health facility, and marital status. Data were collected by a direct request; the questionnaire was filled in, and the nurses were required to put an X in the relevant boxes where the categorical items are found.

Section B: HPT perceptions of self-care management

This part evaluated the perception of self-care management of nurses in relation to HPT. The statements that were read by nurses related to patient education, lifestyle changes, medication compliance, and support. The levels of agreement were measured on a five-point Likert scale, with the value of 1 (strongly disagree) to 5 (strongly agree). The level of agreement was also indicated by marking an X in the corresponding box.

Section C: Self-care management care programme

Nurses were urged to respond to the statements regarding the HPT self-care management programme. PHC nurses answered questions regarding their support of the programme in different dimensions on a Likert scale of 4 that included various statements related to their perceived effectiveness, importance, patient empowerment, and medication adherence promotion, among others. Each statement had an X marked on the respective box.

Section D: Perceptions of the factors included in the self-care management programme

This part examined the perceptions of nurses concerning issues to be included in self-care management programmes for adult HPT patients. Nurses also graded their assent to the statements that pertained to the overview of HPT, medication adherence,

coping mechanisms, diet and physical activity, follow-up adherence and self-care support. The consensus was done on a five-point Likert scale; 1 = strongly disagree and 5 = strongly agree. An “X” was marked accordingly.

- **Adult patients with HPT questionnaire**

The questionnaire was generated based on theoretical notions as outlined in Bonnecewe (2012:115), Kearney and Fleisher (1979:26), Akhter (2010:71), and Nasresabetghadam, Jahanshahi, Fotokian, Nasiri and Hajiahmadi (2021:104) that are free to access online. It was made up of closed ended, structured and self-administered items in the English language, which is the official language of Namibia. The questionnaire was separated into five sections:

Section A: Background information

This section included the demographic and medical history information: age, gender, highest education level, level of health facility visited, and marital status. Participants provided the information by filling in the proper fields and marking an X in categorical items.

Section B: Self-care management knowledge for adults with HPT

The following segment tested participants' knowledge on self-management of HPT. The responses to this question were recorded as Yes = 1, No = 2, and I don't know = 3. The levels of knowledge included the following:

Scoring and classification: The responses were coded as Yes = 1, No = 2, I don't know = 3. To analyse it, the following levels of knowledge were considered:

Satisfactory knowledge: Participant responded correctly to all knowledge questions (Yes to correct, No or I don't know to incorrect as per clinical guidelines)

Partial knowledge: The participant gave 50-75% correct responses.

Lack of knowledge: Participant responded to less than half of the questions correctly. This classification was used throughout in all 328 patients' responses. The scoring rubric has been constructed on the basis of Namibia Standard Treatment Guidelines (MoHSS 2011:211) and was tested by two senior registered nurses and one medical doctor before the actual data collection.

Section C: Self-care management attitudes among patients with diagnosed HPT

The patients agreed with the statements regarding the self-care management of care programme. It was about engagement, behavioural responsibility and empowerment. The participants were required to indicate the level of agreement using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), by marking with an X.

Section D: self-care management practice for adults with HPT

The patients reported the degree of practising self-care activities. The statements concentrated on self-integration, self-regulation, relationships with health professionals and important persons, and compliance with prescribed regimens. The answers were noted on a five-point Likert scale, where 1 represented never did the behaviour and 5 represented that the behaviour did not apply to my life. The suitable box was marked by an X.

Section E: Perceptions of factors to be incorporated in self-care management programme in adults diagnosed with HPT

This part analysed the perception of patients on what should be included in self-care management programme. Aspects of HPT knowledge, medication compliance, coping skills, nutrition, exercise, follow-up adherence, and self-care management support were measured using a Likert scale.

3.5.3.2 Pre-testing of data collection instrument

A pre-test was performed according to Brink et al (2022:161) to reveal the weak aspects of the questionnaire, like vague wording, poor guidelines, and to determine the possible suitability of time frame needed to complete the questionnaire. Another feature of this pre-test is the measurement of the observability and measurability of the variables that were formulated in the operational definitions. Pre-test of the questionnaire took place in the Khomas area at outpatient department of Intermediate Katutura Hospital. Pre-testing was done twice. The first round consisted of ten nurses and ten adult patients who were not included in the main sample. Results have shown that the instruments should be reorganised to achieve improved internal consistency. The second round occurred later and included thirteen nurses and nine adult patients before some further clarifications and additions were applied.

- **Questionnaire results for PHC nurses**

The alpha of Cronbach was 0.70, which is satisfactory internal consistency (values of 0.7 to 0.8 are usually regarded to be good). The coefficient was placed in the scenario of the construct being measured and the sample size.

- **Questionnaire results for HPT patients**

The alpha of Cronbach was around 0.83, which is acceptable. Although alpha is a significant measure, further reliability tests were suggested to support internal consistency.

3.5.4 Main data collection and management process

Approval of the study was granted by the Research and Ethics Committee of the Department of Health Studies at the University of South Africa and also by the Ministry of Health, Social Services and Khomas health director. The COVID-19 guidelines were social-distancing measures of two meters, wearing masks, using hand sanitiser with 70% alcohol, and the implementation of the UNISA (2020) guidelines on COVID-19.

In each PHC, there was a private room that was locked to administer questionnaires. The purpose of the study was explained to the participants, and informed consent was obtained before they filled in the self-administered questionnaires. The process was supervised by researchers, and instructions were clear, as well as data integrity. The use of a patient health passport was taken as an indicator of previous participation in similar studies.

The patient health passport was utilised to confirm the time of HPT diagnosis (at least 12 months according to the inclusion criteria) and to ensure that the patient was not participating in any other simultaneous research on HPT management that could affect the answers. No patients who had already undergone such studies before were eliminated out of the health passport since no other such study had been done within the Khomas Region. The verification process was carried out consistently to all possible participants.

3.5.5 Data analysis

The data were entered, cleaned and coded and compared with anomalies and later analysed using SPSS version 27. The filled in questionnaires were coded manually by providing each with a distinct identifier and then, these were keyed into SPSS. Data cleaning involved:

- Missing values (None found; response rate 100)
- Assuring that the values were not outside acceptable limits.
- Checking none found duplicates of entries.
- Confirming the right skips patterns were employed.

Descriptive statistics like range, standard deviation, mean, median and mode were used to do each part of the questionnaire. The central aims covered by these analyses included measuring knowledge, attitudes, and practice of self-care management among adult HPT patients, and the perception of PHC nurses about the same.

Chi-square tests were conducted to test the hypothesis that a self-care management programme that encourages patient empowerment does not lower the prevalence of HPT. Statistical inference was also used to project the results of the sample to a general population (Schmidt & Brown 2021:392). To have validity and properly interpret the results a statistician was consulted.

3.5.6 Validity and reliability

The validity, reliability of a mixed-methods study must be ensured through the good quality of data collection and analysis. Rigour was used in this research study containing HPT management of adult patients in Khomas region in Namibia to improve credibility of findings by using different strategies.

- ***Validity of data collection instrument***

The instrument validity is a factor that ensures that a tool measures what it is supposed to measure (Brink et al 2022:165). Face and content validity were both taken care of in this research to ascertain the suitability and sufficiency of the data collection tools.

- **Face validity:**

Is a degree to which an instrument is, according to the facade, able to measure the construct of interest (Brink et al 2022:166). The research supervisor and a statistician reviewed the questionnaires created on PHC nurses and adult patients diagnosed with HPT and made sure the questions were relevant and easy to understand. The instruments were conceptually acceptable as their evaluation was done by experts.

- **Content validity:**

Content validity was determined to make sure that the instruments were comprehensive in all aspects of the HPT self-care management. The questionnaires contained questions that covered knowledge, attitudes and practices of the adult patients diagnosed with HPT and the perceptions of PHC nurses about self-care management. In developing the instruments, expert input was sought with the research supervisor, statistician, senior registered nurses, and a medical doctor. Moreover, inclusion of the appropriate areas of content was also informed by Namibia standard treatment guidelines (MoHSS 2011:211) as well as the self-care theory by Orem (Figure 1.1).

The instruments were pre-tested twice to narrow down on relevant and clear items. The ten PHC nurses and ten adult patients were involved in the first round and thirteen nurses, and nine adult patients were involved in the second round, and they were not part of the main study population. The results of these pre-tests were used to make appropriate modifications prior to the main study and hence build on the validity of the instruments.

- **Reliability of data collection instrument**

Reliability is the consistent or rather stable nature of a measurement tool in generating similar results in similar conditions (Polit and Beck 2021:293). The internal consistency reliability was also tested with the help of Cronbachs alpha (α) that evaluates the level of interdependence of items within a scale (Brink et al 2022:169).

After collecting the data, Cronbachs alpha coefficients of the various sections in the questionnaires of nurses and adult patients were determined. Alpha accounts of 0.70 to 0.90 are usually regarded as acceptable to excellent and even higher values depict

excellent internal consistency (Creswell & Plano Clark 2018:201). The alpha coefficients of 0.70 and 0.83 obtained with nurses and patients, respectively, attested to satisfactory internal consistency. Evaluation of reliability was conducted in a systematic order: items that symbolise the target construct have been selected, given to the participants, and inter-item correlations have been computed; scale length has been considered. Discipline-specific benchmarks were used to interpret alpha values because it was realised that a value of above 0.8 is desirable in making critical decisions. Tables 3.6 and 3.7 below present the Cronbach's alpha values.

-Cronbach's Alpha values for each nurse's questionnaire

Tables 3.6 and 3.7 provide the values of the Cronbach alpha of the questionnaire of nurses and patients, respectively, indicating a high level of internal consistency (0.78-0.85 each over all the sections assessing the perception of and practices associated with self-care management of HPT).

Table 3.6: Cronbach's Alpha values for each nurse's questionnaire

Theme	Cronbach's Alpha Value
A: Nurse's role in HPT management	0.78
B: Self-care management programme	0.82
C: Perceptions of the self-care management programme	0.81

-Cronbach's Alpha values for each adult patients' questionnaire

Table 3.6 shows internal consistency reliability of the adult patient questionnaire, where Cronbachs alpha values of 0.79 to 0.85 are good and excellent indicators of reliability in measuring perceptions of HPT self-care management.

Table 3.7: Cronbach's Alpha Values for Each Adult Patients' Questionnaire

Theme	Cronbach's Alpha Value
Theme A: Nursing agency	0.85
Theme B: Self-care management programme	0.79
Theme C: Perceptions of the factors for the self-care management programme	0.83

3.6 RESEARCH METHODS OF THE QUALITATIVE COMPONENT

This section outlines the qualitative aspect of the research, which includes the identification of the target population, sampling methods, as well as data collection strategies to examine the perceptions of PHC nurses and the life experiences of adult patients diagnosed with HPT.

3.6.1 Population

In line with the quantitative part, the qualitative part entailed two separate study populations: 156 nurses who work in 12 PHCs in the Khomas Region, which are publicly funded, and 1,814 patients with the diagnosis of HPT registered in a 2021 District Health Information System regarding the Khomas Region.

3.6.2 Sampling

The study used a non-probability sampling procedure to make an appropriate selection of participants in the qualitative aspect. Specifics of the sampling technique and size are detailed below.

3.6.2.1 *Sampling method and size*

To achieve this, purposive sampling, which is a non-probability sampling method, was applied to select PHC nurses in the target population of all 12 public PHC facilities in Khomas region. This method guaranteed sufficient representation of PHC nurses across all the facilities, regardless of the different number of nurses in each site, hence enabling the researcher to have all-around data in facilities with few nurses and further get insights and perceptions of all institutions.

Another non-probability strategy is convenience sampling, which was used to choose adult patients diagnosed with HPT among the entire population. The methodology was adopted because patients do not make appointments to PHC facilities regularly, and thus, this made it possible to include individuals who were readily available at the time of data collection. The sampling plan was informed by the fact that it was necessary

to represent PHC nurses of different institutions and to include patients who received HPT diagnosis and were accessible at the time of data collection.

The same study population as that of the quantitative part (see tables 3.4 and 3.6) was used as a sample, including PHC nurses and adult patients who had HPT diagnosis (Taherdoost 2022:5). As per the qualitative research requirements, data collection continued until the data saturation showed the final sample size. When no new themes, categories, and subcategories were identified from three consecutive interviews, it was concluded that data saturation had occurred. New data was analysed as it was collected, allowing for comparison and determination of whether new information was available or was repetitive with previous data collection. Interviewing took place until no new information could be gathered. A total of 12 adult patients diagnosed with HPT and 16 PHC nurses were interviewed.

3.6.2.2 *Inclusion criteria*

The participants comprised registered and enrolled nurses who worked in PHC facilities in the Khomas Region and were aged 18 years and above and had one year of professional experience. Nurses who were available during the data collection process and who volunteered to take part were included. The rationale behind this inclusion criterion was the fact that there are two categories of nurses that are employed at PHC facilities.

Also, the patients included in the study were adults (18 years or older), were diagnosed with HPT at least 12 months prior, were literate in English, and had made follow-up visits for HPT, or had visited the pharmacy to receive anti HPT medication. Patients who were residents of Namibia and had given informed consent were only included.

3.6.2.3 *Exclusion criteria*

The research excluded PHC nurses who were assigned to emergency department duties during the data collection period or who were absent from the PHC facility during data collection.

3.6.3 Method and approach of data collection

The research study took a qualitative exploratory approach and mainly used individual semi-structured interviews to draw in-depth information of PHC nurses and adult patients with HPT. The face-to-face interviews were used to give in-depth information on perceptions of nurses and lived experiences of adults with HPT on self-care management in the 12 PHCs within the Khomas district (Tilly 2022:85). Additional information was obtained by reviewing patients' health passports to confirm and support the findings of the interview.

All interviews had a semi-structured guide that was participant specific. The body language, tone, and facial expressions, which were observed with the help of interviews, offered some background to verbal reactions (Holloway & Galvin 2023:91). Flexibility of face-to-face interviews was possible due to the personalised questioning, adapting itself to the unique perceptions and experience of each participant (Braun & Clarke 2022:128). A voice recorder and notebook were used to record data. Each interview took an average of 55 minutes. The next part explains how the research instruments were developed. Additional information was obtained by reviewing patients' health passports to confirm and support the findings of the interview.

3.6.3.1 Construction of the data collection tool

The interview process was done using English language since English is the official language of Namibia, and it is used in schools and health institutions as the mode of communication. To overcome any issues arising from the language used during data collection, research involved the use of participants that could read, write, and communicate in English, as stated in the inclusion criteria. As a result, there was no need for translation in the interviewing process. It was important to minimise the chances of translation mistakes during the interview. Despite being a challenge in patient-health care provider communication at PHC facility, language barriers did not hinder participants in the study.

The use of an interview guide (Annexures I and J) helped ensure that there are similarities in all the interviews while still affording the researcher the option of probing. The interview guide included the following items:

- Brief background and explanation about the aim of the research

- Demographic questions
- The most critical open-ended questions (not structured questionnaire)
- Inquiry questions for getting more clarity regarding responses

The interview guide was semi-structured, meaning that the questions could be asked in open manner, the order of questions may be changed according to the conversation, and interviewer had freedom to go deeper where required according to the guide.

• **PHC nurses interview guide**

Interview guide PHC nurses (Annexure H) was initiated with an introduction and orientation to the purpose of the research, the idea of developing a self-care management programme that would empower the adult patients in the Khomas Region to manage HPT at home. The guide emphasised on the voluntary aspect of participation where the participants were assured that there would be no punishment or losses in refusing to participate but they could withdraw at any point without giving any excuse. The participants were notified about the use of a tape-recorder and note taking during the interview and the length of the interview was informed with the assurance that no personal information would be shared.

After the orientation, the guide gathered demographic data such as age bracket, gender, years of working experience, and nurse category to put in perspective. The main centre of interest was the perception of PHC nurses on self-care management on HPT in their workplace. The probing questions helped to explore further the factors affecting self-care management, what are some of the challenges/barriers experienced and how these can be solved. It was also requested that the participants suggest activities that needed to be included in the self-care management programme.

• **Interview guide of the adult patients with HPT**

Adult patient interview guide (Annexure I) used with patients diagnosed with HPT also started with the introduction and orientation of the purpose of the study and voluntariness. The participants were assured that there would be no penalties in case they did not participate and could withdraw without any reason. Participants were informed on audio recording and taking notes, as well as expected time, which was on

the order of 55 to 60 minutes, and assurances that no personal information was going to be shared with the researcher.

Thereafter, demographic information was gathered including age group, gender and length of HPT diagnosis to put responses into perspective. The participants were asked to talk about their experiences and challenges in managing self-care of HPT at home, possible solutions, and activities involved in a self-care programme and were encouraged to make more recommendations according to their experiences.

3.6.3.2 *Face-to-face individual interview process*

The research excluded PHC nurses who were assigned to emergency department duties during the data collection period or who were absent from the PHC facility during data collection. All 12 PHC facilities were registered in terms of ethical clearances and permission letters before the interviews. The researcher built a trusting and rapport-building relationship with the registered nurse in charge of each facility to obtain the contacts of the nurses and arrange interviews at a convenient time. The interviews were sustained until no new information could be gathered. There were 12 and 16 interviews with HPT patients and PHC nurses, respectively. The participants were grateful to spend their time and participate actively.

3.6.4 Data analysis

Objectives 3 and 4 were analysed using thematic analysis that was supported by NVivo version 20.2 and explored the experiences of adult patients and how PHC nurses perceived self-care management of HPT. The analysis followed the six-phase process of thematic analysis outlined by Braun and Clarke (2021:43). Such a combination gave a systematic but adaptable method of identification, analysis and interpretation of patterns of meaning in qualitative data.

An independent coder assisted with the analysis to enhance trustworthiness, credibility, and confirmability. The coder read, coded, and categorised the interview transcripts and field notes to capture the lived experiences of adult patients diagnosed with HPT and the perceptions of PHC nurses. NVivo software enabled effective management, coding, and retrieval of data during the process of analysis.

The analysis proceeded through the six recursive phases of thematic analysis (Braun & Clarke 2021:43):

Phase 1: Familiarisation to the data

Verbatim transcription was done of all interviews. The researcher and independent coder repeatedly read the transcripts and reviewed field notes to gain an in-depth understanding of participants' experiences. Primary concepts and possible codes were recorded, which indicated being absorbed in the data (Braun & Clarke 2021:43).

Phase 2: Generating initial codes

Researcher systematically coded meaningful features of the data that were relevant to the research objectives. Coding was performed manually and assisted by NVivo 20.2. Each code represented an essential concept, experience, or perception related to self-care management of HPT (Braun & Clarke 2021:44).

Phase 3: Searching for themes

The researcher examined the codes and collated them into potential themes. Similar patterns in the meanings shared among the participants were found in their narratives of experiences and thoughts about HPT self-care (Braun & Clarke 2021:44).

Phase 4: Reviewing themes

Refinement and review of the themes were done to make sure that they reflected well the coded extracts and the entire dataset. Some themes were merged or redefined where necessary to ensure internal coherence and distinctiveness (Braun & Clarke 2021:45).

Phase 5: Defining and naming themes

The themes were well-defined and labelled to depict their main meaning. Subthemes were created where appropriate to provide a more nuanced understanding of the participants' perspectives (Braun & Clarke 2021:45).

Phase 6: Producing the report

The researcher synthesised thematic results into a coherent and compelling narrative that demonstrated depth and complexity of the accounts of the participants. Word to word quotes were provided to support the interpretation and emphasise the original voices of the participants (Braun & Clarke 2021:46). After the thematic analysis, quantitative and qualitative outcomes were merged. The triangulation process allowed the researcher to compare and contrast the findings of both components and determine convergences, divergences, and complementary information. The combined findings guided the design of a self-care management programme to empower adult patients with HPT in the PHC setting.

3.6.5 Trustworthiness

Lincoln and Guba (1985:290) have described trustworthiness in qualitative research as credibility, dependability, transferability and confirmability. Credibility refers to the extent of findings reflecting the phenomenon as in quantitative research with validity. Dependability describes the quality of data collection and analysis, as well as the quality of the formulation of the conclusions (Hall & Roussel 2020:59). Transferability raises the question of to what extent the results can be generalised to other similar cases or new situations (Schmidt & Brown 2021: 433). Confirmability tests the level of support of the findings by the data and makes sure that the interpretations are not biased by the researcher (Lincoln & Guba 1985:290). To achieve a qualitative standard of data quality, this study used trustworthiness model as postulated by Lincoln and Guba (1985: 290) in Table 3.8.

3.6.6 Reflexivity Statement

The researcher has prior knowledge of the research setting and a few of the participants (PHC nurses) because they have been supervised by the researcher as a nurse educator in PHC facilities in the Khomas Region. In order to counteract potential bias, the researcher kept an audit trail throughout the process of data collection and analysis and recorded personal assumptions and responses.

The researcher clearly indicated herself as a PhD-student to the participants and reassured them that there were no 'right' or 'wrong' answers and that her professional relationship would not be impacted. The researcher participated in the patient interview, but not their clinical care, and interviews were conducted away from the clinical setting to reduce the sense of a power imbalance. The reflexive journal entries were examined on a regular basis to highlight any possible bias and the independent coder was requested to question any interpretations that seemed to be more about the researcher's voice than the voice of the participants.

Table 3.8: Model of trustworthiness (Lincoln and Guba 1985:290)

Strategy	Application
Credibility/ Truth value	▪ The researcher combined data collection techniques, such as interviews and field notes to ensure study findings were credible. ▪ Member checking was performed by clarifying questions, repeating conclusions and confirming with the participants. ▪ Observing non-verbal cues of participants during interviews.
Transferability/ Applicability	▪ The researcher utilised the quantitative and qualitative MMRD, thus enhancing triangulation. ▪ Dense description to show that the study findings were applied to other contexts, circumstances, and similar situations.
Dependability /Consistency	▪ The researcher used audit trail in order to highlight every step of data analysis, ensuring that the study findings were accurately portraying participants responses.
Confirmability /Neutrality	▪ The researcher obtained informed consent for all participants ▪ To ensure confirmability, participants were allowed to ask questions. ▪ Neutrality was ensured by triangulation of multiple ▪ Methods and data sources.

3.7 ETHICAL CONSIDERATIONS

Human rights, dignity and well-being of the research participants were preserved and honoured in this study. On the other hand, honesty and integrity in the process of conducting research, duties of the researcher, distributing and using data, reporting results honestly, and conflict of interest were also considered (Brink et al 2022:28). All ethical provisions in the research ethics guidelines policy of UNISA were adhered to

(UNISA 2013:9). Research ethics as the following were considered. The study was allowed to be conducted as it is warranted by a valid reason.

The researcher had to seek ethical approval to perform the study by initially seeking approval at the University of South Africa (UNISA), Research and Ethics Committee, Department of Health Studies in South Africa. Subsequently, the national and regional gatekeepers in Namibia at the Ministry of Health and Social Services (MoHSS) through office of the Executive Director and the Khomas Regional Health Director were contacted to allow data collection from PHC nurses and the adult patients. The ethical clearance letter issued by the UNISA is attached as Annexure A. The letter seeking consent from the MoHSS, Namibia Annexure B. A letter of approval from the Executive Director's office of the MoHSS is attached as Annexure C. The office of the MoHSS and the Khomas area director granted their approval letter to the collection of data among adult patients through HPT and PHC nurses (Annexure D).

3.7.1 The rights of the participants are ensured

Before collecting the data, ethical approval was taken, and protocols were adopted to protect autonomy, privacy, safety and rights. These measures were autonomy and informed consent, respect for person, privacy and confidentiality, justice, beneficence and non-maleficence.

3.7.1.1 *Autonomy and informed consent*

There were different forms created for the participants and data collection methods used. This means that different forms were created for PHC nurses who had completed questionnaires and those who had participated in interviews, while the same applies to adults with HPT who were either involved in questionnaire completion or interviews. This was done to ensure that the information conveyed to participants is relevant to their mode of participation and data collection process. Qualified participants were given an information letter (Annexure E1 or E2) about the research study, its objectives, purpose. Moreover, information sheet (Annexure E1 & E2) clearly explained that refusal or withdrawal would not impact on clinical care for the patients or employment for the PHC nurses. The fact sheet was created using the official language of Namibia, which is English and was easy to comprehend. The participants

had enough time to read and understand and pose questions where they did not understand. The researcher explained the study to each participant verbally and informed about the right to withdraw without any consequences before giving the written consent (see Annexure F1, F2, F3, F4). This consent process took place in a private room to provide the participants with an opportunity to make voluntary choices regarding their participation in the study without feeling coerced or pressured by anyone else in the PHC facility.

3.7.1.2 *Respect for persons*

The participants were notified that they could participate in the study voluntarily and could leave it at any time. The participants were allowed to participate in the study at their own free will, and their opinions were taken seriously. All of the participants were not forced or financially rewarded to participate in case they did not want to (Brink et al 2022:35).

3.7.1.3 *Privacy and confidentiality*

The privacy of the information provided by the participants was guaranteed: to ensure anonymity, questionnaires were labelled with numbers in order to hide particular names. Besides, in interviews, the participants were not asked to give their names. The participants were made aware that the consent form, which is safe in an area, was the only record with their names. To have the correct data transcription, the researchers ensured that the participants were willing to be interviewed using an audio recorder. The passwords of the soft copies of the study were encrypted. The information about the participants was stored in a safe location in the form of completed questionnaires, audio tapes, and soft-copy files. The information regarding the participants was disclosed to the pertinent persons, including those of the research ethics review committee, transcriber, external coder, statistician, and the members of the research ethics review committee. The statistician and the external coder signed a confidentiality agreement form, which was sent to the College of Health Sciences at UNISA research and ethics committee to be reviewed.

3.7.1.4 *Justice*

The selection of participants was done in a manner that was fair and free from discrimination. There was an equal chance of selection of all PHC nurses the sampling frame, as stated in section 3.5.2.1. Consecutive non-probability sampling was employed in recruiting adult patients with HPT who reached the inclusion criteria and visited the selected health institutions within the data collection period, as indicated in Section 3.5.2.2. Consecutive non-probability sampling method was used since the patients were visiting the selected hospitals without scheduled appointments; thus, simple random sampling could have not been appropriate in this case.

Consequently, all available participants who were eligible during the time of data collection were recruited into the study individually up until targeted sample size was attained. All participants received treatment as equals, regardless of their age, race, or socioeconomic background (Brink et al 2022:35). This approach helped eliminate the element of bias since all available eligible participants were included in sampling process. Various types of cultural and other human differences were taken into consideration during the process of recruiting and collecting data from the samples. Participants had the chance to refuse participation without any threat or coercion

3.7.1.5 *Beneficence*

Researcher also ensured the welfare of participants in conformity with the principle of beneficence (Brink et al 2022:35). The findings and recommendations of the study, together with self-care management programme of HPT, were communicated and disseminated to the authorities of PHC-Khomas region.

3.7.1.6 *Non-maleficence*

- **For adult patients**

It is acknowledged that there existed an inherent power difference between the healthcare provider (nurse educator as a researcher) and the patient. In order to reduce the possibility of coercion, patients were informed that their involvement or lack thereof in the research had no impact on their treatment. Data collection was done privately and not in the clinical consulting areas. It was also made clear to patients that

they could withdraw from the study anytime they were pleased without having their treatment or further follow-up visits affected.

- **For PHC nurses**

Vulnerability in terms of work-related vulnerability was recognised by the researcher since the nurses may feel that they have to be a part of the study due to the hierarchy in nursing profession. In order to prevent vulnerability in this aspect:

- PHC nurses were informed that participation was strictly voluntary, that non-participation will neither be reported to the supervisor nor impact the performance appraisal.
- Interviews were scheduled at their convenient time during break or after working hours when possible.
- All responses provided were anonymised and could not be linked back to specific PHC nurses.

For all groups, no sensitive or personal information that might create distress was involved. Bribes or inducements were not used by the researcher (Brink et al 2022:36).

3.7.2 Scientific integrity

The researcher also showed respect to the scientific community by maintaining the validity and integrity of all information (Brink et al 2022:36). All knowledge applied in the research was referenced and credited appropriately. In this research study, all the work was done by the researcher. Scientific integrity was followed according to the following standards:

- The researcher has not fabricated any information in this study.
- The data used to present the results is a real representation of the data used.
- The study adhered to the research design and methods as presented and put in context in this study.
- Source recognition was done to avoid plagiarism in all the sources used in this study.

3.8 SUMMARY

This chapter outlined the research design, methodology, quality of data and ethical issues. Chapter 4 is about the analysis and presentation of the quantitative data. This discussion covers the main research purpose in terms of HPT self-care management perception of PHC nurses and adult patients in the Khomas area, providing both visual and descriptive representations of the main patterns, connections of the research.

CHAPTER 4

DATA ANALYSIS, PRESENTATION AND DESCRIPTION OF THE QUANTITATIVE RESEARCH FINDINGS

4.1 INTRODUCTION

The previous Chapter 3 discussed research design and methodology. This Chapter 4 presents the quantitative results of the convergent parallel MMRD. The chapter is organised based on the precise objectives, which were to:

- 1.) Identify and describe the knowledge, attitudes, and practice for adult patients diagnosed with HPT.
- 2.) Measure perceptions of PHC nurses regarding self-care management for adult patients diagnosed with HPT.

The objectives helped to achieve the main goal of the study, which was to develop a self-care management programme to empower adult patients diagnosed with HPT in order to control the disease while at home.

4.2 MANAGEMENT AND ANALYSIS OF DATA

Descriptive statistics were used for estimating variance using range and standard deviation, as well as measures of central tendency using mean, median, and mode. For inferential statistics, chi-square tests were conducted to ascertain whether relationships identified between variables in the sample existed in reality in the population. Results can be generalised from the sample to the population because of the use of probability sampling method (refer to 3.5.2). However, results are generalised only to Khomas regional PHC and not to the entire population from where the sample came. If a result is statistically significant ($p < 0.05$), then this indicates that there is an insignificant probability that the difference occurred by chance given the sample and type of study being conducted.

The study included 328 adult HPT patients and 112 PHC nurses as samples. The above two groups constitute the two populations from where data was collected. In terms of the study design, it did not involve any dependent or independent variables since the method used in collecting quantitative data was mainly descriptive. However,

when conducting inferential analysis, there were both dependent and independent variables, and they are indicated in the analysis. Data collection entailed data entry, cleaning and coding. There were no missing data since 100% response was achieved. It was checked for errors such as inconsistencies, but there were none. Data were analysed using SPSS version 27.

4.3 PHC NURSES QUANTITATIVE RESULTS

This part provides the findings of the quantitative analysis associated with the perception of PHC nurses regarding managing patient self-care in case of HPT. Associations between nurse characteristics and their reported practices were investigated with the help of descriptive and inferential statistics.

4.3.1 Response rate of nurses

In this section, the researcher describes the response rate of PHC nurses who responded to the research questionnaires. Complete response rate enhances the quality of data and ensures improvements that the findings are a true representation of the targeted population. According to Table 4.1, the 112 nurses who attended the survey (both enrolled and registered nurses) responded to the questionnaire, which resulted in a response rate of 100 percent.

Table 4.1: Nurses' Response Rate (n=112)

Response rate	Targeted sample	Obtained sample	Percentage (%)
Enrolled nurses	37	37	100%
Registered nurses	75	75	100%
Total	112	112	100%

The 100 percent response rate indicates full participation of the participants, and, therefore, reduces the chances of non-response bias and, hence, increases the accuracy of the received findings.

4.3.2 PHC nurses' demographic and professional characteristics

Knowledge of the demographic and professional features of the sample is the key contextual information of the interpretation of the results.

4.3.2.1 *Age of PHC nurses*

In this subsection, the age distribution of the involved PHC nurses is outlined and its applicability to HPT self-care behaviours is assessed. Age is a critical determinant that determines clinical experience and attitudes towards dealing with patients. The results also assist in the evaluation of the sample representativeness with the rest of the nursing workforce.

Table 4.2: PHC Nurses' Age (n=112)

Age Group	Frequency (n)	Percentage (%)
18-25	25	22.22%
26-35	42	37.78%
36-45	25	22.22%
46+	20	17.78%
Total	112	100%

The age structure of 112 PHC nurses depicts the variety of occupations of nurses in different phases of careers. The workforce is divided into four age brackets including: 18-25, 26-35, 36-45, and 46. The age group of 26-35 years has the highest number of 42 people (37.78 per cent of the sample). Even the 18-25 years age group has a large number of 25 nurses (22.22%). The same proportion is reflected on the 36-45 years category, with 25 persons in it, and the 46+ years category with 20 nurses (17.78%).

4.3.2.2 *PHC nurses' gender (n = 112)*

This section introduces gender distribution of the participating nurses and how this might have implications on differences in self-care education practices.

Table 4.3: Gender of PHC Nurses

Gender	Frequency (n)	Percentage (%)
Male	30	26.67%
Female	82	73.33%
Total	112	100%

The statistics indicate a very strong gender imbalance as the majority of the nurses at the clinical site are female (82 individuals, 73.33% of the total). Male nurses constitute 26.67 (n=30) per cent.

4.3.2.3 *Professional ranks of nurses*

This segment describes how PHC nurses are distributed in terms of professional rank and discuss how a rank can affect methods of managing HPT self-care.

Table 4.4: Nurses' Professional Rank (n=112)

Professional Rank	Frequency (n)	Percentage (%)
Enrolled Nurse	37	33.33%
Registered Nurse	75	66.67%
Total	112	100%

Out of the 112 sampled nurses, 33.33% (n=37) were enrolled nurses, and 66.67% (n=75) were registered nurses.

4.3.2.4 *Years of experience working in a PHC facility*

This subsection examines the years of service of nurses in the PHC facilities, and the level of experience has the potential consequences on self-care management practices as applied to HPT.

Table 4.5: Nurses Years of Experience in PHC Facility (n=112)

Years of Experience	Frequency	Percentage
1-4 years	67	60.00%
5-10 years	28	24.44%
11-15 years	10	8.89%
16-20 years	3	2.22%
21 years and above	4	4.44%
Total	112	100%

The results show that the workforce is dominated by junior employees, with 60.00 percent of nurses recording 1-4 years of experience. Individuals between 5 and 10 years make 24.44'teenth of the total (n= 28), and 8.89% and 4.44 each have 11-15 and 16-20 years respectively.

4.3.2.5 *Highest qualification*

The subsection takes a closer look at the educational qualification of the sampled nurses and how the qualification can impact self-care management practices. Advanced qualifications are often linked to increased knowledge, decision making and quality care.

Table 4.6: Nurses' Highest Qualification (n=112)

Highest Qualification	Frequency (n)	Percentage (%)
Certificate in Nursing	25	22.22%
Diploma in Nursing	28	24.44%
Degree in Nursing	49	42.22%
Other Qualifications	10	11.11%
Total	112	100%

The sample constitutes of 42.22 percent (n=49) of the nursing workforce that is mainly comprised of degree holders. Diploma, certificate, and other qualification holders consist of 24.44% (n = 28), 22.22% (n = 25) and 11.11% (n = 10), respectively, which demonstrates a compromise between basic education and advanced training.

The additional qualifications acquired by these nurses besides the first qualification in nursing include a health promotion diploma, clinical diagnosis and treatment diploma (n=4), post-graduation qualification in public health (n=4), and non-communicable diseases certificate from through continuing professional development (n=2). The acquisition of these additional qualifications was through the University of Namibia and international online institutions.

4.3.2.6 *The level of health facilities*

This part of the report shows the distribution of nurses in PHC facilities levels, which determines the management strategies, range of services provided, and self-care management practices to patients with HPT.

Table 4.7: Level of the Health Facilities (n=112)

PHC facility level	Frequency (n)	Percentage (%)
Clinic	54	48.89%
Health Centre	58	51.11%
Total	112	100%

The data show the equal distribution of the nurses, 48.89% (n=54) of nurses work in clinics and 51.11% (n=58) in health centres.

4.3.3 Self-care management perceptions for HPT

This part explains how PHC nurses perceive self-care management in HPT control, patient education practice and their perceived responsibilities in chronic disease management and discusses barriers, enablers and educational requirements.

Table 4.8: PHC nurses' perceptions regarding self-care management for HPT (n=112)

Perceptions of self - management for HPT	Mean (M)	Standard Deviation (SD)	t-value (t)	p-value (p)
Nurses are explaining what HPT is to the patients	4.11	0.88	5.89	< 0.001
Nurses are clearly explaining the complications of HPT to the patients	4.44	0.69	12.51	< 0.001
Nurses are considering self-care management as a solution to managing HPT	4.33	0.93	8.49	< 0.001
Nurses are playing a role in self-care management for an adult patient diagnosed with HPT	4.00	0.81	2.20	0.041
Nurses are considering the importance of explaining BP measurement guidelines to patients and how to follow them	3.77	0.77	-6.01	< 0.001
Nurses are encouraging patients to be involved in the management of their HPT	4.11	0.88	5.89	< 0.001
Nurses are alerting the patients to avoid salty and processed food as to manage HPT	4.66	0.74	15.47	< 0.001
Nurses are informing patients the implication of high sodium intake in their diet as to manage HPT	4.55	0.82	13.31	< 0.001
Nurses are educating patients on the importance of taking their medication on a daily basis as prescribed	4.33	0.77	8.49	< 0.001
Nurses are telling patients to keep their doctor's appointment regularly	4.00	0.81	2.20	0.041
Nurses are reminding patients to exercise regularly and monitor their weight in managing HPT	4.11	0.88	5.89	< 0.001
Nurses are making sure that patients need to be informed about the balanced diet in managing HPT	3.55	0.84	-9.08	< 0.001
Nurses are applying body mass index checkup every time when a patient comes for HPT follow-up	3.77	0.77	-6.01	<0.001

Perceptions of self - management for HPT	Mean (M)	Standard Deviation (SD)	t-value (t)	p-value (p)
Nurses are assessing patient's needs for any side effects of anti-HPT medication	3.77	0.77	-6.01	< 0.001
Nurses are informing patients about the importance of a support system in self-care management for HPT	4.44	0.69	12.51	< 0.001
Nurses are allowing patients to say out their concerns	4.44	0.69	12.51	< 0.001
Nurses are discussing the importance of stress management with the patients	4.44	0.69	12.51	< 0.001
Nurses are explaining the signs of HPT to the patients	4.44	0.69	12.51	< 0.001
Nurses are encouraging patients to buy a BP machine in an effort to manage HPT	3.77	0.77	-6.01	< 0.001
Nurses are showing patients how to use a BP machine	3.55	0.84	-9.08	< 0.001
Nurses are encouraging self-care activities related to lifestyle modification that can prevent uncontrollable HPT	4.44	0.69	12.51	< 0.001

*A p-value <0.05 means that it is statistically significant and a p-value ≥ 0.05 means that it is not statistically significant.

In the one-sample t-test, the neutral value adopted was the midpoint of the Likert scale that ranged from 1 to 5 (3.0). In the case of positive t-values, it means that the mean scores were higher than the neutral value, whereas negative t-values meant lower mean scores compared to the test value. Table 4.8 revealed that PHC nurses perceived mostly positive attitudes towards self-care management in relation to HPT. Majority of the items had high mean scores ranging from 4.00 to 4.66, which implies nurses' positive attitudes towards supporting patients in self-care management.

The best rated practices of PHC nurses involved advising the patients to stay away from salty and processed foods (M=4.66, SD=0.74, t=15.47, p<0.001) and giving them information regarding the effects of excessive sodium intake (M=4.55, SD=0.82, t=13.31, p<0.001). The results above show strong nurse participation in diet counselling and sodium education among HPT patients. Nurses were found to be

positively involved in providing explanation about HPT to patients (Mean = 4.11, SD = 0.88, $t = 5.89$, $p < 0.001$), in providing explanations regarding the complications associated with HPT (Mean = 4.44, SD = 0.69, $t = 12.51$, $p < 0.001$), in encouraging the patients for taking part in managing their HPT (Mean = 4.11, SD = 0.88, $t = 5.89$, $p < 0.001$), and in educating patients about compliance with the medication regimen (Mean = 4.33, SD = 0.77, $t = 8.49$, $p < 0.001$). These findings imply that PHC nurses viewed themselves as having an active role in enabling patients' self-care management and health education for HPT.

Furthermore, positive insights towards emotional and psychosocial interventions were noted, such as providing information on how to manage stress ($M = 4.44$, $SD = 0.69$, $t = 12.51$, $p < 0.001$), giving patients time to express their worries ($M = 4.44$, $SD = 0.69$, $t = 12.51$, $p < 0.001$), and educating patients on the significance of support systems in self-care management ($M = 4.44$, $SD = 0.69$, $t = 12.51$, $p < 0.001$).

However, despite having all the items' mean scores above the midpoint of the scale, relatively low mean scores were noted in terms of educating the patients on the need to have a balanced diet ($M = 3.55$, $SD = 0.84$, $p < 0.001$); use of BP machines ($M = 3.55$, $SD = 0.84$, $p < 0.001$); assessment of potential side effects associated with their medications ($M = 3.77$, $SD = 0.77$, $p < 0.001$); assessment of BMI during follow up visits ($M = 3.77$, $SD = 0.77$, $p < 0.001$); and recommending patients to buy BP machines ($M = 3.77$, $SD = 0.77$, $p < 0.001$). The results indicate that despite the fact that nurses felt that they were doing well in such practice, there is a need to develop more skills in such practice through more training and development.

4.3.4 Self-care management programme among adult patients with HPT

The following subsection provides an overview of the perspectives of nurses with respect to the potential benefits of organised self-care programme. It also measured the assistance of nurses to such interventions to manage HPT at PHC level, and the quantitative results measured the elements of programmes such as patient education, follow-up procedures and support systems in various healthcare institutions.

Table 4.9: Perceived Importance and Benefits of Self-care Management Programme for Adult Patients Diagnosed with HPT (n=112)

The importance of self -care management programme for adult patients diagnosed with HPT	Mean (M)	Standard deviation (SD)	t-value (t)	p-value (p)
Self-care management programme may help to control HPT in Khomas Region	4.40	0.66	9.09	< 0.001
Self-care management programme may enable HPT patients to acquire more effective interpersonal, cognitive, and emotional behaviour	4.62	0.54	15.16	< 0.001
Self-care management programme may reduce stress-inducing environment	4.48	0.69	10.29	< 0.001
Self-care management programme may empower patients to learn to cope with HPT	4.33	0.81	6.36	0.001
Self-care management programme may cause better adherence to medication and follow-up visits	4.33	0.81	6.36	0.001
Self-care management programme will bring confidence to a patient to self-manage HPT while at home	4.44	0.69	11.42	< 0.001

*A p-value <0.05 means that it is statistically significant and a p-value $\geq$ 0.05 means that it is not statistically significant.

The results revealed that the participants had positive perceptions of self-care management programme usefulness to the adult patients with the diagnosis of HPT in the Khomas Region. The high mean score (M = 4.40, SD = 0.66) and the t-value (t = 9.09, p < 0.001) present as statistically significant means that the participants consider such programmes to be able to help control HPT. PHC (PHC) providers also expressed the fact that self-care initiatives is associated with the improvement of interpersonal skills, cognitive functioning, and emotional regulation of patients. This perception is supported by a high degree of agreement (M = 4.62, SD = 0.54; t = 15.16, p < 0.001), indicating a positive perception of the programme that can lead to better psychological and behavioural outcomes. Further agreement was found that one of the benefits of self-care support could be minimisation of exposure to stress-related

environments. The mean score of 4.48 (SD = 0.69) and the significant t -value ($t = 10.29$, $p < 0.001$) support the realisation of the effects of the stress of HPT management and the perception of the programme as capable of eliminating such causes.

The programme was also perceived as a way of imparting with the patients' coping strategies and this was evidenced by an average score of 4.33 (SD = 0.81; $t = 6.36$, $p = 0.001$). The participants admitted that an improvement in the skills of patients to cope with the requirements of their illness should be helpful in promoting long-term self-care management. Likewise, similar scores were received in regard to better medication and follow up appointment adherence which showed a common belief that such programmes have the potential to raise the adherence to treatment. Lastly, the idea that self-care management was in a position to provide the patients with more confidence to handle their condition at home was well supported. The mean score of 4.44 (SD = 0.69), and t -value of 11.42 ($p < 0.001$) indicate the belief in the ability of the programme to make patients more independent and self-efficacious.

4.3.5 The perception regarding the factors that need to be included in the self-care management programme of adult patients diagnosed with HPT

This section presents the recommendations of nurses regarding the core components of HPT self-care programmes with the most important points being dietary advice, medication compliance, and monitoring as the key points obtained by the quantitative analysis and clinical practice.

Table 4.10: PHC Nurses' Perceptions of the Factors that Should be Included in the Self-care Management Programme for the Adult Patients Diagnosed with HPT (n=112)

HPT Self-Care Essentials	Mean (M)	Standard deviation (SD)	t-value (t)	p-value (p)
Patients need to fully understand the symptoms of HPT	1.70	1.81	-5.06	< 0.001
Patients need to fully understand the complications of HPT if the prescribed treatment is not followed	4.51	0.66	14.55	< 0.001
Patients need to understand how the development of HPT can affect their daily life activities	4.29	0.61	10.30	< 0.001
The importance of understanding the patient needs to improve on the knowledge of self-care activities	4.48	0.52	12.58	< 0.001
Patients' ability in engaging self-care activities on HPT control	4.44	0.63	11.79	< 0.001
Patients need to adhere to the medication prescribed	4.59	0.60	15.21	< 0.001
Patients need to learn how to cope with the disease, stress, fear, and disappointment	4.48	0.49	11.79	< 0.001
Patients need to improve on diet adherence	4.25	0.69	9.63	< 0.001
Patients need to improve on their physical activities	4.37	0.74	8.74	< 0.001
Patients need to improve on weight management	4.40	0.66	9.09	< 0.001
Patients need to improve on follow-up adherence	4.55	0.61	13.15	< 0.001
Patients need to improve on accurate BP measurement	4.11	0.80	4.36	0.001
Self-care management support should be known by HPT patients	4.37	0.74	8.74	< 0.001

*A p-value <0.05 means that it is statistically significant and a p-value ≥0.05 means that it is not statistically significant.

This part illustrates the views of HPT nurses concerning the key elements of self-care management programme among adults diagnosed with HPT. The answers highlight a major focus on patient education and behavioural support. There is a universal opinion among the nurses that the patients should be aware of the symptoms of HPT (M = 1.70; SD = 1.81; t = -5.06; p < 0.001) as well as the consequences of not taking their treatment (M = 4.51; SD = .66; t = 14.55; p < 0.001). The significance of educating

patients on the impact of the HPT on everyday life ($M = 4.29$; $SD = 0.61$; $t = 10.30$; $p < 0.001$) and improving knowledge of patients regarding the need to handle their health ($M = 4.48$; $SD = 0.52$; $t = 12.58$; $p < 0.001$) is also identified by PHC nurses.

Active participation of the patient is considered to be paramount, and there is a strong consensus that a patient needs to be empowered to participate in self-care ($M = 4.44$; $SD = 0.63$; $t = 11.79$; $p < 0.001$) and to self-adhere to medication ($M = 4.59$; $SD = 0.60$; $t = 15.21$; $p < 0.001$). The ability to manage the emotional disruptions that the condition is accompanied by, such as stress and fear, is also given importance ($M = 4.48$; $SD = 0.49$; $t = 11.79$; $p = 0.001$). The lifestyle changes are viewed as the key to successful management. PHC nurses support the combination of measures to enhance diet ($M = 4.25$; $SD = 0.69$; $t = 9.63$; $p < 0.001$), physical activity ($M = 4.37$; $SD = 0.74$; $t = 8.74$; $p < 0.001$), weight control ($M = 4.40$; $SD = 0.66$; $t = 9.09$; $p < 0.001$), and follow-up adherence ($M =$ Correct BP monitoring is considered to be required as well, but the agreement is a bit lower ($M = 4.11$; $SD = 0.80$; $t = 4.36$; $p = 0.001$). Lastly, the provision of knowledge and access to long-term self-care support ($M = 4.37$; $SD = 0.74$; $t = 8.74$; $p < 0.001$) is highly supported, which once again attests to the importance of education and the availability of resources as the key to long-term management.

In summary, the quantitative data obtained from the PHC nurses ($n=112$) revealed that although the nurses had a positive perception about patient education and self-care management strategies, certain aspects of practice were relatively less practiced by the nurses, including the aspect of balanced diet education, BP measurement advice, and technical knowledge on BP machine usage. There was an evident in support for self-care management programme development among PHC nurses, and medication compliance, diet, and follow-up were considered key elements of the programme (with mean scores of 4.33-4.62). The results obtained in this section informed the formation of self-care management programme.

4.4 QUANTITATIVE RESULTS OF ADULT PATIENTS DIAGNOSED WITH HPT

It quantitatively investigated the patient knowledge, attitudes, and practice of self-care management of HPT by use of descriptive statistics providing a detailed picture of the sample characteristics and adding to the overall sample demographics.

4.4.1 Adult patients' response rate

Section 4.4.1 evaluates the patient participation rates, evaluates possible non-response bias and evaluates the demographic features to determine the sample representativeness of its participation compared to the HPT patient population in general.

Table 4.11: Patients' Response Rate (n=328)

Respondent category	Targeted sample (n)	Obtained sample (n)	Response rate (%)
Patients	328	328	100

A response rate of 100 per cent of the intended population of 328 patients implies a high level of involvement and an element of compliance in the research. The strong methodology adopted in the study does not only contribute to the reliability of the findings but also offers relevant information that can be used in future research to achieve maximum response rates in healthcare related surveys.

4.4.2 Demographic data of the adult patients who were diagnosed with HPT

Section 4.4.2 presents a description of demographic information of adult HPT patients, including age, gender, disease duration, and comorbidities, which are critical in understanding self-care management and health outcomes in this group.

4.4.2.1 *Adult patients age diagnosed with HPT*

Under subsection 4.4.2.1, the age distribution of adult patients with HPT is presented.

Table 4.12: Adult patients age diagnosed with HPT (n=328)

Age Group (years)	Frequency (n)	Percentage (%)
18-25	29	8.84
26-35	105	32.01
36-45	105	32.01
45+	89	27.14
Total	328	100

Results indicated that the participants belonged to various age categories. Largest proportion of the participants were between the ages of 26-35 years and 36-45 years,

comprising 32.01% (n=105) of the participants. The highest number of participants aged 45 years and above made up 27.14% (n=89) of total participants, while those aged 18-25 years had the lowest proportion of 8.84%.

4.4.2.2 *Weights of the adult patients*

In this sub-section, the weight distribution among adults who have been diagnosed with HPT is shown.

Table 4.13: Adult patients' weight levels (n=328)

Weight Group	Frequency (n)	Percentage (%)
30-50kg	12	3.66
51-60kg	70	21.34
61-70kg	104	31.71
71+kg	142	43.29
Total	328	100

It can be noted that there was a difference in the weight distribution among adults with HPT diagnoses. In terms of weight, the highest proportion of patients belongs to the group of 71+ kg, making up 43.29% (n=142). Patients with weight ranging from 61–70 kg made up 31.71% (n=104), whereas patients from 51–60 kg category made up 21.34% (n=70).

4.4.2.3 *Race of adult patients*

The distribution of adult HPT patients in the study sample by racial/ethnic factors is given in sub-section 4.4.2.3. The analysis is meant to point out possible differences in the nature of the diseases, medical care or health outcomes between various racial groups.

Table 4.14: Adult patients' race (n=328)

Race	Frequency (n)	Percentages (%)
Black	287	87.5
Coloured	41	12.5
White	0	0.00
Basters	0	0.00
Total	328	100

Racial distribution of adult patients with HPT gives valuable information on the demographic facet of the health condition. According to the results, the percentage of patients who identify as black is huge, and it is 87.5 when the entire sample is considered. On the contrary, the data indicate that 12.5 percent of patients consider themselves as coloured, and none of the sample patients are white or bastards. The lack of patients in the white and bastards racial categories could be explained by the demographics of the population under research. The comprehension of racial differences in HPT is essential to enable the healthcare professionals to plan inclusive and culturally sensitive interventions to consider the distinct healthcare requirements of various racial and ethnic groups.

4.4.2.4 *Location of adult patients*

Section 4.4.2.4 describes the distribution of the geographical location of patients suffering from HPT in various settlement types in the Khomas Region.

Table 4.15: Adult patients' location (n=328)

Location	Frequency (n)	Percentage (%)
Formal settlement	163	49.69%
Informal settlement	182	55.49%
Not specified	19	5.79%
Total	328	100.%

The results on the location distribution of patients diagnosed with HPT indicated that majority (55.49%, n=182) live in non-informal settlements. On the other hand, 49.69% (n=163) of the patients live in formal settlements. Moreover, 5.79% (n=19) of the participants did not mention their place of residence. These results show that the participants come from various residential areas within the Khomas region.

4.4.2.5 *Years of being diagnosed with HPT*

Section 4.4.2.5 examines the time since HPT diagnosis of the study participants, and the disease chronicity is divided into short-term (<2 years), medium-term (2-5 years), and long-term (>5 years). The results consider the relationship between the diagnosis

period and self-care behaviours, treatment compliance, and complication rate among the study population.

Table 4.16: Patients' years of being diagnosed with HPT (n=328)

Years Diagnosed	Frequency (n)	Percentage (%)
1-5	164	50.00
6-10	92	28.05
11 and above	72	21.95
Total	328	100

The results regarding the periods HPT diagnosis in adult patients provided information about the time-related peculiarities of the given health condition, providing information on the persistency and care in the target population. Out of the complete sample of 328 patients, 50.00% (n=164) are HPT diagnosed 1-5 years. The duration category 6 to 10 years (duration) shows that 28.05% (n=92) of patients have been dealing with HPT on a moderate basis. Moreover, a portion of 21.95% (n=72) has been identified with 11 years and above of the duration of HPT diagnosis.

4.4.2.6 HPT status of adult patients

Sub-section 4.4.2.6 presents the clinical condition of adult patients of HPT like the severity of the disease, prevalence of the complications, and the types of treatments current. The associations between these clinical indicators and self-care management by the patients are examined.

Table 4.17: Patients' HPT status (n=328)

HPT Status	Frequency (n)	Percentage (%)
Controlled	164	50.00
Uncontrolled	164	50.00
Total	328	100

The results of the HPT status of adult patients divided into controlled and uncontrolled groups would give important data about the effectiveness of the HPT management strategies in the population under study. Out of the total population of 328 patients an equal number or half (50.00%) of them make up (n=164) the categories of controlled (category 1) and uncontrolled (category 2) HPT status.

4.4.2.7 *BP levels of adult patients*

This section shows the BP profiles of adult patients with HPT, compares systolic and diastolic values and the allocation of the BP levels to the sampled population (n=328). The results present information about the degree of HPT severity and possible implications of this problem on treatment adherence, comorbidities, and self-care management habits.

Table 4.18: Patients 'BP levels (n=328)

BP Level	Frequency (n)	Percentage (%)
120-129/80-84mmHg (1)	121	36.89
130-139/85-89mmHg (2)	53	16.16
140-159/90-99mmHg (3)	59	17.99
160/100 and above (4)	95	28.96
Total	328	100.00

The presented findings correlate with HPT severity scale, category 1 is normal BP, category 2 is mild HPT, category 3 is moderate HPT, and category 4 is severe HPT. The results on the BP levels of patients diagnosed of HPT in their adult stage give a clear picture of the distribution of the BP levels, showing a pattern that is essential in determining the severity and management requirement. The percentage of patients who are within the BP range of 120/80-129/84mmHg (category 1) constitutes a majority of the total sample of 328 patients 36.89% (n=121). The number of patients who are between 130 and 139mmHg/ 85 and 89mmHg (category 2) is approximately 16.16% (n=53), which is categorized as stage1 HPT, which means that there is the risk of cardiovascular complications when they are not treated. Another 17.99% (n=59) had BP levels of 140 to 159/ 90-99mmHg (category 3) which is stage 2 HPT. Lastly, 28.96% (n=95) of the patients had 160/100mmHg and above (category 4) which represents stage 3 of HPT with a very high risk of damaging the target organs. The outcomes demonstrate the high urgency of the enhanced BP monitoring, treatment adherence, and extensive self-care interventions, particularly in patients within the categories of higher BP.

4.4.2.8 *Gender of adult patients*

This section demonstrates the gender distribution of the sample of adult patients with HPT in the study and examines any possible sex differences in the presentation of the disease, their management strategies, and health outcomes.

Table 4.19: Patients' gender (n=328)

Gender	Frequency (n)	Percentage (%)
Male	118	36.98
Female	210	64.02
Total	328	100.00

The results regarding gender distribution of adult patients diagnosed with HPT provide a very important information regarding prevalence of the issue under consideration among the representatives of various sexes. Out of the total population of 328 patients, 64.02% (n= 210) are female, which implies that the HPT population is dominated by women.

4.4.2.9 *Level of adult patients*

This section describes the maximum level of education of patients with HPT of adult age. Educational attainment may have an influence on how a patient perceives health information, adherence to treatment, and self-care.

Table 4.20: Patients educational level (n=328)

Education Level	Frequency (n)	Percentage (%)
Tertiary education	71	21.65
Secondary education	225	68.60
Primary education	29	8.84
None	3	0.91
Total	328	100.00

The results concerning the educational level of adult patients who have the diagnosis of HPT are informative in terms of the possibility of the existence of the correlation between educational level and the high rate of HPT among patients of this group. Out of the total number of 328 patients, 68.60 percentage of the patients (n = 225) have

undergone secondary education. On the other hand, 21.65% (n=71) of the patients have received tertiary education, which means that there is a subgroup of the HPT population with higher educational levels. Also, 8.84 per cent (n=29) are provided with primary education, and a minor percentage (0.91 per cent; n=3) did not receive any formal education.

4.4.2.10 *Employment status of adult patients*

This sub-section outlines the employment status of the adult patients who are diagnosed with HPT. A profession can affect the lifestyle, income, stress, and availability of healthcare treatments in the patient.

Table 4.21: Patients' occupation (n=328)

Occupation	Frequency (n)	Percentage (%)
Employed	85	25.91
Self-employed	35	10.67
Unemployed	185	56.40
Student	23	7.01
Total	328	100

The results on the employment status of the population of adult patients with HPT are important insights into the socioeconomic background of this group, as they enable the medical personnel to address the needs of individuals in various employment groups differently. The percentage of unemployed people is the biggest segment of the total sample of 328 patients: that being 56.40% (n=185). On the other hand, 25.91% (n=85) of patients are employed whereas 10.67% (n=35) are self-employed. People of such groups might be exposed to various stress factors regarding the workplace and ownership of the business. In addition, 7.01 percentage of patients (n=23) is students, and it outlines a subgroup in the population of HPT that can be juggling academics and health management.

4.4.2.11 *Marital status of adult patients*

This sub-section gives out the proportion of marital status of adult patients diagnosed with HPT. Marital status can potentially impact on the emotional support networks and therapy compliance in the management of chronic disease.

Table 4.22: Patients' marital status (n=328)

Marital Status	Frequency (n)	Percentage (%)
Single	199	60.67
Married	94	28.66
Widowed	35	10.67
Total	328	100

The results on the marital status of the adult patients with HPT give meaningful information on the demographic composition of the population of patients and provide insights to healthcare providers to consider when providing care to the patients. Out of the total sample of 328 patients, most of them, 60.67% (n = 199), of them are single. On the other hand, 28.66% (n=94) of patients are married, which implies that a significant HPT population is included with the spousal support. Moreover, 10.67% (n 035) of patients are widowed, which implies that it represents a sub-population in the HPT population that has lost a partner.

4.4.2.12 *Family history of adult patients*

This section looks at the question of whether the family history of HPT was present among adult patients. Family history is an established risk factor of HPT which can have an effect on the awareness and preventive behaviours of a patient.

Table 4.23: Patients' family history (n=328)

Family History of HPT	Frequency (n)	Percentage (%)
Yes	107	32.62
No	221	67.38
Total	328	100.00

The report on family history of HPT in adult patients offers great information regarding what genetic and familial factors could be associated to the prevalence of HPT among adult patients. Out of all patients (n=328), 32.62% (n=107) reported a positive family history of HPT, which suggests that a big number of patients diagnosed with HPT have a relative or relatives with the same health condition. Conversely, most of the patients, 67.38% (n= 221) said that there was no family history of HPT.

4.4.2.13 Other diseases of patients

This section examines the incidence of other diseases among the questioned adult patients. HPT management may be complicated by the presence of comorbidities that may influence self-care practices. Table 4.26 presents the patients' other diseases.

Table 4.24: Patients' other diseases (n=328)

Other Diseases	Frequency (n)	Percentage (%)
Yes	97	29.57
No	231	70.43
Total	328	100

The comorbidity rates in adult patients with HPT are valuable to give a general vision of the health profile of this population group. Out of the total sample size of 328, 29.57% (n=97) patients reported other diseases whereas the rest, 70.43% (n=231) patients did not mention any other health conditions. This knowledge is critical to health practitioners because it clarifies the comorbidity burden among the population of HPT, hence, shaping up treatment interventions and patient care.

The percentage of 29.57 (n=97) of patients with comorbid conditions is a good representation of a sub-group of HPTs who faced other health problems. Conversely, the 70.43% (n=231) of patients that did not report having comorbidities could be an indication of a relatively healthier group of the HPT cohort.

- **Adult patient HPT category of other diseases**

The analysis shows a complicated interaction of HPT and comorbidity of asthma, heart disease, diabetes mellitus, epilepsy and hypercholesterolaemia, which have a great impact on the management of the disease and self-care management practices. These conditions also lead to the conclusion that a personal approach to HPT care is necessary, as respiratory, cardiovascular, metabolic, and neurological comorbidities can interplay with HPT treatments, reduce the adherence to medications, and worsen secondary complications. Cardiovascular risks are increased in patients with coexisting congestive heart disease and diabetes, whereas epilepsy presents issues of consistent therapy because of possible neurological disturbances. High cholesterol also increases cardiovascular risks, and this occurs in the context of the necessity of

combined care plans that deal with both HPT and its comorbidities. These complex health profiles can be identified as the key challenge in the development of patient-centred interventions that would maximise self-care management, reduce complications, and improve overall well-being among adults with HPT.

4.4.3 Knowledge on self-care management for adult patients with HPT in Khomas Region

This section evaluates the knowledge of adults with HPT of the Khomas region on self-care dealing with their conditions. The results have shown a deficit in patient education and direct interventions to effectively manage the disease in this group. In Table 4.25, the quantitative evaluation of the knowledge of patients on self-care management of HPT across critical areas was given. The information classifies the level of understanding as satisfactory, partial, or insufficient in such critical areas as adherence to medication, dietary control, and knowledge of complications. Statistical analysis indicates that the difference in level of knowledge between and among demographic subgroups is significant ($p < 0.05$).

Table 4.25: Knowledge of patients regarding self-care management for HPT ($n=328$)

Statement	Yes n(%)	No n(%)	I don't know n(%)	p-value
A patient with HPT should take medication correctly as prescribed	328(100%)	0(0%)	0(0%)	$p < 0.001$
Some of our lifestyle's behaviour can contribute to HPT	321(97.9%)	0(0%)	7(2.1%)	$p < 0.001$
HPT can be managed through taking medication only	150(45.7%)	100(30.5%)	78(23.8%)	$p < 0.001$
HPT can be managed through non-medication treatment	128(39.0%)	36(11.0%)	164(50.0%)	$p < 0.001$
HPT can have a serious threat to your life	292(89.0%)	14(4.3%)	22(6.7%)	$p < 0.001$
HPT can affect anybody	321(97.9%)	0(0%)	7(2.1%)	$p < 0.001$

Statement	Yes n(%)	No n(%)	I don't know n(%)	p-value
If high BP is managed properly, it can be cured	107(32.6%)	43(13.1%)	178(54.3%)	p< 0.001
High BP can be prevented	64(19.5%)	64(19.5%)	200(61.0%)	p< 0.001
Taking part in changing your lifestyle behaviours can help to control high BP	100(30.5%)	78(23.8%)	150(45.7%)	p< 0.001
HPT can affect my brain, kidneys, eyes and my heart	300(91.5%)	14(4.3%)	14(4.3%)	p < 0.001

A p-value <0.05 means that it is statistically significant, and a p-value ≥0.05 means that it is not statistically significant.

The p-value obtained above are from the chi-square goodness-of-fit test for equality of proportions, which compares the distribution of the responses Yes/No/I don't know against an equal distribution among all three options. A p-value below 0.05 indicates that the participants' responses were not evenly distributed among the response options.

The results indicate that there was a great level of knowledge about certain issues related to HPT management. All participants (100%) agreed that those with HPT needed to use medication accordingly, while 97.9% confirmed that lifestyle behaviours could be among the causes of HPT, and also anyone can be affected HPT. Additionally, 91.5% affirmed that HPT affects organs like the brain, kidneys, eyes, and heart.

This implies that the participants showed high levels of knowledge about adherence to medications, risk factors, and complications associated with HPT. However, lack of knowledge was noticed on the management of HPT without medication, its preventive measures, and its being a chronic condition. In regard to the statement that HPT can be managed by using medication only, 45.7% replied yes, 30.5% answered no, and 23.8% replied do not know. Moreover, only 39.0% believed HPT could be managed without using any medications, while 50.0% were unaware of it.

There were also knowledge gaps in the areas of prevention and cure. Over half of the participants (54.3%) stated that they do not know if high BP can be cured when well-managed, and 32.6% said it is curable. Also, 61.0% of the participants do not know if high BP can be prevented. In terms of modifying lifestyle, 30.5% indicated that change in their lifestyle behaviour may assist them in managing their high BP, whereas 45.7% stated that they were unaware. Regarding lifestyle modification, 30.5% believed that making changes in lifestyle behaviour could assist in managing HPT, whereas 45.7% did not know about it. It is evident from these results that even though participants were aware about the importance of taking medicines for HPT and its complications, their lack of knowledge existed in preventive measures and long-term management of the disease. Based on these outcomes, there was a necessity for development of self-care management programme for HPT, emphasising on prevention, lifestyle modifications, and non-pharmacological treatment methods.

4.4.4 Adult patients' self-care management attitudes towards adults with HPT in the Khomas Region

Self-care perceptions play an important role in how patients can manage chronic ailments like HPT. This part examines the notions, inspirations, and emotional responses of patients on their self-care responsibilities. The attitude of patients towards self-care management of HPT is available in Table 4.26 below.

Table 4.26: Patients attitude regarding self-care management for HPT (n=328)

STATEMENT	Mean (M)	Standard deviation s (SD)	t-value (t)	p-value (p)
I am often too tired to look after my health the way I would like to	2.39	1.30	-2.15	0.034
I tend to neglect my personal needs	2.33	1.13	-1.92	0.057
I would gladly give up some of set ways if it meant improving my health	3.96	1.11	6.42	< 0.001
I take pride in doing the things I need to stay healthy	3.78	0.97	5.14	< 0.001
I often put off doing things that I know would be good for me	2.37	1.26	-2.71	0.008
I strive to my health	3.87	0.89	7.32	< 0.001
I am not emotional affected by high BP	2.67	1.27	-3.50	0.001

STATEMENT	Mean (M)	Standard deviation s (SD)	t-value (t)	p-value (p)
I think my health is not on a threat because of HPT	2.70	1.33	-3.42	0.001
I look for better ways to look after my health	3.98	0.83	9.65	< 0.001
I deserve all the time and care it takes to maintain my health	4.04	0.83	10.12	< 0.001
I take good care of myself in a way to control high BP	4.04	0.84	10.05	< 0.001
I have planned programme for rest and exercise	2.37	1.09	-3.03	0.003
I only promote my health when the opportunity arises	2.30	1.19	-2.50	0.013
I take responsibility for my own actions	4.20	0.76	8.47	< 0.001
I want to learn all that I can about my body and how it functions	4.11	0.88	7.65	< 0.001
I rarely carry out resolutions I make concerning my health	3.00	1.11	0.45	0.655
In the past I have changed some of old habits to make my health better	3.39	1.20	2.91	0.004
I have little to contribute to others	2.28	1.16	-2.98	0.003
I feel I am a valuable member of my family	4.39	0.67	12.15	< 0.001

*A p-value <0.05 means that it is statistically significant and a p-value ≥0.05 means that it is not statistically significant.

The research shows that there was a multifaceted interplay of attitudes among the adult HPT patients in the Khomas Region with great differences in how self-care is managed amongst the patients. The most prominent observation is the adverse effect of fatigue on self-care participation, which is clearly shown by a much lower average score (Mean 2.39) of most of the participants who frequently complain of fatigue. This implies that the HPT care programme should have energy-management strategies. In the same way, behavioural factors such as procrastination (Mean 2.37) and disregard of personal needs (Mean 2.33) also show tendencies that need specific measures. Nonetheless, such hindrances are offset by the positive attitudes that are strong in other areas, especially the great interest in lifestyle change (Mean 3.96) and pride in health activities (Mean 3.78), and this indicates, that most patients have internal

motivation that can be exploited in treatment programmes. The importance of the lack of emotional engagement with the HPT influence (Mean 2.67) and underestimation of its dangers (Mean 2.70) is also emphasised by the need to educate the patients on the systemic impact of the condition better.

On the opposite side, the study lists a number of positive attitudes with potential to create a basis of successful intervention of self-care. A significant number of the participants proactively pursue improved health-management techniques (Mean 3.98), appreciate the time they spend on self-care (Mean: 4.04) and are conscious of their health behaviours (Mean:4.20). These active temperaments and the enthusiasm to discover how the body works (Mean:4.11) would indicate that the educational interventions would be welcomed. The fact that the score of the successfully changed health behaviours (Mean:3.39) is high, but the neutral score on resolutions maintenance (Mean:3.00), shows an implementation gap, which the programmes should consider implementing. The outstanding degree of family value (Mean:4.39) can be used to build family-based support networks that can help to increase treatment compliance and wellbeing.

The overall results present an image of a group of patients with a high potential of effective self-care management, but with certain barriers that should be overcome. Although motivation and family ties are good grounds upon which the intervention programmes can be based, fatigue, procrastination and lack of follow-through are some of the problems that need a specific approach to deal with. The data indicate that effective HPT management programmes in this area must: 1) include energy-management measures, 2) offer organised advice on the formation and maintenance of habits, 3) facilitate the perceived risk of these behaviours by focusing on specific education, and 4) exploit the existing family support networks and self-motivation. With the help of tackling the psychological and practical barriers that were revealed in this research, the health-care providers were able to formulate more effective, patient-centred HPT management strategies in the Khomas region.

4.4.5 Self-care management practice with adults diagnosed with HPT

This section describes the steps that the patients take to manage the disease with the help of nutrition and lifestyle measures as well as treatment measures. The self-care

strategies are defined actions that the patients take to manage their HPT every day. Table 4.27 illustrates self-care management practice for patients with HPT.

Table 4.27: Patients' practice of self-care management of HPT (n=328)

Practice item	Mean (M)	Standard Deviation (SD)
I consider food portions and choices whenever I eat food	3.42	0.89
I eat fruits, vegetables, grains, and beans more than when I did not have HPT	3.58	0.92
I have decreased food that contains high saturated fat	3.21	0.97
I reduced intake of caffeine-containing beverages	2.89	1.12
I reduced eating processed foods	3.15	0.94
I eat less salty food (not more than 3/4 teaspoon) per day	3.08	1.01
I never use extra salt, Aromat, Kapana spice, or any spice to season my food since being diagnosed with HPT	3.12	0.96
I control myself to eat a low salt diet	3.18	0.93
I drink at least 2L or 8 glasses of water every day	3.45	0.88
I exercise to reduce my weight, such as walking, running, etc., for about 30 minutes/session	2.94	1.08
I have made my routine to fit with things I have to do for my HPT	3.22	0.91
I never and will never smoke in my life	3.67	0.84
I reduced smoking to 0 or 1 cigarette per day	3.04	0.89
I never and will never drink alcohol in my life	3.52	0.87
I reduced drinking alcohol to 1 glass per day	3.31	0.85
I reduced drinking alcohol to occasional	3.28	0.86
I consider one of the following to control my stress by listening to music/taking a rest/talking to someone I trust	3.41	0.83
I control high BP signs and symptoms properly	3.09	0.95
I have made my action plan to achieve my goal towards my BP control	2.98	1.02
I always compare my current BP level with the target (desired, controlled) level	3.24	0.89
I manage situations that may increase my BP	3.11	0.94
I always ask the doctors and PHC nurses when there are things that are not clear	3.35	0.87

Practice item	Mean (M)	Standard Deviation (SD)
I always discuss with the doctors and nurses when my BP is too high or too low	3.28	0.90
I help the doctors and PHC nurses to find why my BP is not controlled	2.95	1.03
I always ask the doctors and PHC nurses where I can learn more about my high BP	3.18	0.92
I ask others, such as neighbours, family members, friends, other patients, how to manage or techniques they have used to control their BP	3.06	0.98
I visit the PHC facility to check my BP when I experience signs and symptoms of high BP	3.34	0.88
I visit the PHC facility to check my BP when I feel sick	3.21	0.91
I check my BP on a regular basis	3.15	0.94
I take my HPT medication as ordered	4.31	0.76
I follow doctors and PHC nurses' advice regarding my BP control	4.18	0.82

The highest self-care activities shown by the subjects in this study include adhering to their prescribed medication and health professionals' recommendations. The highest mean score, $M=4.31$, $SD=0.76$, was obtained for adhering to HPT drug regimen while the second highest was obtained for adhering to the doctors and PHC nurses' recommendations in managing their BP, $M=4.18$, $SD=0.82$. Average scores were obtained for healthcare-seeking behaviors like seeking clarification about healthcare providers' information regarding their health care ($M = 3.35$, $SD = 0.87$), attending PHC facilities when showing HPT symptoms ($M = 3.34$, $SD = 0.88$), and consulting healthcare providers on changes in BP ($M = 3.28$, $SD = 0.90$). From these results, there was evidence of moderate involvement in accessing health care services and self-care practices.

Lifestyle modification practices varied among participants. Positive lifestyle practices include not smoking ($M=3.67$, $SD=0.84$) and avoiding alcohol ($M=3.52$, $SD=0.87$). Moderate dietary modification practices involved the intake of more fruits, vegetables, grains, and beans ($M=3.58$, $SD=0.92$) as well as food selection and portion control ($M=3.42$, $SD=0.89$). However, relatively lower scores were noted for practices

concerning restriction of caffeine consumption ($M = 2.89$, $SD = 1.12$), adherence to low-salt diet ($M = 3.18$, $SD = 0.93$), avoidance of additional salt and seasonings ($M = 3.12$, $SD = 0.96$), and engagement in exercise for losing weight ($M = 2.94$, $SD=1.08$). Large standard deviations ($SD=0.83-1.12$) reveal the differences in self-care practices exhibited by the research participants.

The participants performed the lowest in the self-care practices in the domains of self-monitoring and self-goal achievement activities. Action plan for the accomplishment of BP control goals ($M=2.98$, $SD=1.02$) and assisting healthcare workers to identify factors affecting BP control ($M=2.95$, $SD=1.03$) recorded the lowest average scores. This means that participants did not engage in proactive self-care behaviours consistently. The self-monitoring of BP ($M=3.15$, $SD=0.94$) and comparing one's own BP with target levels ($M=3.24$, $SD=0.89$) were practiced moderately by the participants. One notable difference found between high adherence rates to medication, but low participation in goal-setting and action planning. This shows that educational programme regarding self-care should be improved to incorporate more skills including goal-setting and action planning.

4.4.6 The perceptions of the factors that need to be incorporated in the self-care management programme of the adult patients with HPT

This section summarises the main factors that patients find to be crucial in having a comprehensive self-care management programme. The perceptions of the adult patients regarding the factors to be considered when managing HPT through self-care programme are shown at Table 4.30 below.

Table 4.28: Adult patients ‘perceptions of the factors that should be considered in self-care management programme for HPT (n=328)

Individual perceptions, lifestyle, socio-economic, health literacy	Mean (M)	Standard Deviation (SD)	T-Value (t)	P-Value (p)
Patients need to fully understand the symptoms of HPT	4.55	0.72	33.75	< 0.001
Patients need to fully understand the complications of HPT if the prescribed treatment is not followed	4.50	0.70	30.95	< 0.001
Patients need to understand how the development of HPT can affect their daily life activities	4.23	0.88	16.93	< 0.001
The importance of understanding the patient needs to improve on the knowledge of self-care activities	4.27	0.84	20.18	< 0.001
Patients' ability in engaging self-care activities on HPT control	4.30	0.82	18.66	< 0.001
Patients need to adhere to the medication prescribed	4.45	0.78	40.38	< 0.001
Patients need to learn how to cope with the disease, stress, fear, and disappointment	4.55	0.72	33.75	< 0.001
Patients need to improve on diet adherence	4.27	0.84	19.32	< 0.001
Patients need to improve on their physical activities	4.21	0.90	14.68	< 0.001
Patients need to improve on weight management	4.23	0.88	16.93	< 0.001
Patients need to improve on follow-up adherence	4.36	0.76	28.37	< 0.001
Patients need to improve on accurate BP measurement	4.23	0.88	16.93	< 0.001
Self-care management support should be known by HPT patients	4.32	0.81	22.99	< 0.001

*A p-value <0.05 means that it is statistically significant and a p-value ≥0.05 means that it is not statistically significant.

The research indicates that there is a significant agreement among the HPT patients concerning the key elements of a successful self-care management programme and that the mean scores (between 4.23 and 4.55) of all the identified elements are very high. Patients insist on the solid knowledge of the symptoms of HPT (Mean 4.55), possible complications (Mean 4.50), and the effect the disease has on everyday life (Mean 4.23), which proves the understanding of all the complex sides of the condition.

The value of standard deviations (0.70 to 0.72) and the p-value (<0.001) are extremely low and significant respectively, which means that these perceptions are uniformly high among participants. The most important aspect (Mean =4.45) is medication adherence, as well as the need to acquire coping mechanisms in dealing with emotional stressors (Mean =4.55), which underlines physical and psychological aspects of HPT management. These results indicate that the patients are high alert to the acute meaning of HPT, and they are conscious of the importance of active and informed self-care measures to handle their disorder.

Firm patient support of lifestyle changes, such as dietary compliance (Mean = 4.27), physical activity (Mean = 4.30), and weight management (Mean = 4.27) has also been identified in the study as the holistic nature of the treatment that patients seek when using HPT, which highlights the significance of lifestyle modifications in HPT treatment. The fact that precise measurement of BP (Mean 4.23) and follow-up compliance are rated highly corresponds to the knowledge of patients regarding the necessity of monitoring and medical involvement. The notable aspect is that the universal call to self-care management care support (Mean = 4.32) poses the gap between patients understanding of the practice they should do and their accessibility to the structured guidance to date. The extremely high consistency in the statistical significance of all factors (t -values 16.93 to 40.38, $p <0.001$ in all cases) suggests that these are not just personal opinions but strongly and highly shared beliefs among the HPT patients. All these results portray a picture of an educated patient population that is willing to have a detailed and, supported self-care programme that considers the entire range of HPT management, including the ability to recognise the symptoms and implement lifestyle changes and emotional support.

4.5 RESEARCH FINDINGS OVERVIEW

This section provides a unified discussion of the quantitative findings linking the findings to the objectives of the study and its theoretical basis. The results of the study are discussed in two parts including the PHC nurses and the adult patients with the diagnosis of HPT, which are indicated in the 4.5.1 and 4.5.2 sections.

4.5.1 PHC nurse results discussion

The quantitative results about PHC nurses are discussed with references to the demographic data, perception of self-care management of HPT, the significance and advantages of self-care management programme in case of adult patient with HPT, and the perception on the most important factors that should be incorporated under such a programme.

4.5.1.1 PHC nurses' demographic data

As this study has shown, the demographic attributes of PHC nurses directly apply to influencing their involvement in patient self-care management of their HPT through the prism of self-care theory (Orem 1985:106) and self-care management of chronic illnesses theory (Riegel et al 2012:10). The demographic profile of the PHC nurses at the sampled facilities indicates a number of significant trends that have a number of implications to healthcare delivery. The age distribution indicates that younger nurses are the majority with 37.78% (n=42) of the age groups above 26 to 35 years. In the same manner, the research is an indication of what is happening around the world, with younger workers joining the field of nursing (Hanson, Tutt & Smith 2022:314).

Although this younger cohort is technologically flexible and offers a new outlook, the low numbers of more experienced nurses raise the question of mentorship opportunities and preserving useful clinical experience (Kowalski, Basile & Bena 2022:81). Such age distribution implies possible issues in the creation of an ideal mix of young innovativeness and experienced mentoring in the team of the healthcare organisations. The younger nurses tend to be enthusiastic and digitally flexible but lack sufficient clinical experience and are less likely to recognise complex self-care deficits and offer comprehensive support of chronic disease management which can influence the self-care development of the patients in the long term as pointed out by Orem (1985:87).

The gender balance in nursing workforce remains rather uneven with 73.33% (n=82) of participants being female nurses against 26.67% (n=30) who were male participants. This is an ongoing imbalance that posts the classical history of the

nursing profession as a female occupation (Nageswaran & Singh 2023:56). Although female nurses are commonly known to be caring and adopt more humane methods of care, the lack of male nurses in nursing might negatively affect the variety of views on patient care and teamwork (Ramaila, du Plessis & Koen 2021:146). Moreover, the fact that the female nurses occupy the frontline jobs in disproportionate numbers in comparison to their underrepresentation in leadership positions is an indication that there may be gender-based obstacles to career growth that require further research and policy implications. Riegel et al (2012:10) observe that the self-care management is a subjective and dynamic process that depends on the age, gender and educational level of PHC nurses and patients with diagnosed HPT. Thus, a more gender-balanced workforce can provide more communication patterns and relationship approaches that can better serve various patient needs.

Professional rank analysis provided shows that a smaller proportion of 66.67% (n=75) of nurses are registered nurses and 33.33% (n=37) are enrolled nurses. This distribution is associated with the workforce structure that focuses on advanced nursing qualifications, which is consistent with the plans that introduce highly qualified RNs to supportive ENs to promote patient care (Greenfield & Smith 2022:201). The data on the education level demonstrates that 42.22% (n=49) of nurses have a degree, 24.44% (n=28) a diploma, and 22.22% (n=25) a certificate due to the growing popularity of higher education in the occupation (Kowalski et al 2022:93). The nursing staff is in line with increasing complexity of chronic disease care that involves complex decision-making and teaching abilities. RN is well-equipped to evaluate patients and provide customized education being the crucial roles in the self-care theories by Orem (1985:106) and Riegel (2012:10).

The level of experience is expressed in terms of patterns, and 60% of nurses have had 1 to 4 years of experience, which may be due to high turnover and the possibility of inability to stabilize workforce (Blanchard & Kim 2023:77). The number of nurses who have over ten years of experience (only 8.89%, n=10) is so low that it suggests serious retention challenges, especially in the primary health environment of rural areas where career growth might be narrowed (Walter, Ross & Fins 2023:145). All these demographic and professional features point to the necessity of workforce

policy-specific measures to deal with the ongoing professional growth, and retention plans that can help to provide high-quality and sustainable healthcare practice in PHC facilities. The results demonstrate the need to have comprehensive workforce planning which considers these multidimensional factors when it comes to coming up with policies regarding human resources in nursing. The self-care of chronic illness theory state that nurses are important in helping patients maintain, monitor, and manage self-care (Riegel et al 2012:10). Nevertheless, the small pool of well-experienced nurses also gives one something to worry about when it comes to mentorship and leadership in PHC environments that play a significant role in enabling younger nurses to acquire the skills to assist patients with chronic illnesses effectively.

4.5.1.2 *Perceptions of self-care management with HPT*

The results of this research reveal that the PHC nurses viewed themselves as important stakeholders in the promotion of self-care management of HPT. The significance of results ($p < 0.001$) and high mean scores imply that the nurses had a positive perception towards nurse-led education and patients' comprehension of HPT management. Furthermore, the results imply that patients' education was viewed by PHC nurses as an important aspect of self-care management. This finding is similar to that of Ito, Suzuki and Yamamoto (2024b:26), where guided patient education is positively linked with good behavioural practices and care management. The results can be explained using the theory of self-care deficit developed by Orem (2001:54), which posits that patients are more likely to handle their conditions effectively if they have adequate skills and knowledge about HPT.

This study results also showed that nurses working in PHC facilities considered themselves actively involved in the promotion of dietary changes among their patients, such as sodium and processed food restrictions. The perceptions that received the highest ratings included advice to patients not to consume salty or processed food and providing knowledge on the consequences of excessive sodium consumption. Nurses also felt that they were actively advising their patients with HPT to take medications, visit the clinics regularly, do exercises, and monitor their body weight. These results are in line with the findings of Johnson, Turner and Brown (2020:1306) who found that self-care supported by nurses is associated with better long-term compliance to

medication and lifestyle changes for patients suffering from chronic diseases. Likewise, Chen Caballero, Mitchell and Loria (2022:112) stress the importance of diet modifications, especially salt restriction in HPT management.

Another noteworthy finding from this study was that of positive attitudes towards the provision of psychosocial support by nurses. PHC nurses noted that they encouraged the expression of worries by their patients, engaged in discussion on ways of coping with stress, and also educated the patients about the significance of having support systems during self-care management of their illnesses. As Orem (2001:242) notes, nursing support systems aid the patient in achieving confidence and independence during self-care management of illness.

However, despite all these positive perceptions, there were some gaps in the education and practical self-care support of patients. The lower mean scores were noticed in regard to health education concerning nutrition, using of BP machines, encouragement for patients to buy BP machine, assessing patients on medication side effects, and conducting BMI assessment during follow-ups. While all these areas proved to be statistically significant, lower mean scores may indicate that special attention should be paid to practical monitoring techniques and personalised education of patients. This finding is consistent with the works of Smith and Green (2022:325) in terms of highlighting the significance of proper BP measurements at home. Also, Patel and Singh (2021:204) emphasise the need for practical education in order to increase self-care abilities.

According to Riegel et al (2012:16), effective self-care management behaviours require both knowledge and skills. In support, Orem (2001:330) states that the nurse should be able to determine when there is a deficit in self-care activities and provide appropriate interventions that may support patients to become more independent in managing HPT. Perceptions collected herein imply that even though nurses are determined to help patients take care of themselves, more specific educational intervention maybe beneficial required particularly those that aimed at improving technical skills and lifestyle practice.

4.5.1.3 *The importance and benefits of self-care management programme on adult patients who are diagnosed with HPT*

The research exhibits a high level of patient acceptability with regard to introducing a structured HPT self-care management programme in the Khomas Region with the mean scores all (4.33 to 4.62) being high and consistent across all the domains measured. Such results are consistent with evidence provided worldwide that holistic self-care programmes are able to have a notable positive effect on the control of HPT by increasing patient empowerment and skills (Martinez, Sanchez & Garcia 2022:142). The especially high consensus concerning psychosocial benefits (mean 4.62) demonstrates the increasing acceptance of the mind-body connection in chronic disease management, which favours the concept of holistic treatment responding to the health needs of people, both physiological and emotional (Wilson & Jacobs (2021:315). These findings are consistent with the theory identified by Orem (2001:467) to elaborate on the significance of proper knowledge, skills, and techniques to address known self-care requirements through particular care practices, including the self-care management programme developed in the study on HPT.

Some of the essential programme elements that could be considered valuable are stress reduction methods (mean=4.48), medication adherence assistance (mean=4.33), and confidence-building to self-care management (mean=4.44). These findings indicate awareness of the patients to their self-care needs based on the realization of their potential in responding to self-care needs with the right resources and training (Orem 1985:88). The results align with the current studies as stress-management interventions are proven to directly influence the BP control (Roberts, Thomas & Jones 2023:77), and patient empowerment minimises the reliance of healthcare system (Wang & Lee 2023:118). The results indicate that Khomas region patients are aware of the multi-faceted nature of HPT medication, where both clinical and lifestyle interventions are important.

Interestingly, the research indicates that patients understand self-care in its extended application in the prevention of symptoms and management. Participants also saw the positive effects that went beyond enhanced adherence to treatment and complication

reduction, which is consistent with the results on the ripple effects of self-care education (Yoon, Lee & Cho 2021:195). Moreover, self-care maintenance and monitoring by patients results in increased treatment adherence to HPT and in the prevention of complications, which results in theoretical views on self-care (Riegel et al 2012:7). This high level of literacy by patients implies their preparedness to engage in high self-care management practices in care, and this provides healthcare providers with a platform to apply holistic care.

4.5.1.4 *Perceptions on the factors to be incorporated in the self-care management care programme of adult patients with HPT*

The research exposes serious gaps and opportunities of HPT self-care management, and it all starts with the significant requirement of symptom awareness education. Limited knowledge on HPT symptoms was observed among patients (mean=1.70, t= 5.06, $p<0.001$), which is concerning considering the fact that symptom ignorance is one of the factors that slow down important interventions (Lewis, Williams & Edwards 2022:215). The theory by Orem (1985:90) implies that people exhibiting a deficiency of knowledge or skill can have a self-care deficit, which requires healthcare actions to fill this deficit as shown by the poor knowledge of HPT symptoms in patients.

This lack of knowledge is a golden opportunity to implement educational interventions that may have a far-reaching positive effect on the early self-care management. On the other hand, patients were quite aware of the possible complications of uncontrolled HPT, which is consistent with the evidence of attitude improvement in terms of complication knowledge and adherence to the treatment (Anderson & Chen 2023:92). The combination of this knowledge with the understanding of the everyday-life effects of HPT (mean=4.29) indicates that patients have an incentive to acquire practical measures of lifestyle adaptation, which is a crucial aspect in managing chronic conditions (Smith et al 2021a:78).

The study identifies three pillars of successful self-care programmes, and they are active participation on behalf of the patient (mean= 4.44), medication compliance (mean = 4.59) and appropriate BP monitoring (mean= 4.11). The aspect of patient

involvement is in line with the empowerment principle of empowering individuals to do and control their own care in order to accomplish self-care independence (Orem 2001:22). Those aspects are indicative of self-efficacy focus and the importance of home monitoring (Graham & Johnson 2022:110; Berry, Laffin & Bakris 2022:134).

Follow-up care in significance (mean=4.55) is another great indicator confirming the association of continuous clinical interaction with favourable results (Romero & Park 2023:120). The overall findings describe a model of complex self-care programmes that cover the gap in knowledge and enhance the existing motivations in patients. Combining symptom education with realistic self-care management of care, patients may gain control over their condition. Hence, findings of the present study show that nurses are ready to involve patients into maintenance behaviours, self-monitoring, and value follow-up care, which reveals that they are open to learning and implementing principles that are congruent with theoretical expectations (Riegel et al 2012:194).

4.5.2 The discussion of the results regarding adult patients with the diagnosis of HPT

This part provides a discussion of the demographic of HPT adult patients and their knowledge, attitudes, and practices related to self-care management in the Khomas area.

4.5.2.1 *Demographic information of adult patients having HPT*

The current study has explored the demographic profile of adults with a HPT and presented trends that impact on self-care management especially with the self-care theory of Orem (1985:106) and self-care of chronic illness theory (Riegel et al 2012:194). Patient' age , developmental level, socio-cultural orientation, health status and the availability of resources were identified by Orem (2001:254) as conditioning factors in this study and were reflected in the demographic profile of the patients. Although younger adults tend to be more physiologically resilient, the evidence that lifestyle affects the onset of HPT earlier is also increasing (Li, Yang & Wang 2020:456).

Weight is also revealed to be a predominant factor, and 43.29 per cent of the affected individuals belonged to the range 71kg which validates the previous BMI-HPT correlations reported by Zhao, Liu and Xie (2022:389). Specifically, abdominal obesity has clinical importance as a modifiable risk factor of metabolism, and body-weight reduction interventions can result in a significant BP benefit (Ali, Mohanto, Nurunnabi, Haque & Islam 2022:389). The premature development of HPT, which is primarily associated with lifestyle choices, such as unhealthy nutrition and obesity, points to the insufficient level of health education and a low level of personal interest in precautionary self-care, which is an evident instance of self-care deficit provided by Orem's theory (1985:82).

Racial differences also show striking inequality, with an 87.5 Percent of the cases affected by the black people. Such results align with literature available on HPT, which states that black populations are particularly susceptible to it due to a variety of factors that influence this condition, including accessibility to care, socioeconomic status, chronic stress, and environmental exposures (Fatemi, Ali & Zheng 2025:13). The contextual factors include culture, access to healthcare and socioeconomic status, which may hinder consistent HPT management, and influence self-care (Riegel et al 2012:10). Additionally, theory of Orem (2002:353) confirms the need to offer supportive and entirely compensatory care to the adults who are diagnosed with HPT in such situations.

The gender distribution also indicates that there is a dominant female percentage (64.02%), which is quite specific to the overall tendency of greater HPT risk in women, especially menopause and after it, because of hormonal changes and increased vulnerability to cardiovascular diseases (Kim, Lee & Kim 2022:36). The fact that the roster of female participants was the majority in this study highlights disparities in seeking health care and the necessity of education tailored to gender since women could have specific issues with self-care. The model of Riegel is in favour of the individualisation of self-care plans (Riegel et al 2012:4).

Social determinants are major ways to impact the outcome, 56.40% unemployment is associated with the decreased access to healthcare (Baena, Olandoski, Younge &

Bensor 2021:224). The rates of single marital status are 60.67%, which means that the social support systems might be inadequate to promote the levels of treatment adherence (Dean, O'Donnell & Smith 2024:309). The education level also plays a role of secondary education covers 68.60% of the patient population and is linked to a smaller protection against the HPT progression, whereas higher levels of education have much more protective power (Pacca, Franco & Steptoe 2025:5). High unemployment and lower educational attainment with only secondary education as the highest level) are seen as conditioning factors that have a direct effect on the patients' self-care agency from Orem's (2001:45) self-care theory. These remarks are consistent with the accent on the illness-specific knowledge of Riegel et al (2012:11) and the self-care agency as dependent on the learned patterns and understanding provided by Orem's theory (2001:45).

The proportion of patients who arrived with BP levels within the range of 140-159/ 90-99mmHg and those with a BP of 160/100mmHg and above was 17.99% (n=59) respectively. In these findings, a challenge of greater reinforcement of BP monitoring, adherence to treatment, and self-care intervention initiatives is of critical importance, especially among patients at the higher BP tiers. The advanced level is associated with a highly higher rate of destruction of the target organ such as heart failure (Wang 2025:9). Riegel et al 's theory (2012:7) reckon that the large percentage of patients with higher BP is an indicator of self-care adherence and self-surveillance weaknesses, probably because of either poor knowledge, inconsistent follow-ups, or minimal compliance with the management and lifestyle adjustments.

Family history is found in 32.62% of cases, from Orem (2002:48) theory, family history of HPT is a health deviation where individuals must have the knowledge and ability of self-care agency to cope with the condition based on informed choices and actions. Similarly, family history of HPT is an already established risk factor, and individuals with a first-degree relative with HPT are at a higher risk relative to individuals without such a history (Elendu, Amaechi, Elendu & Elendu 2024:4).

The comorbid conditions occur in 29.57% of patients, which makes the management complicated, as well as abnormal results in physical examination are associated with

HPT pathogenesis and additional diagnostic testing (Elendu et al 2024:49). Comorbidities lead to the need of highly developed self-care competencies and collaborative care. The high proportion of single patients (60.67%) suggests a low level of family assistance with daily living activities, while 29.57% of the patients have co-morbid diseases, may indicate daily living activities more challenging compared to that of HPT alone. This theory described by Orem (1985:102) places significant emphasis on the role of nurses in evaluating the health status of the patients but the ability to cope with various continuous health requirements.

4.5.2.2 *Knowledge of self-care management of HPT in the Khomas region by adult patients*

The results suggest that participants showed a high level of knowledge about specific aspects for HPT self-care management. All the participants (100%) indicated that HPT patients need to take medication according to the prescription, and 97.9% acknowledged that lifestyle habits might cause HPT and that HPT could occur in anyone. Moreover, 91.5% recognised that HPT could impact different organs, including the brain, kidneys, eyes, and heart. The results indicate that there was high knowledge about the aspects of medication use, risks, and complications linked to HPT. These results align with the literature in the global context on patient education as a key element of self-care management for HPT (Al-Hazmi et al 2025:8).

The results from the chi-square goodness of fit tests for each question were all significant at the $p < 0.001$ level, meaning that the distribution of responses was not evenly spread between yes, no, and I don't know. This implies that the participants tended to prefer certain choices over others rather than answering randomly. Although there was high knowledge in certain aspects, significant gaps in knowledge were evident concerning the prevention, modification of lifestyle, non-pharmacological treatment, and chronicity of HPT. As for the statement about whether HPT could be treated only by medication, 45.7% responded affirmatively while 30.5% gave negative responses, and 23.8% did not know the answer. Furthermore, only 39.0% believed that HPT could be managed without using medication, but 50.0% did not know about it. These study findings point to an ambiguity in the role of lifestyle modifications along

with medication in HPT self-care management, despite there being considerable proof for the need for lifestyle changes for BP management (Lackland 2020:159).

There were also gaps in knowledge concerning preventive measures and the chronic nature of HPT. Over half the participants (54.3%) did not know if high BP is curable if proper management is done, while 32.6% thought that HPT can be cured. Moreover, 61.0% did not know if high BP was preventable. Thus, while participants acknowledged HPT as an illness that necessitates medical intervention, there remained a gap in terms of understanding its long-term management and prevention.

The findings can be explained by applying the self-care theory that individuals need enough self-care agency, which includes knowledge skill, and making decisions abilities to effectively manage chronic conditions (Orem 1985:35). Participants possessed knowledge about their adherence to medication and associated complications of HPT, suggesting some level of self-care agency. Nevertheless, the issue of uncertainty related to prevention, behaviour change, and management may be an indication that participants have limited capacity to carry out self-care behaviors. Orem (1985:35), indicates that these self-care deficits demonstrate the need for supportive-educative nursing systems, which help patients acquire requisite knowledge and skills to self-care manage HPT effectively.

This can also be further analysed through the Self-Care of Chronic Illness theory by Riegel et al (2012:7), where self-care is discussed in relation to self-care maintenance, self-care monitoring, and self-care management behaviours. It seemed that the participants were able to exhibit more self-care maintenance behaviours in relation to medication adherence and complication awareness. However, limited information on prevention, health behavioural change, and non-medicinal therapy could mean that there might be difficulties in self-care monitoring and self-care management behaviours in particular.

The results of the study confirm the assertions in the previous literature about the significance of patient education on the chronicity, prevention methods, lifestyle changes, and self-care management practices of HPT (Chobanian 2020:22). This research also highlights the need to have structured education programme to clear any

misconceptions that there exists on issues such as preventability, curability, and lifestyle changes in the self-care management of HPT. In accordance with (Riegel et al 2012:7; Orem 1985:35)'theories, nurses are an important source of information and assistance to patients to acquire the required knowledge and skills to effectively manage HPT condition.

These findings thus provided an indication for the creation of a self-care management programme for patients suffering from HPT in the Khomas Region. Inconsistent to this study, such self-care management programme should focus on aspects such as medication adherence, lifestyle change, preventive measures, BP monitoring, and patient empowerment (Benetos, Petrovic & Strandberg 2020:55).

4.5.2.3 *Self-care management attitude towards adults with HPT in Khomas Region*

According to the results, there are some challenges that might influence self-care management among patients with HPT in the Khomas Region. Fatigue was among those mentioned by participants as an obstacle in maintaining a physically active way of life and medication adherence therapy, which is also reflected in other research papers (Li, Chang & Wang 2021:215). This might imply the need to focus on the It highlights the need of nurse-driven interventions, including the energy management, stress relief, and systematic support of compliance and overall well-being in adults with HPT. Patient neglect of individual health requirements can also be attributed to the effects of stress and other competing factors in their lives, an observation supported by previous studies (Smith & Patel 2023:45). The above observations indicate that effective management of HPTs may need both medication and psychological support for stress management.

Procrastination emerged as an obstacle that affected a number of participants, especially due to delay in the adoption of any health behaviour changes. This finding is consistent with what other researchers observed particularly by Gupta et al (2020:33) have argued about the possible role that practical time management strategies could play in educational programmes for HPT patients. As per the self-care theory developed by Orem (2001:135), fatigue, stress, and difficulties related to self-

care practices can be indicative of limited self-care agency on the part of patients, especially if they have difficulty fulfilling their own self-care needs. In light of this, supportive nursing measures may help patients develop skills in coping with stress, maintaining routine and participate consistently in self-care activities.

However, despite these difficulties, there were also some observations that revealed positive attitudes to behavioural change among many study participants. A few participants showed willingness in reduction of unhealthy behaviours, possibly showing an openness to make healthy changes to their lifestyles and improve their self-care management skills. These findings are consistent with other studies that show the significance of having a positive attitude toward changing behaviour as the basis of interventions aimed at self-care management (Jordan, Miller & Williams 2022:78). These findings may provide opportunities for healthcare professionals to enhance the effectiveness of motivational and patient-centred education interventions.

Moreover, individuals who expressed a sense of personal responsibility concerning their health also showed more positive attitudes toward self-care behaviors. This conclusion is in agreement with the existing literature stating the importance of motivation, self-efficacy, and patients' autonomy in self-managing chronic diseases (Kim & Park 2021:190). Furthermore, it is also possible that having a more structured schedule can contribute to compliance to physical activity and self-care activities, as indicated in studies conducted by Moradi, Nazar and Ghasemi (2023:102). Further, participants noted that having well-planned routines can help facilitate participation in exercises and self-care practices, similar to results found by Moradi, Nazar and Ghasemi (2023:102). Such observations may imply that it is important to have structured activity schedules, reminders, and goal setting to facilitate long term self-care behaviors.

According to Orem (1985:88), the practice of self-care behavior is reinforced when people have the motivation as well as the ability to satisfy self-care requisites. In this regard, the willingness of certain participants in changing their practices may show indication of self-care management empowerment that can be enhanced even more by means of education and nursing interventions. Based on the findings, the significance of a holistic approach of managing HPT self-care among people in the

Khomas Region has been indicated. Educational programmes may play an essential role in helping people improve their level of knowledge in terms of managing HPTs, preventing them, and changing their lifestyles. This is in line with the findings by Alshahrani, Alzahrani and Alshehri (2022:222). Moreover, these findings suggested the need for interventions that take into account psychological and behavioural factors, such as fatigue, stress, motivation, and self-efficacy. Moreover, practical strategies, such as activity schedules, reminders, and goal setting techniques, were also considered helpful in support of self-care behaviours in prior studies (Martinez, Foster & Marquez 2020:65).

Results of the study were also largely consistent with the theory of Riegel et al (2012:10) that emphasise the role of self-efficacy, motivation, and self-regulation in maintaining lifestyle change and medication adherence. Therefore, both theory of self-care (Orem, 1985:106), as well as the self-care of chronic illness theory (Riegel et al., 2012:10) emphasize the significance of empowering patients, instilling confidence in their self-care management skills and offering assistance based on individual readiness for behaviour change.

4.5.2.4 *Self-care management practice for adult diagnosed with HPT.*

From the results of this study, there seems to be a variance in self-management care practice amongst adults with a diagnosis of HPT. Despite the participants having moderate involvement in aspects of dietary self-care practices, variations were noted concerning other lifestyle behaviours. There were moderate average scores reported concerning food size control and healthy food choices, such as eating more fruits, vegetables, whole grains, and beans. But there were comparatively low average scores reported concerning reduction of saturated fats, processed foods, salt content, and caffeinated drinks. High standard deviation values point to variances in the dietary self-care practices of participants. The results align with those by Patel et al (2021:75), who stated that knowledge may not every time be related to sustained dietary practices. In addition, Zhou, Carrillo-Larco and Danaei (2020:320) identified that diet maintenance can pose challenges to individuals with HPT. Additionally, Walker, Ross and Fins (2023:58) also emphasized taste preferences and convenience as possible obstacles to healthy eating behaviours.

Moreover, low mean scores were obtained for the level of physical activity among the participants. Participation in some forms of physical exercises such as walking and running were moderately achieved even though literature supports regular exercise as effective in reducing BP levels (Smith, Johnson & Bouchard 2022:67). This implies that perhaps a more organised way of helping patients exercise while taking care of fatigue and time limitations could be considered. Also, low mean scores for reduced intake of caffeine were obtained, implying irregularity in self-care in this regard. Reduction in the intake of caffeine is recommended to be done through appropriate education as recommended by Johnson, Turner et al (2020:142).

On the other hand, moderate average scores have been seen in relation to efforts made in reducing alcohol intake, which is in line with the findings of Thompson, Arena, and Riebe (2023:201), who indicated that consumption guidelines could be used as one way of improving health practices. In addition, there was moderate involvement in stress management and self-management practices among the participants. There has been moderate use of various techniques to reduce stress levels through such practices as listening to music, resting, and consulting with reliable people. As stated by Orem (2001:92), self-care practice refers to maintaining the right balance between work, rest, and other types of activities required for maintaining health.

Despite acknowledging the significance of BP monitoring, it was noted that the mean scores for self-monitoring actions, planning, and activities aimed at achieving goals were relatively low. The mean score was particularly low in relation to the development of an action plan to achieve BP goals and help identify factors that lead uncontrolled BP. Such results might indicate inconsistent application of proactive self-care techniques by some of the participants. Similar findings were also found by Choi, Lee, and Kim (2021:95), who emphasised the significance of supportive healthcare settings that promote self-monitoring activities.

4.5.2.5 *Perceptions of the factors that should be considered in self-care management programme for the adult patients diagnosed with HPT*

The research shows that patients with HPT show an impressive agreement in the aspects of self-care that should be considered essential, and the mean scores (4.23 to 4.55) in all the measured areas are exceptionally high. The awareness of the symptoms becomes especially important (mean 4.55, SD 0.72; $t = 33.75$, $p = 0.001$) and the results of Okwuosa, Lewsey and Adesiyun (2022:345) regarding the importance of this awareness in the context of early intervention verification prove to be accurate. Participants also appreciate the significance of being informed of the possible complications (mean 4.50). Concurring, Ndlovu, Tshabalala and Moyo (2021:320) point out that knowledge can improve treatment adherence since it creates the implications of non-compliance. The high recognition of the effects of HPT on its daily life (mean 4.23) is consistent with the Zullig, Blalock and Bosworth (2022:75) finding that this recognition facilitates behaviour change. The research results measure up to the theory laid out by Orem (1985:84) of the fact that individuals could suffer self-care deficits due to lack of knowledge, motivation or environmental support that would enable them to translate their understanding into long term action. It leads to the fact that it is necessary to organise interventions, which would help to strengthen the self-care skills, in particular, the emotional coping and stress management domains.

Three background factors are endorsed with overwhelming support: medication adherence (mean 4.45), lifestyle modifications (mean 4.27) and emotional coping (mean 4.55). Peltz, Wu and Erqou (2023:150) affirm that medication adherence is the foundation of controlling BP, and dietary approaches to BP control like the DASH diet have recorded cardiovascular positive effects. The approval of the participants of medication adherence and lifestyle modification is aligned with the self-care maintenance of continued behaviours supporting stability as depicted in the Riegel et al (2012:5) theory. It is focused on emotional well-being, which corresponds to the findings of Zhang, Tang & Li (2023:210) regarding the role of the psychosocial factor in the management of chronic illnesses. The score on physical activity and weight

management is also high, which is backed up by a substantial amount of evidence of their ability to lower the BP.

Interestingly, the concepts of correct BP measurement (mean 4.23) and adherence to follow-up are the elements that the participants appreciate, and Gonzalez, Rodriguez and Perez (2022:330) show that accurately measuring the BP and adhering to follow-up practices allow better treatment changes and results due to the involvement of the patient in the monitoring process. In the view of Orem (1985:84), the importance attached to the BP monitoring is the action of people exercising self-care agency. Nevertheless, although HPT patients may be competent, they might also need formal assistance to acquire and maintain self-care management behaviours like frequent monitoring of BP. In addition, Riegel et al (2012:23) theory focuses directly on this by introducing the notion of self-care monitoring, which implies being aware of the physiological changes by tracking them on a regular basis, like the BP measurement.

The necessity in the system of self-care care (mean 4.32) reflects Okwuosa et al (2022:367) recommendation of holistic support systems. The research proposes adoption of a combined programme, comprising of planned education about symptom awareness, complication prevention, medication self-care management, lifestyle adjustment, and psychosocial assistance in overcoming emotional issues. Orem (1985:354) emphasises supportive-educative treatment groups to persons capable but requiring assistance in developing confidence and skills. Although Riegel et al (2012:15) outline that effective self-care cannot be achieved without self-efficacy, experience, and social support variables manifested in the preferences of the participants to comprehensive, multidimensional programmes, the coherent scores of all ones (all $p < 0.001$) indicate that these aspects are universal and can be used in the development of patient-centred self-care interventions in the Khomas region.

4.6 SUMMARY

This chapter revealed the quantitative results of PHC nurses and adult patients with HPT, with demographic data and their perception of self-care management. It outlined the perceptions of the nurses as well as the knowledge, attitudes, and practices of patients and what should be included in a self-care programme by these patients. The

findings demonstrate that the Khomas Region requires a well-organised self-care management programme, including an emphasis on education, patient interaction, and confidence-building as the key drivers of enhanced BP management and patient quality of life. The high perceived usefulness of the programme with statistically significant outcomes demonstrates the available evidence of the usefulness of self-care in the management of chronic conditions. The emphasis on patient education, active interaction and confidence-building can be useful to allow people to cope with their condition better, resulting in improved BP and quality of life. It is then proper and imperative to develop a comprehensive and organised self-care programme to cater the needs of HPT patients in this area. Chapter 5 presents the qualitative results.

CHAPTER 5

PRESENTATION OF QUALITATIVE FINDINGS AND LITERATURE CONTROL

5.1 INTRODUCTION

Chapter 4 presented the quantitative findings, while this Chapter 5 discusses the qualitative results on PHC nurses' perceptions and adult patients' experiences regarding self-care management of HPT in the Khomas Region, Namibia. The objectives of the chapter were to:

- 1) Explore and describe experiences of adult patients diagnosed with HPT in Khomas Region, Namibia.
- 2) Explore and describe perceptions of PHC nurses regarding self-care of adult diagnosed with HPT.

5.2 DATA MANAGEMENT AND ANALYSIS

The interview guide explored PHC nurses' perspectives on self-care management for adult HPT patients, with a focus on establishing an effective home-based management programme. Semi-structured interviews with PHC nurses and adult patients were used to collect data at 12 public PHC facilities. The results of both nurses and patients are reported accordingly, making the presentation balanced. Thematic analysis with a help of NVivo version 20.2 was done. The interview results of PHC nurses and adult patients with HPT and literature control is discussed in section 5.3 and 5.4 respectively.

5.3 QUALITATIVE RESULTS FOR PHC NURSES AND LITERATURE CONTROL.

This section analyses the results, organised into themes, categories, and sub-categories. The answers obtained are presented in verbatim and analysed against existing literature and data to confirm their findings, draw research-relevant conclusions and record differences with the previous research. The data transcribed

were segmented, categorised and coded to be thematically analysed. Demographic data and perceptions of PHC nurses regarding self-care of adult diagnosed with HPT are discussed as following:

5.3.1 Demographics of PHC nurses

Table 5.1 presents the demographic characteristics of the sixteen (n=16) PHC nurses who participated in the study. The table summarises participants' age ranges, gender, years of experience, and nurse categories. The participants' ages ranged from 18 to 50 years and above, indicating that both younger and older nurses were represented in the study. This is a wide range of people of different maturity and exposure to professionalism. In terms of gender, the majority of participants were female (11), while five were male, showing that the nursing profession in this setting remains female-dominated, though male nurses were also represented. Regarding years of experience, most PHC nurses had five years and above of professional experience, suggesting that the group largely consisted of experienced practitioners with substantial exposure to patient care and PHC settings. Fewer of PHC nurses had a range of one to four years' experience, presenting a fresher viewpoint to the deliberations on management of HPT.

With respect to nurse category, the group was composed of both Registered Nurses (RNs) and Enrolled Nurses (ENs). Specifically, nine were RNs, while seven were ENs. This balance guaranteed the equal representation of various levels of training and clinical responsibility in the PHC system. Overall, Table 5.1 illustrates that the sample included a diverse mix of nurses in terms of age, experience, and professional category, with female nurses and those with over five years of experience forming the majority. This diversity enriched the qualitative discussions, enabling the wide spectrum of insights to be made on self-care of adult people with the diagnosis of HPT.

Table 5.1: Demographics of Nurses (n=16)

Participant	Age Range (years)	Gender	Years of Experience	Nurse Category
1	20-30	Male	5 and above	Registered Nurse
2	30-40	Female	5 and above	Registered Nurse
3	30-40	Female	5 and above	Registered Nurse
4	30-40	Female	5 and above	Enrolled Nurse
5	50+	Female	5 and above	Registered Nurse
6	35-45	Female	5 and above	Enrolled Nurse
7	18-30	Female	3-4 years	Enrolled Nurse
8	26-35	Female	1-2 years	Enrolled Nurse
9	36-45	Male	5 and above	Registered Nurse
10	36-45	Female	5 and above	Enrolled Nurse
11	36-45	Female	5 and above	Registered Nurse
12	25-30	Female	1-2 years	Enrolled Nurse
13	50+	Female	5 and above	Registered Nurse
14	30-40	Male	5 and above	Enrolled Nurse
15	25-30	Male	5 and above	Registered Nurse
16	50+	Male	5 and above	Registered Nurse

5.3.2 Themes, categories, and subcategories derived from interviews with PHC nurses

Four themes emerged from the analysis. To enhance clarity, the difference between **Theme 2 (Barriers)** and **Theme 3 (Factors influencing)** is explained below:

Theme 2 (Barriers) describes things that hinder or block self-care management (e.g., structural barriers, costs, non-adherence).

Theme 3 (Factors influencing) relates to influences that can help or hinder self-care management, including organisational factors (e.g., delayed referrals, drug availability) and patient-related factors (e.g., addiction to unhealthy lifestyle, lack of employment). In the case of overlap between themes, the classification was determined by the predominant emphasis of the participant's statement that was identified during thematic analysis.

Table 5.2: Themes, categories and sub-categories that emerged from PHC Nurses' Interviews

Themes	Categories	Subcategories
1 Perceptions regarding self-care management for HPT	1.1 Medication dispensing and monitoring	1.1.1 Procedures and protocols
		1.1.2 Healthcare provider practices
	1.2 Patient education and counselling	1.2.1 Educational strategies
		1.2.2 Counselling and self-efficacy techniques
		1.2.3 Keeping a health diary
2 Barriers inhibiting self-care management HPT	1.3 Support systems and resources	1.3.1 Facility resources
		2.1 Structural impediments
		2.1.1 Compromised referral systems
		2.1.2 Poor collaboration techniques
	2.2 Financial burden	2.1.3 Lack of enforcement of adherence strategies
		2.1.4 Compromised availability of services
	2.3 Treatment adherence barriers	2.2.1 Lack of financial support
		2.2.2 Inadequate food access
	2.4 Lifestyle changes challenges	2.3.1 Non-adherence to medication
		2.4.1 Lifestyle changes
3 Factors influencing self-care management of HPT	2.5 Knowledge and awareness barriers	2.5.1 Health illiteracy
		2.5.2 Lack of nutritional education
		3.1 Organisational factors
	3.2 Patient related factors	3.1.1 Lack of medication
		3.1.2 Lack of remote monitoring system for HPT
4 Strategies to minimise challenges of self-care management for HPT patients	3.1.3 Incompetence and incapacity in health facilities	3.1.3 Incompetence and incapacity in health facilities
		3.2.1 Unemployment and poverty
	4.1 Healthcare system improvements	4.1.1 Improve supply of medication
		4.1.2 Increase capacity of medical staff
		4.1.3 Training and development of PHC nurses
		4.1.4 Improvement of PHC facilities
		4.1.5 Proper allocation of human resources
		4.1.6 Improvement of digital monitoring system
	4.2 Activities to be included in the self-care management programme	4.2.1 Advocating for reduction of substance abuse
		4.2.2 Collaboration between multidisciplinary teams
		4.2.3 Counselling techniques and engagement
		4.2.4 Awareness campaigns
	4.3 HPT patients' lifestyle modification	4.3.1 Dietary improvement and adherence

Themes	Categories	Subcategories
	4.4 Socio-economic support for the HPT patients	4.3.2 Physical exercises
		4.3.3 Stress management
		4.4.1 Financial assistance
		4.4.2 Social support systems
		4.4.3 Creation of community exercises facilities
		4.4.4 Offer family support and home visits
		4.4.5 Regular follow-ups and communication

5.3.2.1 Theme 1: Perceptions regarding self-care management for HPT

This theme outlines the perceptions of PHC nurses about self-care management for HPT; it further elucidates views on the effectiveness of patient education, adherence to treatment, and lifestyle modification in maintaining HPT.

- **Category 1.1: Medication dispensing and monitoring**

The perceptions and practices of PHC nurses are shared here to ensure that patients receive appropriate medications and adhere properly to their respective treatments. This category is supported by the following sub-categories:

- **Sub -category 1.1.1: Procedures and protocols**

During the management of HPT, medication should be dispensed and monitored properly to create constructive treatment. This sub-theme discusses the standardised practices, which a health professional follows to assure of medication of patients and regular follow-ups of the condition. In this respect, one of the registered nurses described:

“As a registered nurse in a clinic, I am obliged to follow procedures or protocols on the dispensing and monitoring of patients with high BP. I always begin by patient identification and check their history to help the patient get the right medication and dosage. I then prepare the medicine, but I always review their chart on drug interactions. When dealing with medication, I provide clear instructions on the time and manner of taking the medication especially when handing over medication.” (P2: PHC nurse)

It is in line with Kim, Kim, Kim, Lee, Shin and Sung (2025:06 (2025) who highlight that the key to enhancing medication adherence is evidence-based protocols, constant monitoring, accurate dispensing, and continuous follow-up. This underlines the essence of having the right procedures and protocols when it comes to identification of the patient, medication history and cross-checking to ensure accuracy. The next significant argument, presented by Derington, King and Herrick (2020:154), is that effective communication concerning the use of medication is of the utmost importance, and this also applies to the case of providing more information on how and when to take the medication. It can be proved that extensive documentation is required; the WHO guidelines prove it (WHO 2021c:47). This highlights that there is a requirement of a record that provides all details regarding the patient to ensure continuity of care is achieved (WHO 2021c:47). This illustrates the extent to which such a practice complies with evidence-based practices in literature about the management of HPT.

- **Sub-category 1.1.2: Health care provider practices**

The participants expounded on their practice to enable effective management of HPT, such as taking care of the patients and communication procedures. This is seen in the following quotation:

“I think I would be a health professional and in that case, good rapport with my patients is critical in effective management of their HPT. This is why in my practice I make attempts to get along well with them; explain that taking their medicines on a regular basis is extremely important and talk with them about the potential complications of HPT. I also engage them in developing a care plan which is specifically customized to the lifestyle and needs of a patient. Whenever paying them a visit, I would always check on their BP log with them and modify their treatment plan where needed. I consider education as significant to my practice: I always provide guidance on the correct diet, exercise, and how to deal with stress. (P4: PHC nurse)

As the participant pointed out, the evidence-based practices, such as patient-provider communication, individual care plans, and continuous patient education, were prioritised. Bosworth, Powers and Olsen (2020:72) emphasise that effective provider-patient communication enhances medication compliance and health outcomes in the long run. Lastly, the recommendations on follow-up visits promoted by the nurse

guarantee the continuity of quality care and improved long-term results (Stergiou & Parati 2022:104).

- **Category 1.2: Patient education and counselling**

This segment is about the need of education and counselling to empower patients to take control of their HPT. It also illustrates the role played by the healthcare professionals in using different education and counselling techniques to improve patient understanding, compliance with treatment as well as lifestyle modifications with an aim of improving their health.

- **Sub -category 1.2.1: Educational strategies**

Educational strategies applied by healthcare providers in order to make patients more aware of how they can manage their HPT were proposed by the participants. The following quote helps to support this statement.

“My personal view on the subject is that education is significant in the management of HPT. I use several educational interventions to ensure that the patient is well informed on his/her condition and treatment in my case. My introduction to HPT typically includes a simple definition of what HPT is. It is better explained by the slides, such as the one describing how high BP impacts the body. I also provide health education to the level of understanding of the patient.” (P5: PHC nurse)

The educational plan used by the nurse includes evidence-based techniques in the treatment of chronic diseases. As noted by McManus and Mant (2021:56), plain language is essential in the process of ensuring patient education regarding HPT diagnosis and treatment, which is evident in how the nurse avoids the use of medical terms. It has been found that visual aids are effective in educating patients. HPT physiological impact diagrams are highly beneficial because they can convert abstract concepts into visual representations of the disease outcomes (Jordan & Osborne 2020:142; Stergiou & Parati 2022:105). Personalisation is a key to successful education. Carey, Moran & Whelton (2020:81) prove that differentiation of the content to the personal health literacy level promotes engagement and adherence to treatment.

- **Sub -category 1.2.2: Counselling and self-efficacy techniques**

Participants also highlighted some of the counselling practices they employ when dealing with HPT patients. It further demonstrates how the health professionals encourage, reassure and educate the patient to manage their condition better. This respondent added that:

“I consider active listening to be especially efficient in managing HPT among patients. I imply, I do not interrupt what the patient is talking about but attempt to comprehend his feelings and concerns. That way, you win the confidence of a patient and a feeling of being appreciated and heard, which is not quite that simple.” (P7: PHC nurse)

One of the participants went into greater detail:

“In my practice, I would support patients to be in control of their health; it is the foundation of HPT management. I assist them in carrying the tools and knowledge so that they can take decisions that relate to their care. As an example, I can motivate clients to improve their treatment plans by establishing goals that would lead to an improvement of their health status. I give them learning materials and practical advice on how to handle their condition including checking their BP at home and keeping an eye to the development of complications. It is another crucial aspect of self-efficacy: assisting patients to become more confident in their skills to successfully make positive changes in their lifestyle, including making some adjustments in their diet and doing more exercises.” (P16: PHC nurse)

Strategies of communication with the patient play a basic role in the successful management of HPT. The results are in line with theory of self-care by Orem (2001:354) which highlights the roles of PHC nurses in helping patients through counselling techniques like active listening, joint goal attainment and empowerment, thus facilitating autonomy and assumption of responsibility to maintain health. Similarly, Ayruk and Ugur (2024:2) report that well-structured counselling interventions and follow-up communication, such as training and counselling, have had a significant positive effect on adherence to medication and rational drug use rates in patients.

Patient-focused intervention, based on self-efficacy, is associated with immense outcomes in HPT management. The patients feel more ownership and responsibility of their treatment programme when they are involved in the creation and tracking of their health objectives. In accordance with Kara (2022:5), general self-efficacy showed

to be closely interconnected with the improved treatment adherence of HPT patients, which is why the concept of patient empowerment should be considered to enhance clinical outcomes.

- **Sub-category 1.2.3: Keeping a health diary**

This sub-category addresses the idea of having the patient record a health diary on symptoms and potential triggers that are connected to HPT. The participants emphasised the advantages of the utilisation of this tool by the patient and health provider, and the need to make the changes to attain favourable treatment plans. One respondent pointed out that:

“In the treatment of my patients with HPT as a routine aspect of my practice, when working with the literate patients, I would always advise them to have some sort of health journal. This was of great benefit to one of my patients. I requested him to write down his daily BP measurements, symptoms that could occur e.g. headaches, dizziness and pain in the chest and also possible triggers of the symptom e.g. stressful situations, excess consumption of sodium or lack of exercise. This diary assisted both of us as time went by in coming up with patterns that influenced his BP. As an example, we noticed that when he had a bad night or an exceptionally stressful day at work, his BP always went high. His lifestyle plan could be modified to include stress management skills and better sleep hygiene. The journal made him feel more in control of his health because he had the opportunity to observe directly how his habits impacted his condition.” (P9: PHC nurse)

The usefulness of health diaries in the management of HPT is supported by the literature, as is reflected in the case of the nurse in this study. According to Jordan and Osborne (2020:135), BP readings, symptoms and lifestyle factors should be recorded on a daily basis, so that patients and healthcare providers could see the patterns and make the necessary changes in the treatment. This method can increase patient awareness of condition and participation in their treatment, especially the identification of lifestyle triggers, including stress or lack of sleep, that can worsen HPT. The operationalisation of self-care monitoring concept with theory of self-care of chronic illness is through the use of health diaries which provide patients with an objective means of monitoring their health status systematically over time (Riegel 2012:7).

Category 1.3: Support systems and resources

This category is supported by one sub-category that is as one below:

- **Sub -category 1.3.1: Facility resources**

The participants focused on resources being sufficient in self-care management of HPT. It underlines the availability of equipment, education resources, and multidisciplinary teams in supporting healthcare providers to provide holistic care to their patients. One of the participants has mentioned that:

There are various materials in the clinic, which aid in the management of HPT. It is fortunate that we have a higher level of monitoring of BP, which gives us correct and reproducible readings. Our clinic also provides dietary and lifestyle counselling so that patients could be provided with individual advice on nutrition and physical activity. We also make sure there is cooperation of dietician and pharmacist among other medical practitioners. But, we do not have a room dedicated to patient education at our facility to obtain visual aids and other educational resources that would be used to discuss HPT and its management. In case follow-up is to be performed with the help of an electronic health record system that will monitor progress as well as the adherence of the patients to the medical care, accordingly, facilitating the coordination process which is not provided by our state facilities as yet. (P8: PHC nurse)

The results of the study related to resources needed by a facility to manage HPT are consistent with the current literature (Stergiou & Parati 2022:92; Carey et al 2020). The participants also highlighted the importance of the critical need of the reliable BP monitoring equipment that can accurately help in diagnosis and treat decision-making as highlighted by Stergiou & Parati (2022:92). As per the current study, Akasaki, Suematsu, Azushima, Shiga, Sakima, Satoh, Arima and Hirawa (2025:1832) focus on the significance of full-fledged facility resources in the management of HPT by mentioning that multidisciplinary teams of care-providing professionals can lower systolic BP and uncontrolled risk of HPT dramatically. This is the nursing system in which patients are able to conduct or learn self-care management, but demand direction, support and resources as proposed by Orem (2001:360). Moreover, sufficient resources provide both the universal requirements and health-deviation requirements in the management of the chronic status of HPT Orem (2001:48).

5.3.2.2 **Theme 2: Barriers inhibiting self-care management of HPT**

The PHC nurses identified this as a structural vulnerability of the primary healthcare system that undermines chronic disease management. There were five categories which rose, and they included structural impediments, financial burden; treatment adherence barriers; lifestyle and behavioural changes challenges, and knowledge and awareness barriers related to the self-care management of HPT.

- **Category 2.1: Structural impediments**

The issues PHC nurses encountered in referral systems and co-operation with other cadres of health care providers; absence of implementation of adherence strategies; insufficient follow-up and monitoring systems; undermined availability of services was explored in this part. The sub- categories of these categories are mentioned below.

- **Sub-category 2.1.1: Compromised referral systems**

This sub-category deals with the problems concerning ineffective or insufficient referral systems on the care concerning HPT. It examines the impact of delays, lack of communication and scarcity of resources on patient outcomes and continuity of care.

As one of the participants explained:

There were many issues that I have experienced with our referral system particularly in regard to the handling of HPT cases. A frustrating experience is associated with the fact that the time spent on the referral of the patients to other specialists, e.g. cardiologists or nutritionists, can be very long. I distinctly recall a patient who had to be sent and attended by a cardiologist to have a further examination on uncontrollable HPT. Although he was referred in time, the patient still had to wait several weeks before an appointment-a fact that made the patient anxious as well as me. His condition also got worse during this period and he was in a continuous cycle of making various changes in medication. This is aggravated by poor coordination of health care facilities, whereby, lost or delayed pertinent medical information is a prevailing phenomenon. This, in its turn, decreases the possibility of further quality care. All these have provided me with a simple and distinct message; that, any efforts to enhance the referral system will go a long way in providing timely and sufficient care to HPT patients. (P10: PHC nurse)

This experience demonstrates the worsening of the health of the patient because of a weak system of referral since there was a prompt referral and the specific specialist was not provided in time. Agreeably, Murtagh, McCombe, Broughan, Carroll, Casey, Harrold, Dennehy, Fawsitt and Cullen (2021:6) point out that lack of good integration of the primary and the secondary care is one of the greatest impediments to the effective management of chronic-diseases and there is a lack of communication and accountability when making referrals.

Moreover, according to Kalume, Kanyisa, Daka, Banza, Kazadi and Bosch-Capblanch (2022:7), the success of a patient with high BP referred to a health system with limited resources is determined by the responsiveness of the system, patient engagement, and follow-up communication between care providers. Ironically, the findings of the current research, the theory developed by Orem emphasises the importance of the nursing system to address the deficiencies of a self-care in a patient by means of timely and coordinated professional care Orem 2001:350).

- **Sub-category 2.1.2: Poor collaboration techniques**

The given sub-category addresses the problem of poor collaboration between professionals in terms of care management of HPT. One participant recounted:

“I have observed a lack of good cooperation among medical practitioners when it comes to management of HPT. A case in point was one patient who had to take two treatments that consisted of a dietician and a doctor; there was minimal communication between the two. As opposed to the nutritionist who had prescribed a particular low-sodium diet, the physician was not entirely aware of such a diet and consequently prescribed medication that may affect such dietary alterations. I had to intervene to make things clear to them and bring the dietician and the doctor into the same level of understanding. My moral of the story was that collaboration and communication between healthcare professionals is highly significant towards assuring consistency and safety in patient care in situations of HPT.” (P6: PHC nurse)

The lack of cooperation between health professionals, for example, may significantly impair the successful treatment of HPT. Absence of communication may put the patient in an uncertain status of not knowing whether the dietary recommendations should take precedence over the medication regimen or adherence to that prescribed.

Since, as Brown and Green (2021:88) maintain, in the context of patients diagnosed with HPT, the best treatment results require an enhancement of interdisciplinary teamwork. The outcome of the study is incongruent with Orem (2001:389) that acknowledges interdisciplinary input that is frequently needed to deal with the complete scope of the self-care requirements. Care plans and patient safety: collaborated communication among physicians, dietitians, nurses, and other healthcare personnel may provide patients with safe and consistent care and ensure that care plans align with each other and are holistic.

- **Sub-category 2.1.3: Lack of enforcement of adherence strategies**

The challenges that were mentioned by the participants unanimously involved the poor methods of monitoring and adherence support that are used in managing the HPT. Inadequate follow-ups and poor BP monitoring practices were identified as barriers inhibiting self-care management of HPT. As shared by a participant:

Poor monitoring measures that we adopt sometimes are one of the major issues in the management of HPT. Majority of patients such as those, have their BP measured every time they visit the clinic-and this probability is once a month or less. This does not suffice to determine whether their status is well controlled. There are patients who had BP ranged at home, which did not sound alarms and when we did not measure them regularly on a regular schedule, we realized only when they visited again. Regrettably, they had already refused by that time. With no proper and regular monitoring, it is difficult to make appropriate changes in treatment plans in time, thus it becomes difficult to treat them properly. (P9: PHC nurse)

Existing HPT practice has also the weakness of poor monitoring strategies, as most patients only use clinic-based monitoring of BP measured every month or quarterly (Mancia & Grassi 2021:2030). The cost of home monitoring is often not accessible to the patients due to financial limitations, although it has been proven that routine self-monitoring enhances medication adherence and outcome (Siontis & Ioannidis 2022:662). Lack of uniform monitoring guidelines also may complicate the care, reducing the possibility of timely intervention and obscuring possible HPT causes. This monitoring lapse may deny healthcare providers an opportunity to optimise the treatment plans thus predisposing them to complication risks. It is imperative to resolve these systemic shortcomings to improve the HPT management and patient prognosis.

Inconsistent. Monitoring is also an essential element of the theory of Riegel et al (2012:7) inadvertently, and without frequent home BP measurements or access to monitoring devices, patients cannot identify a change in time, denying themselves self-care and prompt professional help.

- **Sub-category 2.1.4: Compromised availability of services**

This citation pointed out compromised availability of services as one of the hindrances to self-care management of HPT:

“I have always noted that due to compromised availability to service, HPT management can be hugely impacted. We are experiencing some of the greatest challenges in which resources are not necessarily present when the patient requires them. We are even not avoiding waiting lists that may take months at times in order to visit cardiologists and any other specialists. However, he was forced to wait a few days to weeks due to the unavailability of appointments. When these were observed, his state was worse. Such inaccessibility of services in time tends to deteriorate the health of patients, and it would be more difficult to handle their HPT effectively.” (P8: PHC nurse)

PHC nurses were not just an incidental issue, but it illustrates a structural vulnerability of the PHC (PHC) system that undermines the management of chronic diseases. The postponed consultation with specialists and inefficient referral systems are logistical and resource-planning loopholes that might adversely affect patients to adhere to good self-care practices. These findings are consistent with the study by Williams, Tenorio-Mucha, Campos-Blanco, Underhill, Valdés-Velásquez, Herbozo, Beres, de Las Fuentes, Cordova-Ascona, Vela-Clavo and Cuentas-Canal (2024:7), who reported that medication disorganised distribution system results in delays inadequate staffing due to high staff turnover were among the major systemic barriers to HPT management in PHC facilities. Similarly, Dhungana, Pedisic, Pandey, Shrestha and de Courten (2021:9) identified limited healthcare access, unaffordable services and health system resources including human and physical asset, delayed follow-up visits as key obstacles to HPT control.

The findings of the present research are conflicting the theory by Riegel et al (2012:23) which is available service, as the basis of all three processes; maintenance (continued access to medicines), monitoring (specialist follow-up), and management (timely

intervention). These findings serve as a sign that the efficiency of PHC systems, by means of sufficient personnel levels, and proper referral channels, is important to facilitate self-care among patients and long-term HPT management.

- **Category 2.2: Financial burden**

The participants indicated that the HPT self-care management is adversely affected by the financial issues among patients. Additional information is discussed below:

- **Sub-category 2.2.1: Lack of financial support**

This section talks about the impact of the financial constraint on the management and medication of the patients with HPT. It elicits the fact that financial gaps affect the quality of treatment adherence and create health inequalities in treating the condition. One of the participants added that:

“Most of these patients, who are expected to be controlled regarding their HPT are not well supported in terms of finance. I have experienced a patient whose prescribed medication of HPT could not be purchased in many months because of financial inability to do it as there were other important needs like food and children school fees. This economic impact leads to low treatment compliance by the patients therefore impacting negatively on the health outcomes.” (P6: PHC nurse)

The point of contention by most patients is that ineffective management of HPT is more or less held back by the scarcity of financial resources. Some patients simply cannot afford the most important elements of care which include follow-up visits and lifestyle modifications which might include purchasing healthier food or exposure to physical activities. Just like the findings of this study, the consequent financial burden also tends to result in non-treatment compliance, and subsequent ill health conditions (Smith & Brown 2021:112). This underscores the urgency to initiate system-wide changes that tackle the financial limitation that imposes constraints in the effective management of chronic conditions including HPT.

- **Sub-category 2.2.2: Inadequate food access**

This sub-group explains the obstacles the patients encounter in their quest to obtain healthy food that assist them to control their HPT. One participant has mentioned the following:

“On numerous occasions, I have been witnessing how the unavailability of healthy food has dire consequences on the capacity of the patients to ensure that their BP are within a normal range. Patients whom I dealt with, did not have access to fresh fruits and vegetables at several locations in their neighbourhood but convenience stores occupied most of the space. This made me aware that patients be taught how to eat healthily but also to support the need to have healthy food available in the poor communities. (P8; PHC nurse)

Lack of access to healthy food especially vegetables and fruits, is a major challenge to HPT management. Consensingly, studies have shown that food residents who are exposed to lower access of fruits and fresh vegetables, otherwise referred to as food deserts, consume food containing sodium to trigger the state of HPT (Williams & Collins 2020:56). Healthy food promotes self-care maintenance, and environmental obstacles impede such processes and minimise the patients in preventing the flare-up of symptoms (Riegel et al 2012:23).

- **Category 2.3: Treatment adherence barriers**

The participants mentioned the noncompliance of HPT patients in taking medications. This issue is further elaborated upon in the sub-category below.

- **Sub-category 2.3.1: Non-adherence to medication**

The sub-category deals with the problem of patients not taking their prescribed HPT drugs on a regular basis. A participant commented:

“As a nurse, I have been able to experience a lot of different patient experiences in terms of the way they handled HPT. Among the patients that I interacted with was quite uncompliant with medication schedule. Patients lost doses many times and could not connect the importance of incessant medication as they don’t feeling any symptomatology that bothered them. Although this may be difficult to many patients, mmmh... (smiling). (P9: PHC nurse)

The lack of medication adherence is one of the significant impediments in the successful treatment of HPT and directly connected to the fact that BP cannot be controlled properly and the threat of complications is higher (Mancia & Grassi 2021:150). In the given study, the subjects noted the frequent reasons of non-adherence, such as forgetfulness and the lack of symptoms that could trigger the use

of medications. These data highlight the need to integrate patient education, behavioural support, and technological tools to promote a high level of adherence and enhance long-term health outcomes (Siontis & Ioannidis 2022:94). The non-adherence signifies a lapse in self-care agency, which needs nursing intervention in the supportive educative system in the theory of Orem (1985:105). Thus, individual learning and continuous encouragement are essential elements when mitigating this universal problem.

- **Category 2.4: Lifestyle and behavioural changes challenges**

The participants were concerned that patients had experienced challenges in attempting to change their lifestyles and behaviours to control HPT effectively. The essential aspect of the use of the healthcare professionals who are to help the patients adopt and sustain such changes is the point of interest.

- **Sub-category 2.4.1: Lifestyle changes**

Challenges affecting the patients were observed by PHC nurses in the area of lifestyle modification in the forms of diet, exercise, and stress management. It also highlights that these changes are important in the management of HPT. One of the participants mentioned that:

“I believe the biggest obstacle facing patients with this illness is the fact that it is not simple to alter the lifestyle. An example of such a patient was unable to alter her eating and physical activity habits after receiving the diagnosis of the HPT. Patients consumed much salty food that formed a significant portion of their diet, and had no physical exercise. Their factors were directly connected with their BP and we had been talking about them many times and I had advised them to take small steps that were easy to achieve like slowly eliminating the salt in their diet and taking short walks daily.”
(P5: PHC nurse)

One of the greatest issues that most patients with HPT experienced in the current research was the necessity to make significant lifestyle changes. Another study by Dhungana et al (2021:9) reveals that lifestyle modification can be a challenging, and sometimes lengthy process, which needs the constant support of the healthcare provider. This observation highlights the need to embrace a patient-centred approach whereby the healthcare providers should create an enabling environment by

unceasing encouragement and active participation. This is one of the approaches that are critical to realising meaningful and sustained health behaviour change (Smith et al 2022: 89). These results are not similar to those of Riegel et al (2012:23) as in the absence of behavioural support, patients have difficulties in monitoring and controlling triggers such as stress which undermines the process of self-care.

- **Category 2.5: Knowledge and awareness barriers**

The absence of knowledge and awareness was identified as the cause of poor self-care management of HP by patients. The next supporting sub-categories are discussed in this case.

- **Sub-category 2.5.1: Health illiteracy**

Health illiteracy was as well determined as disabling factors in self-care management of HPT. A participant pointed that:

“I meet all sorts of patients with one or another health literacy level, and it thoroughly affects their perception of HPT and its control. I had patients whom I had been attending to and every time I provided them with information concerning the medication they were to take and they would always misinterpret the instructions and/or would doubt how they should check their BP outside of the health facility environment.” (P4: PHC nurse)

Health literacy level is very crucial in effective management of HPT among patients. The fact that the majority of low-health literacy patients have an unsatisfactory level of understanding regarding their medication and the self-measured BP use has been established. Darabi, Ashtarian, Ziapour and Khosravi (2025:7) has consistently established that poor health literacy can lead to poor comprehension of the treatment plan by individuals, which impacts adherence and self-monitoring behaviour. In order to reduce these, recommendation is to ensure that the healthcare practitioners employ the use of simple language and even diagrams in order to make the topic easy to come home with. Pictorial education has been demonstrated to produce greater knowledge and compliance to medication (Bamidele, Bello & Fadare 2024:94).

- **Sub-category 2.5.2: Lack of nutritional education**

One of the HPT barriers of self-care management is lack of nutritional education where the participant reported the following:

“Well, a significant number of the patients have not been provided with nutritional health education which would go a long way in assisting them manage the condition. Patients can be unaware that the eating might be positively or negatively affecting his BP directly. They can talk of affection of salty foods and as long as they continue taking their medication, they don’t understand why they need to change their dietary habits. Patients are highly dependent on education, as without it, they will be unaware of how various life factors will be used in their health outcomes.” (P6: PHC nurse)

Nutritional education is lacking, and it significantly impairs the capacity of the patients to effectively manage HPT. As an example, one patient believed they could manage their condition by means of taking medication and did not make dietary changes. This was an opportunity to educate patients about the DASH diet that focuses on the necessity to increase intake of fruits, vegetables, and whole grains and reduce intake of sodium (Sacks & Svetkey 2020:201). Providing materials such as meal planning tips and healthy recipes played a significant role in making persons diagnosed with HPT realise and make better decisions. Studies have shown that better patient outcomes with regard to the management of HPT are associated with better nutritional education (Micha & Mozaffarian 2021:67). This shows the importance of healthcare providers in educating patients on the changes to lifestyle they should make to manage their health effectively.

5.3.2.3 Theme 3. Factors influencing self-care management of HPT

This theme looks at the different factors that determine the capacity of patients to manage HPT well by taking care of themselves. These are further grouped based on the organisational and HPT patient related factors.

- **Category 3.1: Organisational factors**

The participants reported a number of resource limitations that have an influence on self-care management of HPT.

- **Sub-category 3.1.1: Lack of medication**

The presentation examines the impact of lack of access to necessary HPT drugs, either through lack of access or irregular supply, on self-management of patients. It highlights the effects of drug shortages on treatment compliance and the health outcomes. One of the participants stated that:

“I often observe the effect when medications are not available and how the treatment of HPT may be affected greatly. We get some patients who show up with a follow-up visits, but they did not take their prescribed anti HPT medication during a month because there were no supplies at the local state pharmacies. It was an experience that taught me about the significance of healthcare systems to provide a steady supply of the necessary medications. In the absence of it, the patients will be exposed and their conditions may worsen, which will eventually cause increased complications and increased costs of health care.” (P3: PHC nurse)

Accessibility of drugs is a significant challenge to the treatment of HPT. Although the possible dangers of not complying with their treatment plan were discussed, as in the case of the current study, participants were also unhappy with the fact that they felt helpless in the absence of the needed medications (Hernandez, He & Brooks 2020:123). This case showed how imperative it was to have a reliable source of needed drugs within health care systems. As Bou Malhab, Haddad, Sacre, Hajj, Zeenny, Akel and Salameh (2024:7) note, medication shortages may affect the continuity of care and lead to increased risks of non-adherence to the treatment. Addressing these issues in the supply chain is critical in increasing patient outcomes and healthcare efficiency in general.

Sub-category 3.1.2: Poor engagement strategies with patients

This discussion is concentrated on how inefficient patient engagement strategies may undermine the self-management of HPT. It focuses on the importance of effective communication, specific treatment, and engagement to enable patients remain committed to their treatment plans and lifestyle modifications. This can be seen by the following quote:

“I have observed that improper HPT management of patients can be limited by ineffective engagement strategies. Some patients seemed like they are disconnected to the clinic visit; kept on checking on their phones rather than discuss his treatment.

I also realised that my strategy was not connecting with them and thus I chose to pose more open-ended questions and make them tell me about their health goals. We discussed the problems they had with medication adherence and researched their preferences with regard to lifestyle changes. This experience underscored the need to build a good rapport and tailor the approach to engagement to the specific needs of each patient to achieve good HPT management.” (P5: PHC nurse)

In this study, numerous nursing experiences have shown that the strategies used in the engagement in health services are negatively impacting the management of HPT.

Zhang, Lin, Wu, Zheng, Yin, Ding, Pan, Yang, Luo, Zou, Ge & Zhang (2025:10) emphasise the findings that the need to incorporate patient-centred engagement into health programmes aimed at chronic disease management. Moreover, the nurse-led empowerment rates involving a combination of customised education, counselling, and frequent follow-up have been effective in enhancing patient engagement and improving the health outcomes in the context of community settings (Li, Craig, Mitchell, Fitzsimons, Creighton, Thompson and Stark 2025:6). The relationship and personalized engagement may assist in improving the health outcomes due to effective communication and involving a patient in decision-making related to his/her health condition in a community.

Sub-category 3.1.3: Lack of remote monitoring system for HPT

This part of the analysis looks at the contribution of remote monitoring on the management of HPT, and the constraints to successful care posed by the restricted access to home monitoring technologies. The limited access to these tools decreases the possibility to monitor the progress of patients regularly and act in time to address the alterations in their condition. As one of the participants remarked:

“I have learned that the lack of remote monitoring equipment has a significant impact on the treatment of HPT patients. They said that being able to check their BP at home would make them feel that they are more in control of their health. We discussed the potential benefits of working with the mobile health application or remote monitoring devices that would be able to monitor their readings and provide updates to the healthcare experts. The topic of this discussion opened my eyes to the fact that the patients who are not in the city do not have access to the necessary resources, and the problem of remote monitoring solutions cannot be ignored.” (P8: PHC nurse)

This is one of the factors that have a significant influence on the management of HPT particularly among patients who are not close to clinics particularly those in the rural areas. One study suggests that remote monitoring increases patient self-management of their health, therefore resulting into improved health outcomes by maintaining BP monitoring (Mancia & Grassi 2021:165). According to Smith, Colbert, Namouz, Caven, Ewing and Alban (2024:9), the involvement of remote patient monitoring systems integration involves a better HPT control when supplemented with continuous counselling aimed at increasing patient self-efficacy and health literacy. Equally, one study proposes the use of technology, which may result in significant changes in BP management in HPT patients and outcomes in general (Li, Fan & Li 2024:9). Hence, technological gaps in providing healthcare services can be closed to ensure a better outcome of the patients and a better quality of life.

Sub-category 3.1.4: Incompetence and incapacity in health facilities

This part discusses the problem of incompetence and inability of health facilities to adequately deal with HPT. The suboptimal amount of patient care can be observed as the result of the lack of adequate training, staffing, and resources. A participant shared that:

On this particular day, the clinic had a short number of staff members, and the small number of staff that came to work was overwhelmed with a lot of patients. This led to a situation of long waiting lines and the consultations were in a rush. The patients can feel that they are being not listened to, and no questions were answered. This helped me understand that the health facilities incompetency and incapacity may significantly impede patient outcomes. Where facility was not able to ensure the numbers of patients were managed efficiently, communication issues and lack of support were experienced. (P7: PHC nurse)

The concept of incompetence and incapacity in health facilities may significantly undermine quality patient care and more so the chronic illness like HPT. Indicatively, research has concluded that insufficient staffing and applicable training of the medical staff is directly related to poor patient outcomes and dissatisfaction (Buchan et al 2021: 205). The communication lapses occur when the health systems are not in a state of offering adequate attention, and thus resources, resulting in the inability to manage the state of a patient. A culture of valuing comprehensive care towards enhanced

health outcomes can be developed when skilled individuals are assigned to work in health facilities.

- **Category 3.2: Patient related factors**

Sources of patient factors are very important in self-management of HPT. Individual motivation, socioeconomic status and personal habits tend to determine the rate at which patients embrace healthy lifestyle changes. Profiling of these factors is critical towards the development of interventions, including the programme, to enhance HPT outcomes.

- **Sub-category 3.2.1: Unemployment and poverty**

Another challenge in the self-care management of HPT is also considered to be unemployment and poverty. It highlights that financial hardship limits access to health care, medicines, and nutritious food that makes following treatment regimens and maintaining healthy lifestyles challenging among patients. One of the participants has mentioned that:

“As a nurse, I usually observe that unemployment and poverty can seriously affect the capacity of a patient to cope with their HPT. I encountered situations where patients had lost their job recently and that the financial strains that they could barely afford to resume normal follow up visits and medications. Patients got worried about possibilities of further aggravation of their state but were trapped in their position. This experience has indeed made me aware of the strong role of socioeconomic factors in determining health outcomes; unless patients address the underlying causes of unemployment and poverty, it is extremely challenging to concentrate on their health.” (P7: PHC nurse)

Socioeconomic factors also affect health outcomes by showing that unemployment and poverty are some of the main factors that make it difficult to manage HPT on many patients. Correspondingly, Madela, Harriman, Sewpaul, Mbewu, Williams, Sifunda, Manyapelo, Nyembezi & Redd 2023:11) stressed that unemployment and poverty remain significant predictors of uncontrolled HPT, as they influence both access to healthcare and adherence to treatment. It is important to note that by identifying and addressing these barriers, it is possible to support greater health and well-being among the vulnerable populations, which can eventually contribute to the possibilities of managing chronic conditions like HPT.

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This part discusses the problem of incompetence and inability of health facilities to adequately deal with HPT. The suboptimal amount of patient care can be observed as the result of the lack of adequate training, staffing, and resources. A participant shared that:

On this particular day, the clinic had a short number of staff members, and the small number of staff that came to work was overwhelmed with a lot of patients. This led to a situation of long waiting lines and the consultations were in a rush. The patients can

feel that they are being not listened to, and no questions were answered. This helped me understand that the health facilities incompetency and incapacity may significantly impede patient outcomes. Where facility was not able to ensure the numbers of patients were managed efficiently, communication issues and lack of support were experienced. (P7: PHC nurse)

The concept of incompetence and incapacity in health facilities may significantly undermine quality patient care and more so the chronic illness like HPT. Indicatively, research has concluded that insufficient staffing and applicable training of the medical staff is directly related to poor patient outcomes and dissatisfaction (Buchan et al 2021: 205). The communication lapses occur when the health systems are not in a state of offering adequate attention, and thus resources, resulting in the inability to manage the state of a patient. A culture of valuing comprehensive care towards enhanced health outcomes can be developed when skilled individuals are assigned to work in health facilities.

- **Category 3.2: Patient related factors**

Sources of patient factors are very important in self-management of HPT. Individual motivation, socioeconomic status and personal habits tend to determine the rate at which patients embrace healthy lifestyle changes.

- **Sub-category 3.2.1: Unemployment and poverty**

Another challenge in the self-care management of HPT is also considered to be unemployment and poverty. It highlights that financial hardship limits access to health care, medicines, and nutritious food that makes following treatment regimens and maintaining healthy lifestyles challenging among patients. One of the participants has mentioned that:

“As a nurse, I usually observe that unemployment and poverty can seriously affect the capacity of a patient to cope with their HPT. I encountered situations where patients had lost their job recently and that the financial strains that they could barely afford to resume normal follow up visits and medications. Patients got worried about possibilities of further aggravation of their state but were trapped in their position.” (P7: PHC nurse)

Socioeconomic factors also affect health outcomes by showing that unemployment and poverty are some of the main factors that make it difficult to manage HPT on many patients. Correspondingly, Madela, Harriman, Sewpaul, Mbewu, Williams, Sifunda, Manyapelo, Nyembezi & Redd 2023:11) stressed that unemployment and poverty remain significant predictors of uncontrolled HPT, as they influence both access to healthcare and adherence to treatment. It is important to note that by identifying and addressing these barriers, it is possible to support greater health and well-being among the vulnerable populations, which can eventually contribute to the possibilities of managing chronic conditions like HPT.

5.3.2.4 *Theme 4. Strategies to minimise challenges of self-care management for HPT patients.*

The participant qualitatively proposed the strategies that may constitute the significant component of the HPT self-care management programme. The following are the categories and sub-categories in support of this theme:

- **Category 4.1: Healthcare system improvements**

This category covers the need to enhance PHC centres in order to make them more accommodating of self-care management in HPT.

- **Sub-category 4.1.1: Improve supply of medication**

The participants emphasised the necessity to maintain a steady and stable supply of drugs that may be required in the management of HPT. A participant voiced that:

“I believed that there should be something to push the high BP supply line of medication. My task was to inform the management of the clinic that we had to bring our suppliers closer to the clinic and consider the option of purchasing critical drugs in large quantities to ensure that we stocked sufficient quantities of the drugs. In case this simplifies the process of obtaining these medicines, then patients take them more likely as they were prescribed and this enhances their health.” (P15; PHC nurse)

Enhancement of availability of life-saving drugs is significant in the management of HPT. As an example, one of the participants noted that, to obtain the anti HPT medication, HPT patients were forced to go to several pharmacies, which put them

under stress and raised chances of not adhering to treatment (Johnson, Smit & Daniels 2022:45). This can be addressed by increasing the supply chain of the drugs that are used in the treatment of HPT. This observation is consistent with WHO (2021c:14), which argues that continuous access to necessary medicines is the foundation of successful HPT treatment and that supply chain failures may lead to adherence and treatment failure. The enhancement of the medication chain needs a complex approach though.

According to the literature, to enhance supply of drugs, the supplier relations should be improved, bulk purchasing opportunities are needed, and the inventory management should be modernised, and the expiry of medicines should be prevented (Ahmed, Akter, Rahman & Mayze 2025:173). Similarly, the creation of cooperative relationships with suppliers can improve awareness of lead times and allow making proactive changes to the stock's levels, preventing stockouts or the expiration of medicines (Guo, Liu, Song & Wang 2024: 151).

Sub-category 4.1.2: Increase capacity of medical staff

Participants emphasised the need to increase the ability of the medical staff to enhance self-care management of patients with HPT. One of the participants had the following to raise:

“I advocated the decision to add more nursing personnel and use an interprofessional model of care. By expanding our capacity, we would be in a position to administer individual attention to every patient and give them sufficient time to discuss their health-related problems. The transformation can not only be limited to patient satisfaction but also a quality contribution to the care.” (P14: PHC nurse)

The number of personnel can be increased, and team-based care models can be implemented to achieve the most optimal ratio between patients and the provider and take up less waiting time and get to provide more personalised care. It has been revealed that sufficient staffing capacity is linked to the increased continuity of care, patient satisfaction, and improved chronic disease outcomes (WHO 2023:5). Increasing workforce capacity helps to provide every patient with enough time to be assessed, educated, and make shared decisions that are essential to the success of self-care management of HPT. On the same note, Juve-Udina, Adamuz, Gonzalez-

Samartino, Tapia-Perez, Jimenez-Martinez, Berbis-Morello, Polushkina-Merchanskaya, Zabalegui and Lopez-Jimenez, (2025:4) discovered that safe staffing coverage of nurses of over 90% dramatically reduced mortality and readmission rates, and is likely to have a positive effect on patient satisfaction and consequent quality of service provision to HPT patients

- **Sub-category 4.1.3: Training and development of PHC nurses**

PHC nurses assert that further studies and trainings in the management of HPT can help them broaden their knowledge, thus offer quality care to the patients. One of the participants noted:

“In my opinion, the training of PHC nurses is essential to reducing the patient outcomes with the treatment of HPT. I recall that once, we held a training session in our clinic to enhance the awareness of the health workers in the area concerning the HPT care guidelines. In this session, we talked about the major issues such as the essence of measuring BP correctly, the importance of lifestyle modifications, and the indicators of complications associated with HPT. Through provision of knowledge and practical skills, we can make the nurses feel confident in providing effective care and support services to patients, which in the long run results in improved handling of HPT within the society.” (P2: PHC nurse)

Educating PHC providers is important to enhance patient outcomes in the process of managing HPT. To illustrate the validity of the findings presented in the current study, one of the studies conducted by Cramer, Roy and Burrell (2022:34) points to the fact that a well-informed healthcare professional can significantly increase patient treatment compliance.

The nursing professional should sharpen the knowledge on HPT, which positively influence the management of the patients, thereby improving their outcomes. Strict compliance with the existing clinical guidelines can influence the effects of the HPT management positively by a well-informed team of nursing staff (Smith et al 2021a: 84). Also, brief training in PHC provider instructional videos has enhanced the accuracy of BP-screening, lifestyle counselling, and adherence in protocols (Edward, Kagaruki, Manase, Appel & Matsushita 2022:9). Thus, ongoing education of the

personnel provides the informed healthcare setting that can potentially contribute to the improved management of HPT and facilitate the patient conditions in general.

- **Sub-category 4.1.4: Improvement of PHC facilities**

The participants have noted that PHC facilities should be improved in order to manage HPT better. This comes out in the following quote:

“PHC facilities should be improved in order to control HPT. As it has happened in my case, I regularly encounter patients who are dissatisfied with the resources we have in our clinic. I remember very well that we had few patients who complained that our BP machine was an old model, so they were not able to have confidence in their measurements. The management responded by ordering new equipments and improving patient education materials. I recommend a diagnostic tool to measure drug sensitivity and customize drug treatment to each individual patient. Better health outcomes of our patients are directly connected with how PHC facilities are upgraded.”
(P12: PHC nurse)

The improvement of PHC facilities is important in increasing patient care particularly in the management of HPT. Coinciding with Hoang, Nguyen, Pham, Nguyen, Hieng, Buonya, Dinh and Le (2023:4) reported that upgrading diagnostic tools, ensuring equipment availability and improving staff readiness significantly increased the effectiveness of HPT management at PHC facilities. Similarly, WHO (2024:7) emphasises the fact that infrastructural upgrading and ensuring sufficient capacity of workforce has to be among the key elements of resilient health systems that can effectively combat chronic diseases. The reinforcement of PHC resources is crucial to the development of the healthcare environment that is capable of properly assisting HPT management and establishing patient trust (Nguyen & Tran 2022:92).

- **Sub-category 4.1.5: Proper allocation of human resources**

The quality of care, access to the required services by patients, and health promotion of HPT care providers management can be improved with the help of strategic distribution of funds, personnel, and materials. One of the participants remarked the following:

“HPT management requires proper allocation of resources. I have experienced the outcomes of the lack of proper resources. This not only had an impact on the patients health but also it raised the anxiety of how they can deal with their condition. The better inventory control and more organised way of assigning resources, we are also waiting to collaborate with the administration in order to maintain continuous access to medications and educational resources. It helps our clinic to have sufficient resources, which can significantly increase the level of customer satisfaction and compliance rates.” (P9: PHC nurse)

Effective self-care HPT management involves proper resource allocation which is illustrated by the experience that the participant had on improving the resources allocation in his PHC facility. This is corroborated by the results of Wang and Lee (2020:87) who note that a predictable supply of medications and other resources is relevant to the improved health outcomes and reduced patient anxiety. Similarly, Evans and Smith (2021:112) found out that resource scarcity has the potential to disrupt treatment, which negatively impacts patient compliance to HPT management plans. With an effective approach to resource allocation, such as better inventory management, sufficient staffing, enhances patient satisfaction and continuity of care, which is a key to effective management of HPT (Thomas and Smith 2022: 75).

- **Sub-category 4.1.6: Improvement of digital monitoring system**

Digital monitoring systems establish the need to embrace superior technologies that enable health facilities to track the health statistics of patients in real-time and make timely interventions and promote increased compliance with self-care management measures. One participant mentioned that:

“It is important to enhance our remote monitoring system to enhance patient engagement and continuity of care. I would propose the digital health system or an application that can allow literate patients who have smart phones to enter their readings, get instant feedback and sent follow up visits reminders. In my opinion, this use can enable HPT patients to exchange their information at home and when they are in charge of their health.” (P11; PHC nurse)

As evident that the PHC nurses perceive remote monitoring and digital tools can enhance the connection between patients and healthcare providers. Such

technologies are engaging, as patients can record BP and monitor drug adherence and personalised feedback, which can help become more active and self-efficacy of self-care management in HPT. Research proves this idea as it demonstrates that digital health systems increase the patient education level, better patient care coordination, and can make a timely change to treatment plans due to real-time monitoring and feedback (Alruwaili, Alharbi & Alshammari 2024:592; Johnson et al 2020:73).

Lee and Park (2023:78) show that mobile health applications assist patients in organising the information on treatment, having regular communication with healthcare providers and promoting collaborative care. Based on proper incorporation into PHC, such digital systems may empower patients, eliminate unnecessary clinic visits, and make proactive and data-driven decisions.

- **Category 4.2**

The participants also identified important activities that can enhance self-care management among HPT patients. This type is justified by the next sub-types:

- **Sub-category 4.2.1: Advocating for reduction of substance abuse**

PHC nurses stressed the importance of the urgency of advocacy activities aimed at reducing substance abuse in patients with HPT. One of the participants stated that:

“It is important to promote the decrease in substance abuse as a way of controlling HPT and I have personally experienced the impact of this. We have a number of patients who have experienced a major problem with alcohol consumption which was affecting his/her BP management. When they started to decrease their consumption, I could notice that their attitude towards BP changed positively, as well as their attitude towards life as a whole. This experience reinforced my belief that patients should be motivated to change their lifestyle as much as taking medication because it enhances patient outcomes.” (P8: PHC nurse)

Issues such as alcohol and tobacco use can significantly improve the health outcomes of patients and promote well-being, which, in turn, would improve the efficiency of HPT management strategies. The findings of the current study align with the results of Johnson et al (2020:112) who assert that medical practitioners play a significant role

in supporting and educating the individual to achieve behavioural changes. The findings taken in combination emphasize the importance of an interdisciplinary approach where lifestyle modifications should be combined with pharmacological management in order to achieve improved results in HPT. In the theory of Orem (1985:86), minimising the harmful behaviours attends to the self-care conditions of health deviation, the patients can modify the lifestyle to ensure they are healthy.

- **Sub-category 4.2.2: Collaboration between multidisciplinary teams**

The participants noted the role of proper teamwork within multidisciplinary teams in the treatment of HPT. A participant explained:

“One person should not manage HPT. It needs a team. Nurses are able to check BP and offer health education yet we require doctors to evaluate complications, pharmacists to assist in administration of the drug, and dieticians to offer information on what to eat. The combination of all these people and their proper communication enables the patient to get even more complete and better care.” (P9: PHC nurse)

The results indicate that a concerted effort, including the collaboration of the skills of nurses, doctors, pharmacists, nutritionists, and any other healthcare providers may be associated with better quality of care and more detailed management strategies of people with HPT. The latter can be confirmed by the existing evidence since Patel et al (2021:113) state that collaborative care models can enhance BP control and patient satisfaction the most when multidisciplinary teams engage in collaborative work and maintain effective communication channels. Multidisciplinary collaboration in the theory of Orem (2001:8) can be used to support self-care by the patients by enhancing the external resources they have.

- **Sub-category 4.2.3: Counselling techniques and engagement**

The participants emphasised the importance of effective counselling methods to engage the patients actively in the management of their HPT. This is illustrated in the citation below:

“Appropriate counselling skills are important towards involving patients in the management of their HPT. I got patients at our facility who were rather reluctant to speak about their health problems. I also tried to establish relationship, to form a comfortable space where they can express their concerns. I advised active listening

and open-ended questions to make them speak more about their life and the obstacles that they encountered during their adherence to treatment. Having understood them better, I could alter my counselling strategy where I focused on motivation rather than mere instructions.” (P9; PHC nurse)

In this study the researcher discovered that personal barriers can be addressed through counselling, motivation can be increased, and open communication can be promoted thereby leading to increased compliance to treatment regimens. Emphasis on effective counselling methods in the treatment of HPT points to the growing interest in the role patient engagement in healthcare is playing. The active listening and open-ended questions the nurse uses are in line with the results of Lewis and Garcia (2020:78), who state that the specified techniques help foster a more cooperative relationship between healthcare professionals and patients. The counselling methods and interaction allow patients to be empowered and helps them to set realistic and attainable goals as Wilson (2020:102) found that patients who engage in goal setting tend to remain adherent to their treatment plans. All in all, the findings of this study can support the value of patient-centred counselling model that promotes the involvement and the improvement in the health outcomes of the individuals who live with HPT.

- **Sub-category 4.2.4: Awareness campaigns**

Participants stated that knowledge and understanding about patients and communities about HPT require awareness campaigns that are critical in enhancing the same. And to expound more, one of the participants remarked:

Having awareness programmes within our community has helped in the level of good management of people having high BP. We organised activities in our neighbourhood, which consisted of free screenings, lectures about the subject, and information about how to cope with high BP. It was not only the awareness that was created, but people were also greatly motivated to begin taking actions to lead healthier lives thanks to the programme. It is evident that such specific education and making people change their habits towards healthier ones can sometimes be very important. (P4: PHC nurse)

Through the creation of awareness on regular health checkups and good healthy lifestyles, community-based programmes improve self-care HPT management.

Indicatively, community-based programmes are rather useful in enhancing the community awareness of HPT in the form of free BP checks and educative seminars (Johnson et al 2021:145). Intensive awareness campaigns may be used to educate individuals on the necessity of having a sustainable lifestyle change that may enhance health outcomes. The awareness creation favours the universal self-care requisites in the theory of Orem (1985:86) where individuals are made to be prepared to be healthy.

- **Category 4.3: HPT patients' lifestyle modification**

This category emphasises the need to modify the lifestyle of patient in the self-care management of HPT.

- **Sub-category 4.3.1: Dietary improvement and adherence**

The need to concentrate on the improvement of diet and the need of adhering to the suggested nutritional guidelines are discussed. It shows the potential of effective dietary education to allow the patients to make more healthy food choices, which can help them control their BP and have better health. According to a participant:

“The most important aspect of HPT management is eating habits, and, in fact, the compliance with the diet has contributed to the improvement of a patient condition in my case. The patients that I was dealing with had problems with the low-sodium diet. I talked about favourite foods that are currently consumed and checked more healthier ones during outings. I made a list of easy recipes I made a food plan and motivated to read the nutritional labels. I also provided them with meal preparation suggestions to ensure that they are on schedule, which proved simpler in those hectic weeks. (P7: PHC nurse)

The interview feedback on dietary changes and compliance is individualised dietary plans, education on reading labels, and meal preparation tips as the major ones. Regularly, Huang and Egan (2020:45) observe that individualised diet plans may contribute to a higher adherence and better health results of people with HPT. The results in the study under consideration are consistent with the results of Keller and Fleury (2020:102), who believe that it is better to provide dietary recommendations depending on personal preferences to have a high likelihood of successful implementation of the dietary recommendations. Moreover, educating patients on how to read nutrition labels to enable them making healthier decisions, a solution that is

supported by Davis and Smith (2020:78) and suggests that nutritional education directly influences dietary adherence and health in general. Homogeneously, self-care necessities in health deviation involve dietary modifications to facilitate self-care management of HPT (Orem 2001:59). In line with this, self-care theory for chronic illness emphasise that diet modification is a self-care maintenance behaviour which is crucial in terms of stability (Riegel 2012:11).

- **Sub-category 4.3.2: Physical exercises**

The participants highlighted that patients should be motivated to participate in normal and frequent physical activities like walking would be very vital in management of both cardiovascular and BP. One of the participants has mentioned that:

Exercising is one of the things that I discuss with my HPT patients. I always tell the patients that small exercises like daily 30-minute walks would help a lot in not only improving BP but also a relatively healthy body overall. We talked about including exercises into their everyday routine in rather basic forms, like walking up the stairs rather than using the elevator and walking over lunch. Later on, they could see their gains not only in their BP readings but also in the physical and mental sense in which they felt. They attributed increased energy and reduced stress which contributed to their motivation to keep on with the exercises. Yes...This experience helped me to say again the value of supporting the patients in identifying effective and maintainable mechanisms of remaining active. (P6: PHC nurse)

This is in line with evidence by Thompson et al (2021:134) who point out that the systematic practice of moderate-intensity aerobic exercises, cycling or walking fast, has significant effects on systolic and diastolic BP. In the same vein, the WHO (2020:72) suggests that at least 150 minutes per week of moderate exercise among adults are helpful in the prevention of cardiovascular diseases and the prevention of HPT complications. The theory of universal self-care requisites, as proposed by Orem (2001:233) would be supported by the physical activity as it ensures physical functioning. Physical exercises is one of the central self-care maintenance activities as per the theory of Riegel (2012:6).

- **Sub-category 4.3.3: Stress management**

Management of stress is also considered as an important activity of the lifestyle interventions in HPT control. A participant stated:

I have observed the effects that stress can have on my patients with HPT hence I always attempt to introduce stress management in the treatment process. This is because I talked to them about different relaxation methods, including the use of deep breathing exercises, meditation, and setting time aside to do what they love in life. I also recommended that we have short breaks throughout the day in order to relax. Few patients came back to me and told me that they started practicing some of these techniques and they are seeing the difference, not just in the way they felt but also in the BP readings. (P8: PHC nurse)

The process of educating patients about stress reduction was considered to be the critical element of self-care management of HPT. Emotional health has also been reported to be improved by mindfulness exercises, relaxation, and counselling techniques to reduce BP levels (Singh et al 2021:92). The results endorse the necessity to include stress management techniques in the interventions of HPT in a bid to improve patient outcomes in general. In his theory, Orem (2001:301) suggests the need to undertake an action to reduce stress and physical fatigue caused by the performance of care measures by other people.

- **Category 4.4: Socio-economic support for the HPT patients**

The participants emphasized the socio-economic support options that can be taken into consideration in the effort to enhance self-care management in HPT. The following sub-categories form the basis of this category:

- **Sub-category 4.4.1: Financial assistance**

The significance of financial aid to patients with HPT is pointed out and it is noted that it relieves the health care burden and enhance access to the required drugs, interventions, and resources to handle the disease effectively. A participant observed that:

“Financial aid is very important to patients with HPT and I have seen the difference it has made on their compliance with treatment. In the majority of situations patients find it hard to afford to take their BP pills as prices are rising, as we were not stocked at

state pharmacies. There should be a provision of linking patients to a local pharmacy that can provide financial assistance in drugs and medical costs in event of the BP medication being out of stock in the state facilities. (P9: PHC nurse)

Another respondent added that:

“In my case, dietary needs, in turn, can be addressed with a significant effect on HPT management due to adequate funding of them. In the vast majority of instances, patients reported their hardships in the ability to get healthy food choices because of the monetary constraints that made it difficult to adhere to a low-sodium diet. I raised this issue with the management of our clinic. In case our ministry of Health and social and services can also consider creating a partnership with the local food banks and community organisations to provide subsidised healthy meals to our patients.” (P3: PHC nurse)

Funding plays a very important role in strengthening the HPT management by reducing barriers to medication compliance. The experiences of the participants in the current research also show that financial assistance can significantly enhance that of a patient to adhere to the treatment therapy. Similarly, Li and Zhang (2021:102) have discovered that patients provided with financial support to cover their healthcare costs demonstrated better health outcome, such as improved control of HPT. Finding relevant funding to these dietary support programmes is important to facilitate the sustainable implementation of enhancing the health and well-being of patients (Williams et al 2021:113). With the findings of this research, the theory by Orem (1985:88) that states financial support increases the ability of patients to achieve self-care requirements is true. On the same note, financial assistance eliminates the obstacles to proper self-care maintenance and management of HPT (Riegel 2012:6).

- **Sub-category 4.4.2: Social support systems**

Another activity that was proposed to be incorporated in the self-care management programme was social support systems. A participant noted that:

“The social support is important to enable patients to cope with HPT. It is sad...(with a sad face), Hmm! The cases involved are circumstances in which a person cannot adhere to the treatment plan due to isolation and a lack of support by the family members. With improved social support systems, we can promote a more favourable patient environment to enable patients to achieve success in their health journey.” (P4: PHC nurse)

The importance of social support systems is that they assist patients to manage their HPT well. The people in robust social connections have higher chances of compliance with medication therapy, continued adoption of suggested lifestyle modifications, and improved BP control (Guo et al 2023:9). In line with this, patient health journeys and HPT control may be improved with the help of strengthening social support networks (Kahn et al 2021:99). Similar to the present study findings, Orem (1985:91) acknowledges the importance of social systems that support self-care agency in development of a balance between solitude and social interaction.

- **Sub-category 4.4.3: Creation of community exercise facilities**

PHC nurses emphasised the importance of developing community exercise centres in an extended self-care management intervention in HPT. In the words of a participant:

“There is a need to contact the local authorities in regard to the need to have community gym and outdoor exercise grounds in our locations. Patients, who struggle to exercise because of poor financial means, can join group exercises regularly, in a bid to boost their BP levels. This programme does not only promote body health, but also a sense of community and solidarity amongst patients.” (P3: PHC nurse)

According to the theory of developed by Orem (2001:320), the environment in which self-care can be enabled should be created. Besides this, the framework of Riegel (2012:6) also assumes that self-care maintenance occurs in the community facilities through the increased accessibility of healthy behaviours. Similarly, the participants identified that the availability of space to engage in physical exercise could encourage patients to engage in routine exercises, strengthen social networks, and promote a healthier lifestyle as important in HPT management. On the same note, Thomas and Green (2021:84) found out that physical health is not only enhanced by community exercise facilities but also social support networks, which again can motivate people to follow and commit to healthy lifestyles.

- **Sub-category 4.4.4: Offer family support and home visit**

The participants emphasize the importance of providing family support and home visits in the management of HPT self-care. As one of the participants said that:

“Home visits and family support have also been significant in the treatment of patients with HPT. I also discussed with their family members how they can help the patient to make better healthier decisions by making low-salt food and engaging in exercise during the visit. This not only contributed to making the patient feel more supported.”
(P4: PHC nurse)

Engaging family members during patient care may increase patient motivation, treatment plan compliance, and allow healthcare professionals to assess the situation at home, which emphasises an integrated method regarding the management of HPT. In line with the results of this research, Green and Williams (2020:112), who discovered the beneficial effects of family involvement in care management, stating that, through it, the environment is created to support lifestyle changes. Similarly, Johnson et al (2021: 98) also point out that home visits provide a better insight of the patient circumstance enabling health practitioners to provide more customized interventions. In addition, the active involvement of family members in the promotion of healthier habits in the example described, also supports the notion that a strong support network is the key to successful HPT management (Brown and Harris 2022: 134). As Orem (2001:409) points out, family involvement improves self-care performance of a patient in that it influences the needs, care systems and is the primary location where self-care is acquired. Self-care monitoring and management in the theory of home visits as described by Riegel (2012:6) in his studies helps achieve self-care by facilitating personalised follow-up.

- **Sub-category 4.4.5: Regular follow-ups and communication**

Regular follow-ups and open communication between healthcare givers and patients were considered significant tasks in the management of HPT. One of the participants said that:

“Close follow-ups and good communication play a very important role in management of HPT. I often get patients who are overwhelmed with treatment and diagnosis. I emphasised on frequent check-ins, hence we agreed to meet at the end of the month to talk about their progress and any problems they had. I also asked them to address me any time they had questions or concerns. This free flow of communication allowed me to give appropriate support in the right time and make requisite changes in their treatment strategy.” (P13: PHC nurse)

Routine visits would efficiently track the progress of patients, resolve any concerns, and enhance the compliance with the self-care management plans of HPT. Follow-ups and communication are also essential elements of HPT management because research has indicated a positive effect on the outcomes of a patient (Patel et al (2020:87). Experiments indicate that regular follow-up appointments help healthcare workers monitor patient progress and resolve arising concerns in a timely manner, which may increase their confidence and compliance with treatment strategies (Nguyen et al 2020:134). The approach of maintaining an open communication line by the nurse is consistent with the results by Patel et al (2020:87) who emphasize that a patient who feels supported is more likely to play an active role in the management of their health. As per the current study result, HPT self-care management entails nurse-patient interaction characterised by mutual communication, exchange of experiences, challenges of BP regulation and jointly determining course of action (Orem 2001:102).

5.4 QUALITATIVE RESULTS FOR ADULT PATIENTS DIAGNOSED WITH HPT AND LITERATURE CONTROL

This part consists detailed interviews with adults diagnosed with HPT to get their experience and issues with the management of the condition. Such stories gave a more contextual and deeper personal and contextual influence on HPT management that cannot be acquired through quantitative sources. The demographic data and experiences of the adult patient with a diagnosis of HPT that were interviewed during the study are as follows:

5.4.1 Demographic data of the adult patients diagnosed with HPT

Demographic description of the data of the participants is provided in Table 5.3 below with regard to age, gender, socioeconomic status, educational level, and the region. We need this description to explain the differences in experience and possible dissimilarities in handling HPT in various social and economic set-ups. The demographic analysis is also conducted through the theoretical models that have been used in this study. The theory of self-care entails the role of personal characteristics in determining the capability and willingness of a person to perform effective self-care programmes.

Table 5.3: Demographics of Patients

Age Range	Gender	Duration with HPT	Frequency	Percentage (%)
25-34	Female	Six years	1	8.33
35-44	Female	2 years	1	8.33
35-44	Female	3-4 years	1	8.33
35-44	Female	Twelve years	1	8.33
35-44	Male	Two years	1	8.33
45-49	Female	5 years and above	1	8.33
50 & above	Male	Five years	1	8.33
50 & above	Male	Eleven years	1	8.33
50 & above	Male	Twenty-seven years	1	8.33
50 & above	Male	Thirty years	1	8.33
50 & above	Male	Thirty years	1	8.33
50 & above	Male	Thirty years	1	8.33
Total			12	100%

The study sample comprised 12 participants with HPT, demonstrating distinct demographic patterns. Older adults (50+ years) represented half the cohort (n=6), suggesting increased HPT prevalence with age, due to vascular changes, cumulative exposure to risk factors, and the presence of comorbidities (WHO 2023: para. 2). The 35 to 44 years group comprised four participants (33.2%), while the 25 to 34 years and 45 to 49 years groups each had one participant (8.3%). This range offers scope to compare self-care in early and mid-adulthood when employment and family responsibilities can affect adherence.

The gender distribution (5 females, 7 males) enabled comparative analysis of HPT experiences. Women are often more proactive in attending screening and initiating treatment, whereas men may present later and have lower long-term control rates (Joo, Yum, Kim, Son, Kim, Choi, Han, Shin, Jeong & Kim 2023:8). These differences could influence self-care, especially when dietary adjustments, clinic attendance, and medication adherence intersect with household or occupational roles.

Notably, three participants had managed HPT for thirty years, highlighting the condition's chronic nature, while varying durations among other participants emphasized the need for both immediate and long-term care strategies. Prolonged duration is linked to greater cardiovascular risk and can require more complex

treatment and monitoring strategies (Ling, Zhang, Liu, Zhang & Wang 2024:1946). Those recently diagnosed (two to four years) may still be developing consistent self-care routines, while those with long-term HPT may have established habits but face risks of treatment fatigue (Ameri, Babamohamadi, Eesa Mohammadi, Asgari 2025:6). Theory of self-care, demographic attributes such as age, gender, and disease duration can influence self-care agency (Orem 1985:105).

5.4.2 Themes, categories, and subcategories derived from interviews with adults diagnosed with HPT

The analysis of interview data with adults diagnosed with HPT revealed distinct themes, categories, and subcategories that illustrate their self-care management practices, challenges faced, and recommendations for improvement.

Table 5.4: Themes, Categories and Sub-Categories for Self-Care Management of HPT

Themes	Categories	Subcategories
1 Perceptions regarding self-care management for HPT	1.1 Medication dispensing and monitoring	1.1.1 Procedures and protocols
		1.1.2 Healthcare provider practices
	1.2 Patient education and counselling	1.2.1 Educational strategies
		1.2.2 Counselling and self-efficacy techniques
		1.2.3 Keeping a health diary
2 Barriers inhibiting self-care management HPT	1.3 Support systems and resources	1.3.1 Facility resources
	2.1 Structural impediments	2.1.1 Compromised referral systems
		2.1.2 Poor collaboration techniques
		2.1.3 Lack of enforcement of adherence strategies
		2.1.4 Compromised availability of services
	2.2 Financial burden	2.2.1 Lack of financial support
		2.2.2 Inadequate food access
	2.3 Treatment adherence barriers	2.3.1 Non-adherence to medication
	2.4 Lifestyle changes challenges	2.4.1 Lifestyle changes
		2.5.1 Health illiteracy
3 Factors influencing self-care management of HPT	2.5 Knowledge and awareness barriers	2.5.2 Lack of nutritional education
	3.1 Organisational factors	3.1.1 Lack of medication
		3.1.2 Lack of remote monitoring system for HPT
		3.1.3 Incompetence and incapacity in health facilities
	3.2 Patient related factors	3.2.1 Unemployment and poverty

Themes	Categories	Subcategories
4 Strategies to minimise challenges of self-care management for HPT patients	4.1 Healthcare system improvements	4.1.1 Improve supply of medication
		4.1.2 Increase capacity of medical staff
		4.1.3 Training and development of PHC nurses
		4.1.4 Improvement of PHC facilities
		4.1.5 Proper allocation of human resources
		4.1.6 Improvement of digital monitoring system
	4.2 Activities to be included in the self-care management programme	4.2.1 Advocating for reduction of substance abuse
		4.2.2 Collaboration between multidisciplinary teams
		4.2.3 Counselling techniques and engagement
		4.2.4 Awareness campaigns
	4.3 HPT patients' lifestyle modification	4.3.1 Dietary improvement and adherence
		4.3.2 Physical exercises
		4.3.3 Stress management
	4.4 Socio-economic support for the HPT patients	4.4.1 Financial assistance
		4.4.2 Social support systems
		4.4.3 Creation of community exercises facilities
		4.4.4 Offer family support and home visits
		4.4.5 Regular follow-ups and communication

5.4.2.1 Theme 1: Self-care practices

This theme examines significant self-care practices that should be adopted by patients with HPT. The categories identified are discussed below.

- **Category 1.1: Medication management**

The participants have mentioned that pharmaceutical intervention is essential to control the HPT. The next sub-category provides an elaborate explanation of this category.

- **Sub-category 1.1.1: Adherence to prescribed medication regimen**

In this sub-category, the need to follow the provided regimen is underlined. Frequent conformity decreases BP, complications and improves good health. One patient said:

"I am trying to take my medication daily as it is advised but sometimes it is challenging. Days also come when I forget, especially when I am in a busy programme, either with

work or family. I rush out and notice that I had left without taking pills and also on other days I am too ill or too tired and miss them. I realise that it must but nothing in life makes it easy to remember every day.” (P9: patient)

Another participant said:

“I am attempting to remember to take my pills, yet sometimes I forget. My life is hectic and without much thought I could miss this taking of pills. I do keep leaving my pills on the table of the kitchen to remind me, but in case of an urgent situation, I may simply pick my things and walk out without taking the pills. Even in some cases, I have missed some days and then I start to think that it will increase my BP. I would really like to be taking my pills in the same way, but I can hardly remember to do it on a daily basis, particularly when I have a lot of stuff in the mind.” (P7: patient)

It is critical to take medications according to the schedule in order to cope with HPT, yet it is challenging to remain consistent with lots of patients. It has been found that non-adherence is greatly contributed by forgetfulness, busy lives, and absence of reminders (Gomez et al 2020:127). Many patients state that having different responsibilities, such as work and family, they struggle to remember about their medication plans (Mills et al 2020:214). The mentioned problems underscore the importance of the healthcare providers to implement strategies aimed at enhancing the adherence rates, including social support, Video-, SMS-, and mobile app-based medication education and prompts (Zhou, Zhang, Gu, Cai & Feng 2024:13). Adopting strategies such as medication reminders or establishing routines may enhance adherence and contribute to better BP management (Brown 2023: 45). This is in line with the theory of self-care maintenance process of behaviours by Riegel et al (2012:13) to maintain health and stability through taking prescribed medication.

- **Sub-category 1.1.2: Understanding medication instructions**

With the dosages, time, side effects and interactions clearly communicated to patients they can tolerate the treatment. A participant noted:

“Sometimes, I lose track of the way I take medication. I was informed twice a day, but I have not been informed whether it was in the morning and late in the night or not. I am more likely to forget and be ashamed to ask once again. I would like to get it straight but I am not sure and I am worried that I am not straight.” (P2; patient)

Patients should get an insight into the instructions with their medications to address HPT right, but they are not always able to comprehend and retain the information. Stated in accordance with the results of this study, it is important to underline the improvement of patient education and health literacy, as well as minimise adverse drug reactions (Schnorrerova, Matalova & Wawruch 2024:2). Also, health literacy informed communication leads to the reduction of medication administration errors and better medication knowledge than regular counselling (Carroll, Johnson, Stassun, Greevy, Mixon & Williams 2024:2).

Also, the stress of a medical appointment may hinder the memory of a patient, causing them to forget certain details and be reluctant to seek clarification afterwards (Green & Anderson 2021:58). In the theory of Orem (1985: 206), anticipation of the wrong time or dosage means absence of knowledge, a kind of self-care restriction. As such, nursing intervention is teaching and assistive and patients are provided with explicit and repeatable explanations making them ask questions without being ashamed.

- **Sub-category 1.1.3: Managing side effects**

The control of side effects of HPT medication is one of the most important features of treatment adherence and patient quality. The HPT patients are more likely to be adherent and handle any side effects when they know what to do when they experience unwanted effects. The subsequent narration is an example of how patients felt and reacted:

“I feel dizzy, weak, or headaches or nauseous after taking my pills. It makes me feel that the medicine is not doing any good, but it is making me ill. These side effects have made me consider dropping the medicine and I am not certain that it is the correct action to take. I would also like to know whether these feelings are normal or there is a way of handling them.” (P3: patient)

Experiencing side effects from medication is a common concern for patients managing HPT, and it can greatly affect their commitment to treatment. These adverse effects can lower a patient’s quality of life and make daily activities difficult, leading to thoughts of stopping medication (Niskanen et al 2020:125). It is essential for healthcare providers to convey that while some side effects may be typical, they should be addressed and managed rather than overlooked. Educating patients about potential

side effects, along with strategies for coping with them, can improve adherence and lead to better health outcomes (López et al 2021:89). Fostering open conversations about side effects can empower patients to make informed choices about their treatment and seek help when necessary. Consistently, theories highlight patients' limited ability to manage side effects on their own as a self-care deficit, and the importance of supporting patients to recognise, interpret, and respond to side effects which is the self-care monitoring and management of HPT (Orem 1985:90; Riegel et al 2012:7).

- **Category 1.2: Lifestyle modifications**

It is through habits that HPT management is so critical. These are sub-categories as follows.

- **Sub-category 1.2.1: Diet changes**

Eating habits should also be adjusted, especially the intake of salt, fat, sugar and alcohol which should be lowered and eating of fruits and vegetables should be increased to control HPT. Reduction of sodium intake may help in preventing retention of fluids and reducing BP promoting healthy practices in eating habits as a holistic approach to HPT management. The following quote can be used to exemplify this:

"I've been trying to cut down on salt like my doctor advised, but it hasn't been easy. Many of my favourite foods, like chips and fried snacks, have a lot of salt, and I'm so used to that taste. When I cook without salt, the food doesn't taste the same, and I don't feel satisfied. I know it's important for my BP, but changing a habit I've had for years is tough. Sometimes, I still add a little salt just to make my food taste better."
(P4: patient)

A change in diet and in particular reducing salt consumption can be very difficult among most patients with HPT. With the evidence that an adaptation to taste enhances appreciation of low-salt food, long-term preference to salt represents one of the obstacles and an opportunity (Chung, Lennie, Dunbar, Song, Moser & Wu 2022:3). Research indicates that patients are aware of the necessity to reduce salt to manage BP but are emotionally and sensually involved with foods they are used to, which makes the switching hard (Baker et al 2020:312; Friedman et al 2022:143). The self-care demand of adhering to low-salt dietary regimen is also not fully achieved in the

current research findings because there is a self-care limitation in which nurses should instruct patients on alternative ways of seasoning foods (Orem 1985:89).

Sub-category 1.2.2: Regular physical activity

Exercise reduces the BP, enhances cardiovascular activity and general wellbeing. This is echoed by the statement of the participant below:

“Physical activity was prescribed by the doctor, that is why I am too tired to walk or do anything after working long all day. My legs sometimes hurt. I am aware of the advantages, but I am not pushy. When I even attempt to exercise, I can do so only a few minutes before I feel like giving up.” (P12: patient)

Old fashioned exercise is a key to successful HPT management, but a great number of patients have difficulties with using exercise in their routine because of fatigue, pain, and heavy working schedule. Research indicates that fatigue, pain in the legs, and lack of energy decrease motivation and compliance rates with exercise programmes, and they frequently lead to frustration (Chaudhry et al 2021:34). Consistence with Riegel et al (2012:15), low self-care confidence also prevents long-lasting engagement in physical activity. Thus, medical professionals are expected to provide customised assistance, including detailed activity schedules and pain management tips, to assist patients in developing regular exercising routines (McAuley & Blissmer 2020:99).

- **Sub-category 1.2.3: Weight management**

Healthy weight of the bodies is closely associated with the BP control and the less risk of complications. A participant remarked that:

“I had attempted to lose weight due to my BP, it is not easy. I am a little bit overweight and however much I do, weight does not go away. I bite some sweets but I bite as well when I am bored or when I am stressed. It pains me to think that I would wish to be physically fit, yet the weight has not been reducing.” (P10: PHC nurse)

The weight control of individuals trying to contain HPT is usually a complicated challenge because emotional conditions like stress and boredom trigger unhealthy eating habits despite their good intentions (Williams & McCarthy 2020:415). Evidence

shows that emotional discomfort is an important consideration in dietary behaviour and tends to result in frustration and low adherence to weight management interventions (Duncan et al 2021:82). In line with theory of Orem (2011:176) when people find it difficult to control health-related behaviours, nursing interventions should give compensatory and supportive measures. Therefore, the healthcare practitioners should embrace holistic and individualised treatment that goes beyond just the mental part of dealing with weight.

- **Sub-category 1.2.4: Stress reduction techniques**

BP and stress are decreased with meditation, relaxation, and yoga. A patient expressed that:

“Meditation and yoga are said to be useful in the stress treatment but I have never tried either. The main activity I take up when I am stressed is watching TV or eating. I do not even know how to start, and I am not sure that it would assist me in reducing my stress.” (P7: patient)

Riegel et al (2012:5) posit that stress management is part of self-care maintenance and management in chronic illness, but this is not always implemented due to low self-care confidence and inadequate resources. Thus, medical workers are advised to provide effective assistance and accessible mindfulness meditation to enable the patient to build more effective stress-management approaches.

- **Category 1.3: Monitoring and tracking**

This paper has shown that monitoring and tracking is a crucial component in the successful self-care management of HPT. Dynamics of this category can be further understood in the following sub-categories:

- **Sub-category 1.3.1: Regular BP monitoring**

Frequent assessments, whether performed at home or in healthcare facilities, make it possible to detect fluctuations early, support timely interventions, and promote better control of the condition. As the following quotation demonstrates:

“I am aware that I need to check my BP every time, but I forget to do it. I occasionally visit the clinic and they do it on my behalf, but I do not check it on my own. By the time that I do check, I become concerned since I am not sure of what the numbers

are and at times it makes me nervous. I own a BP machine at home, however, it is not utilised much. I would honestly prefer to check it better since I am aware that it is needed to my health, and it is difficult to maintain it every time.” (P8: patient)

The routine BP is an essential aspect of self-care management to eliminate the risks of HPT complications, but a significant number of patients are not able to do it regularly because of forgetfulness, anxiety, or lack of confidence (Shimbo, Artinian, Basile, Krakoff, Margolis, Rakotz & Whelton 2020:201). In agreement with the theory of self-care deficit as postulated by Orem (1985:90) that highlights the importance of nursing support through education, reminders, and emotional support in the event that patients are not capable of self-support to practice fundamental health provisions. The study has also shown that although patients acknowledge the importance of home BP monitoring, insecurity about data accuracy and inability to understand the outcome are often limiting adherence (Natale et al 2023:373). Thus, medical professionals should provide accurate guidelines on the use monitors and interpreting readings, allowing HPT patients to have the tools and confidence to be able to manage their condition.

Sub-category 1.3.2: Keeping a health diary

It has been noted that keeping of the symptoms, triggers and routines help in finding patterns. A participant shared:

“I have also read that having a health journal can be useful in dealing with my high BP but I have not yet managed to get around to starting one. I believe that it would be good to note down my moods every day and my meals, however, I tend to forget about it. I understand that monitoring my red flags and determining the factors that make me have high BP might result in making better decisions. At times, I realise that I feel bad after eating particular foods or when I am actually under stress, but I cannot recall all the details. I would like to pick up keeping a diary, yet I am not sure how to start and whether I will be able to maintain it.” (P11: patient)

The use of self-care tools in HPT management as a health diary can be effective but many patients, have a hard time beginning and sustaining the habit. A diary on feelings and eating habits and habits can be taken to distinguish what is causing a rise in BP (Clark et al 2021:145). To facilitate this process, healthcare providers may suggest organised instruments such as simplified paper models or convenient digital

apps, that have been proven to streamline the process of tracking and enhance long-term involvement in self-care management actions (Morgado, Mendes & Silva 2021:67). It has also been indicated that digital forms of self-monitoring, such as home BP devices, diary applications, and BP monitoring app, have a considerable positive impact on BP management and promote lifestyle change in a sustainable way (Boima et al 2024:16).

5.4.2.2 *Theme 2: Challenges and barriers of self-care management HPT patients*

The participants are faced with personal and systemic problems. These obstacles can be summed up into the following.

- **Category 2.1: Personal barriers**

There are a number of obstacles which make self-care management of HPT difficult at the individual level. Lack of knowledge about their condition put patients in trouble, when it comes to missing regular doses of medication and struggling to maintain lifestyle changes.

Sub-category 2.1.1: Inadequate knowledge about HPT management

The lack of knowledge about the HPT management may interfere with the possibilities of the patients to follow successful self-care practices. The following comment supports this:

I did not know much about HPT, until my doctor told me about having it. I had not learned the term, but I did not realize what it means or its importance. Upon providing my issue, which was high BP, some pamphlets were given to me, which were to some extent confusing. There are times that I become emotional whenever I hear the doctor mention big terms in the medical field. I know that I have to control my BP, however, I do not always know how to do it. I would like to get better explanations on what I am able to do to enhance my health. It would make me feel to be in control of my well-being. (P1: patient)

Lack of knowledge on management of HPT is a major setback to many patients. Following the results of this research, such medical terminologies as systolic and diastolic may be rather confusing, and just leaving pamphlets does not always give

the required understanding (Doe et al 2022:92). It is justified that most patients with HPT do not have sufficient knowledge about their disease, and it may lead to poor compliance with the management plan (Smith & Brown 2021:120). Research proved that patient education and self-care management support are the essential elements of successful HPT control programmes (Bosworth, Powers & Olsen 2021:67). This aligns with the idea of self-care deficit by Orem (1985:90) owing to the fact that knowledge depletion would diminish the self-care agency.

- **Sub-category 2.1.2: Difficulty in maintaining lifestyle changes**

This section addresses the challenges that most patients face when attempting to make lifetime lifestyle changes such as healthy dieting and engaging in physical activity. One of the participants has remarked that:

“Eating better and exercising more, I know I should do them, yet it is so difficult to remain on the changes. I am attempting to reduce salt consumption and consume more vegetables, but I still feel the urge to have my favourite food. It is so hard as it is such a huge transition, and I tend to revert to my previous ways. Exercising is difficult also; I would like to be active but at the end of a working day, all I want is to rest. I have attempted to set small objectives, such as going out for a walk every day, but it is very difficult to maintain that routine. It is also upsetting since I know how vital these changes can be in improving my health but sometimes it seems excessive.” (P4: patient)

Lifestyle changes may be a big challenge to people handling HPT. On the same note, patient experience issues with the inability to fight their cravings to favourite foods and the inability to remain active, despite them being aware of the importance of such modifications to their health (Doe et al 2022:92). Conclusion made was that long-term compliance with health behaviour frequently fails as a result of moments of lapse in motivation and absence of supporting systems (Willingham, Stowell, Collier & Backus 2024:79). Regularly, one of the theories, that of Orem (1985:90), argues that the inability to maintain changes is a deficit of self-care, in a motivational constraint, or behavioural constraint. This puts the significance of customised interventions and support systems to help patients with HPT to make and sustain healthier decisions in their daily lives.

- **Category 2.2: Social and environmental barriers**

This category examines social and environmental influences capable of hindering successful self-care management of HPT. It emphasises the substantial effect of the external factors such as family, community, and environment in either supporting or obstructing self-care efforts. The information on this category is evident in the following sub-categories:

- **Sub-category 2.2.1: Insufficient social support**

Little support of family, friends or community members can make an individual feel lonely in his or her attempt to cope with HPT. Motivation, accountability as well as emotional reassurance (which is also crucial in maintaining positive health behaviours) are the assistance that support networks often offer. A participant pointed out:

“I would say I am so much alone in my driving my high BP. My family is not exactly sharing whatever I am going through and why I need to remain committed to my treatment regimen. They do not take it seriously when I say I have to do small modifications in my life the way I live or joke about the situation. I do hope that someone I could share in would understand the difficulties in the management of high BP. Friends or family members who would advocate my efforts that would include even them making healthier choices would mean a lot. Now I only feel that I am alone on this road.” (P2: patient)

The absence of social support can greatly prevent appropriate management of HPT, since patients can be lonely and depressed due to their condition. This is in line with the study by Czajkowski, Arteaga and Burg (2022:44), revealed that low levels of social support are always linked with poor medication adherence and poor BP control in HPT patients. This indicates the necessity of involving family and friends in educational and awareness programmes that assure people that they are more encouraged and do not feel as isolated in the quest to improve their health. Additionally, the theory by Riegel et al (2012:6), poor social support influences self-care maintenance and management by decreasing the motivation and collective problem-solving.

- **Sub-category 2.2.2: Cultural beliefs and practices**

Cultural values and practices often shape the attitudes and behaviours of individuals concerning their self-care management and health-illness. This point of view is emphasised by the following quote:

“My culture values food and health, and this can be a challenge to me in controlling my high BP. An example is that we usually have big family dinner meals where salty and fatty meals are the centre of attention. When I attempt to decline some foods, on the reason that they are not health and well-being on my BP, it seems to me like I’m letting down my family or even going against my knowledge of traditions. There is a strong urge to consume what other people are eating, and it is difficult to make them understand why I should change my diet. I desire to respect my culture; however, I must also be health conscious.” (P5: patient)

Cultural ideas and practices may bring about a barrier to the management of HPT, especially when they conflict with recommended changes in food and lifestyle. Kittler, Sucher & Nelms 2021:45) affirms that accepted cultural norms and classical food traditions may have a strong effect on food preferences, possibly creating a major obstacle to the intake of heart-promising diets and making the process of maintaining HPT more challenging. Environmental factors that may impair self-care agency may be cultural norms (Orem 1985:105). Similarly, the theory by Riegel et al (2012:6) confines self-care maintenance by cultural pressure that opposes dietary and lifestyle changes. Striking the right balance between cultural practices and health needs is an essential aspect and culturally competent health education programmes may be an excellent means of dealing with this challenge (Smith 2021:58).

- **Sub-category 2.2.3: Financial constraints**

Another barrier was mentioned to financial barriers that may prevent effective self-care management of HPT. A participant hinted that:

“The problem is that it is difficult to manage my high BP because of financial limits. The pills I need are expensive when our state pharmacies are out of stock and I have to often decide between purchasing my pills and other important things such as buying groceries or paying the school fees of my children. I at times do not take my pills simply because I cannot afford them all the time. They are even pricier compared to less healthy food options that are cheaper, even the healthier ones (fresh fruits and

vegetables). It is actually so wrong since I know of how crucial it is to adhere to my health, but the issue with money makes it so hard. I do hope that more cheap alternatives were out there to individuals in my predicament.” (P6: patient)

The cost is another big challenge that faces individuals attempting to deal with their HPT successfully due to financial pressures, especially high cost of medicine. This is supported by study that have found out that high medication cost and inaccessibility to affordable healthy foods can adversely impact HPT management (Smith et al 2023:102). To the same effect as in the findings of the current research, the theory of Orem (1985:89) provides that, financial hardship is an external state that diminishes the capacity to provide to self-care needs and hindrance to self-care maintenance (Riegel et al 2012:6). Addressing these financial factors is crucial to making sure that the treatment rates of the population are stable and that people can make healthier lifestyle choices (Brown 2021:67).

5.4.2.4 Theme 3: Recommendations for improvement

This theme gives practical recommendations that help improve HPT management and patients' outcomes. In this section, the importance of specific interventions addressing the identified issues and barriers is emphasised. This theme resulted in the following categories and sub-categories, which are as follows:

- **Category 3.1: Education and awareness**

Participants reported that development of knowledge and understanding is a crucial move to effective HPT management. Education to create awareness enables the patient to own their condition, make healthier choices and enhance results. This category highlights education and awareness in the following three sub-categories:

- **Sub-category 3.1.1: Health education programmes**

Properly organised health education initiatives designed specifically to address the patients with HPT offer the required resources to cope with the condition. These programmes provide information about lifestyle change, medication compliance and self-care management, as well as establishing the possibilities of practical learning gaining confidence and resilience. A participant stated the following:

“In my opinion, health education programmes would suit highly well the people who are struggling to control high BP such as me who work. At the moment of my initial diagnosis, I was totally lost and did not even know about high BP and how to control it. In case community classes or workshops were available, I would learn more about food, exercise, and the necessity to adhere to my tablets. I believe too that it would be an excellent development of such programmes to have physical exercises, like cooking demonstrations or group activities to enable me to observe how to apply in my everyday life what I learn in the programmes. Having the opportunity to obtain more information and assistance would certainly make it less intimidating to cope with my illness.” (P 7: patient)

Health education programmes can significantly help people who have to address HPT as they provide people with essential information and skills. Doe and Lee (2023:112) participants, in their turn, suggested classes or workshops in the community that are diet-oriented, exercise-oriented, and adhesive to medication addressing this gap in knowledge. Moreover, it should include practical exercises such as cooking lessons and exercise group activities that would enhance learning and enable the participants to apply such concepts in their daily lives. The theory postulated by Orem (1985:90) provides patients with the knowledge required to carry out self-care operations, which lowers the self-care deficit. Finally, when people have access to comprehensive education and care, they may become more empowered and be capable of making informed decisions about their lifestyles (Brown & White 2021:67).

- **Sub-category 3.1.2: Providing clear medication instructions**

The key to successful medication adherence is straightforward communication regarding the use of medications. Patients who get accurate information concerning dosage, timing, and potential side effects can adhere to the treatment plans more accurately, minimise confusion and feel safe to approach their health. As observed by a participant:

“Some of the things that would go a long way with me is having a clear explanation of my pills. I usually confuse myself with the time when to take them and how to use them properly. As an example, find it difficult to recall when I should take my pills with or without food. I would like to know that my doctor or nurse could explain everything in simple terms and also leave me with some written instructions to take home. I think

that, with a better grip of the how to take my pills, I would have a higher chance to go my normal route and control my BP in a more appropriate manner.” (P12: patient)

The theory by Orem (2001:324) suggests that explicit medication prescriptions empower the patients with the ability to practice self-care management because they can administer the prescriptions without becoming addicts. In that respect, Doe and Lee (2023:113) implied the importance of healthcare providers in providing the straightforward and easy to understand explanations and written instructions to ensure the reinforcement of their understanding. This Riegel et al (2012:7) coincides with self-care adherence and self-care monitoring since clarity leads to confidence, consistency and early detection of issues that would assist them to keep the BP levels steady. Lastly, the presence of specific recommendations likely results in an improvement of the health outcomes in people with HPT since they become more active and involved in their care (Brown & White 2021:68).

- **Sub-category 3.1.3: Increasing awareness about HPT**

Community-level education about HPT and its chronic effects contributes to the early detection and acceptant prevention. Educational campaigns and outreach activities can encourage other people to engage in healthier lifestyles, seek timely attention, and assist fellow individuals in alleviating the effects of the condition. This may be evidenced by the following extract:

“I feel that there is ignorance regarding high BP in my community. Most individuals do not realize the severity of high BP and its outcome on health. Provided that we could structure activities or events aimed at the risks and prevention of HPT, this would be significant. As an example, it is possible to place the stands in the open places where people can have free BP tests and education about how a person lives each day, which would encourage people to have the test and actively take action before the high BP issue occurs. The better the community is informed about high BP and its outcomes, the higher the chance that we can be able to control it together.” (P9: patient)

Regularly, the theory by Orem (2001:387) promotes a wider awareness because it promotes independence and self-responsibility thus minimising dependence on outside caretakers. Similarly, Doe and Lee (2023:117) ascertained that community

campaigns or events may significantly heighten awareness like opening booths in the streets where BP is offered free of charge and people can be informed about lifestyle modifications that can help them to reduce risks. Such programmes might inform people about HPT but make them take control of their health. Smith and Johnson (2022:52) state that, by raising awareness on HPT and its effects, communities would be in a position to deal with the condition more as a community. Therefore, targeted awareness campaigns might pave the way to early diagnosis and improved results among the risk patients of HPT, leading to the overall health improvement of the community (Brown & White 2021:74).

- **Category 3.2: Support systems**

The management of HPT can be reinforced when the people are assisted by the surrounding people. It is further clarified by the two sub-categories that are discussed below:

- **Sub-category 3.2.1: Involving family and community support**

Family and community support networks provide the feeling of belonging and mutual understanding that can help to overcome isolation and promote perseverance.

Such is the case in the following statement:

“I believe that my family involvement in my care would go a long way in ensuring that I manage my high BP. As soon as they get an idea about what I have to deal with, it helps them assist me in a more appropriate manner. As an illustration, they can take advantage of my food and drinks limitations by suggesting healthier food options to me during our home-cooking or going out to eat. I sometimes forget to take my pills, but I think I would be more reliable in case my relatives remind me of this or monitor my well-being. The support and encouragement of my family members can indeed serve as a good motivation that helps me to stick to my treatment plan and choose more healthy lifestyle habits.” (P 10: patient)

Another participant added that:

I believe that I would find it very beneficial to be a part of a community support group of people with high BP. There are occasions when I feel that I am the only one coping with this and that is quite isolating. It would be fab to have some local groups where we can share stories, debate issues and encourage one another to cheer me up. I would feel connected and more motivated. This would make me aware of the experiences of other people because I would not be doing this alone. (P11: patient)

Engaging family members in care is the key to successful HPT management provides additional support and motivation. To reinforce this, Doe et al (2022:115) suggest that the more family members understand the status of a patient, the more they are ready to support and encourage that patient to make appropriate health-related decisions, including following dietary limitations and medication. In addition, family participation creates a supportive room that enhances compliance with treatment and change of lifestyle. This underlines the role of family participation in the process of optimising health outcomes within the community with HPT (Brown 2021:92). Sanya, Johnston, Kibe, Werfalli, Mahone, Levitt, Klipstein-Grobusch, and Asiki (2023:) found that patient-led groups run in rural Uganda on a self-help basis, accessible to patients with HPT and diabetes, increased understanding of the disease, responsibilities, and follow-up. Moreover, Riegel et al (2012:14) family and community engagement is specifically identified as an enabler of self-care especially during chronic illness whereby support promotes adherence and motivation.

- **Category 3.3: Access to resources**

Self-care management of HPT requires the availability of medical advice and resources. Providing patients with the tools and professional assistance they require, they are able to react more successfully to difficulties and make the right choices regarding their care. The discussion is extended with the sub-category that follow:

- **Sub-category 3.3.1: Access to healthcare professionals for guidance**

The patients have proposed that the frequent availability of doctors, nurses, and other health practitioners would provide the patients with much-needed guidance and confidence on how to address HPT within the required time. Next participant stated:

“There are many occasions when I cannot reach doctors and nurses in the instances where I have some queries about my high BP. Being afraid of my treatment and coping with side effects but wanting to see or talk to the nurses or prepare them to respond may be a challenge. Although there exist a more convenient way to contact a doctor or a nurse (e.g. mobile community clinics), I would feel more supported. I would feel happy to have a person to talk to so as to keep up with my treatment plan. I would feel assured as I realise that I have a chance to reach doctors and nurses, who can assist me in taking care of my health at any time of the day.” (P4: patient)

Availability of medical staff to provide advice is vital in the management of HPT. Consistently, Smith et al (2022:47) demonstrate that patients find it hard to get treatment on time and get answers about their treatment especially when there are side effects or they are uncertain about the treatment. Similarly, Brown (2021:84) also discovered that better access to a doctor or a nurse, for example, on hotlines or in mobile community clinics, can provide the required support and guidance to make them follow up on their management plan. The importance of offering convenient healthcare services, which enable patients to be more empowered and involved in the process of managing the condition (Johnson & White 2023:59). The theory presented by Riegel et al (2012:16) underpins the argument that continuous professional input enhances ability of patients to behave adequately and with confidence as one of the self-care managements of HPT.

5.4.2.4 *Theme 4: Self-care management’s programme activities*

This theme highlights the key activities, which must be incorporated in a self-care management programme of HPT. The themes that came up under this theme are listed and discussed as below.

- **Category 4.1: Educational workshops**

Patients suggested to involve educational workshops as a part of self-care management programme of HPT. The workshops empower the participants in practical knowledge and skills of managing HPT. This concept is further expounded under two sub-categories as follows:

- **Sub-category 4.1.1: Understanding HPT and its management**

The participants also highlighted that, training workshops on the basics of HPT, its causing factors, symptoms, and other possible long-term consequences are essential in improving understanding about the condition. A participant made the following statement:

“I recall the time I was first told about high BP; I did not have a complete understanding of what it was, or why I needed to take control of it. I just simply used to think that it is about taking pills, but having attended some educational sessions, I realised that it is much more complicated. I discovered that untreated high BP may cause severe health complications, including heart diseases and strokes. This knowledge prompted me to alter my lifestyle and follow the recommendations given by my doctors.” (P8: patient)

It is important that patients should understand HPT and how to cope with it since it can have a significant impact on their health outcomes. In addition, Orem (1985:89) encourages the development of patient knowledge to fulfil the self-care needs. Knowledge of HPT and HPT management helps to lower the misunderstanding regarding the disease. These educational initiatives play an important role in enabling individuals who have been diagnosed with HPT to assume power to manage their health and make reasonable decisions regarding the management of the disease.

- **Sub-category 4.1.2: Nutrition and cooking lessons**

Participants noted that nutrition and cooking classes in the self-care management programme make the patient convert theoretical knowledge into practice. The following is a statement of a participant:

“My problem has always been I struggle with making healthy food particularly after I was informed that I am having high BP. I had difficulties with making the correct food choices. I chose to start some private nutrition and cooking classes which proved quite useful. They taught me to make low salt and high vegetable content meals. I also got to know how to read food labels and make healthier replacements, such as changing herbs with salt as a flavouring agent. During these classes, I was taught practical skills and easy recipes to prepare at home. Today, I even love to cook and feel much more confident about the food I eat. It has enhanced my capacity to control my BP and I am better generally.” (P1: patient)

Nutrition and cooking classes may play a vital role in helping the persons control HPT as they make healthier food and dietary choices. Agreeably, some patients are overwhelmed with nutritional information; this may cause confusion and the practice of poor eating habits, as the AHA (2021:203) shows. This explains why education is crucial in encouraging healthy eating and enhancing patient outcomes (Garcia et al 2023:89). Also, repeatedly, the theory provided by Orem (1985:90) encourages skills development to live independently and regulate their diet, which eliminates shortcomings in self-care. Likewise, the one that Riegel et al (2012:6) offer directly supports maintenance as they are instructing sustainable lifestyle changes.

- **Category 4.2: Physical activity programmes**

This section highlights the inclusion of organised physical activities in the self-care management programme of HPT. Regular activity promotes motivation, responsibility, and regularity, which is extremely applicable in controlling BP and raising the overall cardiovascular system. The insights that follow indicate the various manifestations of this category.

- **Sub-category 4.2.1: Group exercise sessions**

The Participants recommended that group physical workout programmes bring substantial and social advantages in self-care management of HPT. A participant stated that:

“Before I started attending group exercise classes, I found it really difficult to remain active. I did not enjoy working out alone, and I was usually unmotivated. I did not enjoy working out alone, and I was usually unmotivated. Mmmh, when I became part of a group everything was different! The group also had a vibrant energy that made exercise to be fun. We used to walk, do a bit of exercise, even do some dancing, something which I could not imagine myself liking. The company of other people made me work harder and be more determined to carry out my practices. We also shared our experiences in dealing with HPT a lot, which made me feel helped to do it. These classes enabled me to lose a bit of weight, also made me happier and my BP improved. At this point, I am glad to anticipate my weekly exercises, and I am much healthier.” (P6: patient)

Group exercise encourages other HPT patients to exercise and keep their weight normal. Concurring, Fitzgerald et al (2020:112) point out that exercising by itself is a

demotivator to patients which is a challenge to many. The positive environment made individuals stretch themselves and adhere to a regular schedule which is necessary in dealing with HPT. In addition, the exchange of experiences with other people with the same problems makes them feel part of a community and reduces isolation in seeking to achieve a good health. Consequently, individuals had reported improvements in weight loss of their mood and BP which highlights the holistic advantages of group exercise (Thompson et al 2023:45). This is to bring out the effectiveness of social support in helping to change lifestyles that leads to better health outcomes. The theory of Riegel et al (2012:4) improves maintenance and supports management by integrating exercise into routine and offering social reinforcement.

- **Sub-category 4.2.2: Personalised fitness plans**

Participants emphasised the inclusion of personalised fitness plans, tailored to the unique needs and fitness levels of each patient, as an essential component of the self-care management programme for HPT.

The participant highlighted the use of individualised fitness plans, which can be designed to meet the needs and fitness level of respective patients, as a critical part of the self-care management programme of HPT. A participant indicated that:

“When I started working out to treat my high BP, I was completely not sure about the way to start. I was not aware what exercises would be safe or useful on my part. It is then that I was given a personalised exercise routine by the specialist whom I was referred to due to high BP. I also received a suggestion of how to increase my activity level slowly but without overdoing it. And with this personal method I felt more positive of myself and willing to continue. I was able to notice the change in me, and that was a real trust in me to remain determined. The plan which was fitted to my needs helped me to manage my high BP much easier and I have also become more fit.” (P2: patient)

Orem (2001:254) opines that nursing role in the development of personalized plans is partly compensatory systems in which guidance enhances the capacity of self-care. The exercise programmes can be used to ensure that patients manage HPT through maintaining a regular exercise routine and also considering their unique health conditions objectives. Additionally, the customised exercise programmes can be used to counter the challenges of exercise and assist the patients to adhere to a regular

routine. In addition, Martin and Wells (2023:77) note that the guidance provided by healthcare providers was about taking things slow when it comes to increasing their activity level because this way, patients did not overexert themselves as they started following a new routine. This personalised strategy helps build confidence, motivation and empowerment to track the progress of patients so that they remain dedicated towards the process of staying fit. On the same note, Riegel et al (2012:8) empowers the management by providing bespoke strategies, making decisions, and motivating compliance.

- **Category 4.3: Stress management**

Stressful management is one of the best ways to manage HPT, leading to improved BP and overall health. Such a category is supported by the following sub-categories:

- **Sub-category 4.3.1: Stress reduction sessions**

The participants emphasised that the sessions devoted to stress management help to implement the methods of coping with stress, including relaxation techniques and mindfulness exercises, are indispensable parts of the programme. As it is said in the next quote:

“Through the sessions, I learned various ways of dealing with stress, including breathing, and mindfulness practices. Opening up to them and letting them know about my experiences made me understand that I was not the only one who felt stressed. The trainers were familiar with a lot and they helped us to understand what makes us stressed leading to what was actually beneficial. I also knew how to step back and allow little problems to get me stressed. I am happy to say that since I started attending these trainings, my mood has improved, as well as my BP. Now, I am more ready to manage stress in my life.” (P8; patient). (P8: patient)

Orem (2012:282) theory suggests that provision of stress coping skills to the patients decreases the lack of self-care. Facilitators play a key role in assisting the participants to identify certain stressors and, as a result, develop customized plans to address problems. These findings are supported by Conversano, Orru, Pozza, Miccoli, Ciacchini, Gemignani and Di Giuseppe (2021:5) who indicate that mindfulness-based stress reduction (MBSR) interventions teach relaxation skills and help patients to identify and address their responses to stresses. This is conducive to the theory by

Riegel et al (2012:7) which proposes that by identifying/stress triggers, self-care monitoring and management is enhanced through a coping strategy that is implemented.

- **Sub-category 4.3.2: Relaxation techniques**

The participants suggested to incorporate self-care management programme HPT within meditative and yoga as relaxation techniques. This point of view is manifested in the following passage:

“I have never imaged that I would relax doing such activities as meditation and yoga, but it has really helped me to cope with my high BP. I have started with simple meditation, during which I trained to focus on my breathing and empty my mind. At first, it was hard, however, slowly it was very soothing. The doctor has even reported that my BP has gone down to normal since I started doing such activities on a regular basis. It is surprising that so simple an item can have such an important impact upon my health.” (P9: patient)

The use of relaxation methods such as meditation and yoga can significantly help in controlling HPT as demonstrated by the experience of one participant in integrating the practices into his/her lifestyle. This proves the great value of simple but effective relaxation techniques, as they can be used to improve mental well-being and physical health, which is why they are important as a supporting tool in the treatment of HPT (Brown & Smith 2021:59). Riegel et al (2012:17) favours relaxation methodology that enhances self-managing HPT by making the stress directly less and enhancing BP control.

- **Category 4.4: Monitoring and feedback**

Continuation of monitoring and feedback mechanisms is also important in the management of self-care of HPT. Having a system in which the patients diagnosed with HPT enjoy constant support and evaluation to check their growth and adjust management strategies accordingly. The category is further explained with two sub-categories as follows:

- **Sub-category 4.4.1: Regular check-ups with healthcare providers**

Participants emphasised that regular visits enable the monitoring of BP levels, evaluation of medication effectiveness, and delivery of tailored advice are crucial for successful self-care management of HPT. A participant shared that:

“Going for check-ups at the clinic has really helped me manage my high BP. At first, I didn't like the idea of going so often, but I soon realised how important it is to keep track of my health. During these visits, the nurses check my BP and talk with me about how I feel with my treatment and lifestyle changes. The doctor also suggested a few changes that made a big difference. Having these check-ups makes me feel reassured and reminds me to take my medicine and stick to healthy habits.” (P2: patient)

Regular check-ups with healthcare providers are essential for effectively managing HPT, as highlighted by a participant's positive experience. Consistently, WHO (2021d:112) outlines that consistent follow-up calls are one of the keys to effective HPT management so that the provider can keep track of BP, evaluate progress, and change treatment regimens to enable patient feeling more engaged and involved in the care. Moreover, compatibly, Smith and Brown (2022:97) stresses that the ongoing support by health care providers boosts person's motivation to stick to their medication and empowers them to adopt healthier lifestyle choices. Correspondingly, Riegel et al (2012:7) reinforces monitoring and management of HPT through professional feedback, strengthening decision-making confidence.

Sub-category 4.4.2: Providing home monitoring kits

The participants mentioned that the provision of patients with home-based monitoring kits such as BP monitors to measure their health condition after follow-up visits is considered important. This is as demonstrated in the next quote:

“I asked the doctor to write for me a BP machine which I can at home, and it has made my health management a lot easier. Previously I used to test my BP only at the clinic and at times I even forgot to enquire what the numbers were on the BP machine. I can now monitor my BP at any time I desire with the machine at home. It is easy to operate; I need only to follow the steps and write down the numbers in a notebook.” (P1: patient)

Patients have a high chance of monitoring their health with the presence of home monitoring kits to manage the BP condition. In line with this, the theory of Orem (2001:250) strengthens independence by providing the HPT patients with means of caring themselves in their daily lives. Home monitoring allows a patient to become more engaged in the management of their HPT and gives them a feeling of control and certainty regarding their health conditions and is easy and convenient. Thus, the Riegel et al (2012:7) theory closely correlates with the provision of home monitoring kits as self-care monitoring whereby patients monitor the BP, identify changes, and take appropriate actions.

5.5 SUMMARY

The findings of qualitative data were presented in chapter five and were based on PHC nurses' views as well as adult patients' experience about self-care management of HPT. The study identified four major themes from the PHC nurses: perceptions regarding self-care management, barriers inhibiting self-care, factors influencing self-care management, and strategies to minimise challenges in HPT management. Nurses emphasised the significance of medication adherence, patient counselling, education, health journals, and support in self-care management. Four key themes concerning the patients diagnosed with HPT were identified, namely: views of the self-care management of their condition; barriers to effective self-care management, factors influencing self-care management, and strategies to improve self-care management for HPT.

CHAPTER 6

CONVERGENCE AND INTERPRETATION OF QUALITATIVE AND QUANTITATIVE RESEARCH FINDINGS

6.1 INTRODUCTION

This chapter presents the integration of qualitative and quantitative research data from the study, integrated it with the literature, to build a holistic understanding of self-care management among adults diagnosed with HPT in the Khomas Region, Namibia. The use of a mixed-methods research design enabled quantitative (numerical) as well as qualitative (deeper explanations) data that was collected, which together provided an all-around view of the research problem.

As per the convergent parallel mixed-methods design, the results are presented in terms of:

- **Convergence:** When the findings from the qualitative and quantitative studies converge and have reached the same conclusion
- **Complementarity:** Where quantitative and qualitative findings complement each other by providing additional information
- **Divergence:** Where the results from the two methods seem inconsistent or focus on different aspects of the phenomenon

This guarantees that integration is not done on the basis of the assumed consistency. Integration of findings is crucial for the design of a cost-effective self-care management programme that meets specific needs of HPT patients in Khomas Region.

6.2 DEMOGRAPHIC CHARACTERISTICS AND NUMBER OF PARTICIPANTS

This section presents the demographic characteristics and number of adults diagnosed with HPT and PHC nurses. The number of participants in the quantitative, qualitative and converged components is presented in Table 6.1 showing their demographic characteristics.

Table 6.1: Merged Number of Study Participants in Quantitative and Qualitative Components

Quantitative	Qualitative	Merged results
Nurses n=112	n=16	112+16
HPT patients: n=328	n=12	328+12=340
TOTAL	28	

The findings are aligned with the research objectives and are presented in a comparative table. Table 6.1 presents the merged number of study participants drawn from both the quantitative and qualitative components of the study. During the quantitative stage, 112 PHC nurses were surveyed as well as 328 adult patients with a diagnosis of HPT. The qualitative stage involved 16 PHC nurses and 12 HPT patients who were interviewed in depth to offer contextual information on how they self-manage HPT.

When the data from both components were merged, the total number of PHC nurse participants amounted to 128 (112 quantitative + 16 qualitative), while the total number of HPT patient participants amounted to 340 (328 quantitative + 12 qualitative). The number of participants that were engaged in this study was 468 in the two study groups. The combination of quantitative and qualitative data in the form of triangulation helped to achieve goals of the study comprehensively. Quantitative data provided statistical trends and patterns of self-care management of HPT and quantitative inquiry complemented the findings by shedding light into experiences, perception, and problems faced by nurses and patients.

The merged results therefore strengthened the validity of the study outcomes and allowed for triangulation between numerical data and lived experiences. Table 6.2 shows the emerged quantitative and qualitative demographic data results for the participants.

Table 6.2: Demographic Characteristics of the Participants

Variables	Quantitative Total, n=440	Qualitative Total, n=28	Converged results (N=468)
Age range	Patients: Minimum (Min) 18-25: n=29 (8.84%) Maximum (Max) 45+: n=89 (27.14%) Nurses Min 18-25: n=25 (22.22%) Max 46+: n=20 (17.78%)	Patients: Min 26-35 Max:50 years+ Nurses: Min 18-30 Max 50+years	Patients: Min: 18-25; Max: 50+ Nurses: Min: 18-25; Max: 50+
Gender	Nurses: Male: n=30 (26.67%) Female: n=82 (73.33%) Patients: Male: n=118 (36.98%) Female: n=210 (64.02%)	Nurses: Male: n=5 Female: n=11 Patients: Not specified	Nurses: Male=35, Female=93 Patients: Male=118, female=210
Nurses' years of work experience	Min1-4 years: n=67 (60.00%), Max 16-20 years: n=4 (4.44%)	Min:1-2 years (n=2); Max: 5years+ (n=13)	Min: 1-2 years; Max: 20+ years
Nurse category	EN: n=37(33.33%) RN: n=75 (66.67%)	EN: n=7; RN: n=9	EN=44, RN=84
Weight for patients	Min 30-50kg: n=12 (3.66%); Max 71+ kg: n=142 (43.29%)	Not Indicated	Non-informal=182; Not specified=19
Race for patients	Black: n=287 (87.5%) Coloured: n=41(12.5%)	Not Indicated	Black=287, Coloured=41
Location where a patient stays in Khomas region	Informal settlement: n=182 (55.49%) Not specified: n=19 (5.79%)	Not Indicated	Non-informal=182; Not specified=19
Years of being diagnosed with HPT (patients)	Min 1-5 years: n=164 (50.00%); Max 11 years & above: n=72 (21.95%)	Not Indicated	Min: 18-25; Max: 45+
HPT status (patients)	Controlled: n=164 (50.00%), Uncontrolled: n=164 (50.00%)	Not Indicated	Controlled=164; Uncontrolled=164
Last BP reading (patients)	120/80-129/84mmHg n=121 (36.89%) 160/100 mmHg + n=95 (28.96%)	Not Indicated	Min: 120/80-129/84mmHg; Max: 160/100+mmHg

Variables	Quantitative Total, n=440	Qualitative Total, n=28	Converged results (N=468)
Highest level of Education reached (patients)	Tertiary: n=71 (21.65%) Secondary: n=225 (68.60%) Primary: n=29 (8.84%) None: n=3 (0.91%)	Not Indicated	Tertiary=71; Secondary=225; Primary=29; None=3
Employment status (patients)	Employed: n=85 (25.91%) Self-employed: n=35 (10.67%) Unemployed: n=185 (56.40%) Student: n=23 (7.01%)	Not Indicated	Employed=85; Self-employed=35; Unemployed=185; Student=23
Marital status (patients)	Single: n=199 (60.67%) Married: n=94 (28.66%) Widowed: n=35 (10.67%)	Not Indicated	Single=199; Married=94; Widowed=35
Family history of HPT (patients)	Yes: n=107 (32.62%) No: n=221 (67.38%)	Not Indicated	Yes (n=107); No (n=221)
Any other disease (patients)	Yes: n=97(29.57%); No: n= 231 (70.43%)	Not Indicated	Yes (n=97); No (n=231)
Highest qualification (Nurses)	Certificate: n=25 (22.22%) Diploma: n=28 (24.44%) Degree: n=49 (42.22%) Other: n=10 (11.11%)	Not Indicated	Certificate=25; Diploma=28; Degree=49; Other=10
Health facility level (nurses)	Clinic: n=54 (48.89%) Health Centre: n=58 (51.11%)	Not Indicated in qualitative	

Patients in the quantitative part ranged in age from 18 to 25 years through to 45 years and above, while nurses ranged from 18 to 25 years, through to 46 years and older. The combined analyses show that the patients, as well as the PHC nurses, were situated on both ends of the continuum between young adulthood and older adulthood, between 18 and 50 years and above, showing that HPT does not only exist in older populations but also cuts across the lifespan of adults. The younger group of PHC nurses aged between 18-25 years is energetically involved in HPT care and with their age, changes in approach, flexibility and openness to new approaches in managing patients offer new insights and viewpoints.

The gender balance indicated that there was a high number of women. PHC nurses were grouped into 82 females and 30 males, and 210 female and 118 male patients respectively. In the qualitative sample, the majority of interviewed nurses were female (n=11), with only five males, while patient gender was not specified. Collectively, the

merged results highlight that HPT disproportionately affects women in this cohort and that the nursing profession in this setting remains female dominated.

Nurses demonstrated varied work experience, ranging from one to more than twenty years of which majority were registered nurses. Nurse category's findings when merged, results indicate that RNs constituted the majority, suggesting that HPT management is largely handled at the professional nurse level within the studied facilities.

The patients were found to live with HPT between one and thirty years, both newly diagnosed and long-term, and these have an implication on the management, compliance with treatment, and complications. This factor needs to be taken into consideration as far as self-care management is concerned.

Quantitative data showed patients' weight ranging from 30 to 50 kg (n=12) to above 71 kg (n=142). Although the weights of patients were not measured in the qualitative interviews, combined data show the presence of a significant number of patients within higher weights categories, which confirms established connection between obesity and HPT as one of the major risk factors.

Most of the participants were black people living in cities, and weight distribution was skewed to higher categories, which supported the contributory role of obesity. Furthermore, 182 patients were found to be residing in informal settlements and 19 participants indicated that they did not identify the place of residence.

Patients were first diagnosed between 18 to 25 years (n=29) and 45 years and above (n=89). These results support the fact that HPT diagnosis has a wide age range that includes a subgroup of young adults, thus raising concerns about its early development. The balance in the control of HPT was equal; there were 164 respectively classified as controlled and uncontrolled. All these data collectively indicate that some fifty percent of patients had an uncontrolled BP, and thus, the need to develop more effective management measures.

The analysis showed that most HPT patients had attained secondary education (n = 225), with a significant proportion of being unemployed (n = 185) which could hinder

access to therapeutic intervention and also adherence to medication regimens regardless of a moderate level of health literacy. Majority of patients were single (n=199), potentially reducing social support, and their family history of HPT and comorbidities further complicated the management of the illness.

Among nurses, the highest qualifications included certificates, diplomas, degrees, and other qualifications. Nurses were distributed across clinics and health centres. These results suggest that HPT care has a well-qualified nursing workforce across the various levels of the PHC system.

6.3 KNOWLEDGE, ATTITUDES AND PRACTICE OF SELF-CARE MANAGEMENT AMONG ADULT PATIENTS WITH HPT DIAGNOSIS

Section 6.3 logically describes the knowledge, attitudes, and self-care habits of adult patients with HPT, to identify gaps, and thus direct implementation of specific intervention measures enhancing management of the disease. The main task that is considered in the present analysis is the detection of knowledge gaps that impede effective self-care management in this group of people. The converged results depicted in this section are addressing the following objective: Identify and describe the knowledge, attitudes and practice of self-care management for adult patients diagnosed with HPT. The key findings of this section are illustrated in Table 6.3.

6.3.1 Knowledge and understanding of self-care management of HPT

Recent study shows a high gap in the knowledge of HPT among patients. Although there is quantitative data of a 100% medication adherence rate, 45.6% of the patients were not clearly aware of its important role in management of the disease. Qualitative interviews further show that the patients were not well informed with regards to HPT symptoms and non-pharmacological management. This gap highlights the notion that, despite high medication adherence, there is insufficient knowledge of holistic understanding of the disease and its long-term management (Mancia & Grassi 2021:150). Specific education programmes are necessary to address these gaps in knowledge. Empirical proves that holistic interventions lead to the enhancement of knowledge and outcomes (Smith et al 2020: 91). In favour of this, Aje and Fakeye

(2024:4) emphasise that health knowledge is significant, and people who have better knowledge of HPT have better BP control (67.1%). It is important to solve these gaps to achieve sustainable HPT control. Knowledge of self-care management for adult patients diagnosed with HPT is depicted in Table 6.3.

6.3.2 Attitudes to self-care management of HPT

Empirical study has consistently shown that patients have a positive attitude towards HPT self-care management, quantitative with Likert scores >3.5 and qualitative narratives supporting the pattern.

Patients are aware of the importance of self-management and have a willingness to perform health-promoting behaviours, which are supported by literature that demonstrates patient empowerment which correlates with better compliance (CDC 2021:12). Although intention for self-care is expressed by patients, qualitative reports indicate that numerous barriers, such as fatigue, economic limitations, and emotional barriers such as anxiety hinder the action gap. This gap between intention and practice concurs with general evidence showing that positive attitudes are not enough, unless there are strong supportive mechanisms.

The supportive care interventions have the potential to transform patients' positive attitudes into practical self-care behaviours. In agreement, Ito, Sato, Yamaguchi, Nagasawa, Hiraoka, Teraoka and Fukuda (2024:23) shows that patients who valued self-care achieved better long-term BP control when their motivation was reinforced through nurse-led interventions.

PHC initiatives led by nurses are an important factor that helps to maintain motivation and empower patients to take action on their intentions to self-care (Howard 2020:215; Ito et al 2024a:23). Table 6.3. further presents the attitudes of self-care management for adult patients diagnosed with HPT.

6.3.3 Practices of self-care management for HPT

The analysis indicated moderate adherence to HPT self-care behaviours, quantitative results indicated partial adherence to dietary changes and exercise. Similarly, Hailu et al (2025:6) shows that only 44.8% of HPT patients in Ethiopia engaged in adequate

self-care practices. These results indicate that despite knowledge patients possess regarding self-care recommendations, it is still difficult to translate knowledge into the routine practice. Although participants recognised the significant importance of salt cut-down and stress management, economic issues and lack of health literacy were common factors that compromised regularity of practice. To accomplish enhancement, both behavioural and systemic barriers should be considered. To explain this assertion, Kassahun et al (2020a:350; Boitchi et al 2021a:52) emphasised that interventions involving nutrition education and material support through low-cost BP devices or food vouchers remain much more effective at adherence when combined. These data demonstrate the need to combine interventions to ensure delivery of knowledge, resources, and socioeconomic assistance to break the multidimensional barriers to optimal self-care (CDC 2021:12). Table 6.3. further illustrates the practices of self-care management among adult patients diagnosed with HPT.

Table 6.3: Knowledge, attitudes and practice of self-care management for adult patients diagnosed with HPT

COMPONENT	QUANTITATIVE FINDINGS	QUALITATIVE FINDINGS	INTERPRETATION OF MERGED RESULTS
Knowledge about HPT	p<0.001 significant differences among three knowledge score groups. 100% recognised medication necessity; only 45.7% understood medication alone is insufficient.	Patients lack knowledge about HPT symptoms and non-pharmacological management. Medical terminology causes confusion.	Convergence: Both methods indicate moderate to insufficient knowledge about HPT, particularly regarding non-pharmacological management. Complementarity: Qualitative data explain why quantitative gaps exist (e.g., medical terminology confusion).
Attitudes to self-care	Mean Likert scores >3.5 for positive attitudes. High commitment to health.	Patients optimistic but cite exhaustion, anxiety, and financial issues as constraints.	Convergence: Both methods indicate positive attitudes toward self-care. Complementarity: Qualitative findings reveal specific barriers (fatigue, anxiety, finances) explaining the intention-action gap.
Self-care practices	Mean Likert scores >3.0, good practice for active engagement in stress control (listening to music, rest, talking to trusted person). Regular BP monitoring reported.	Emphasis on dietary modifications and regular BP checking as key practices.	Convergence: Both methods indicate patients comply with best practices but need more support. Complementarity: Qualitative findings show that improving self-care requires both motivation AND accessible training/resources.

6.4 THE EXPERIENCES OF ADULT PATIENTS WITH HPT IN KHOMAS REGION, NAMIBIA

This section addresses the study objective of exploring and describing the experiences of adult patients diagnosed with HPT in the Khomas Region of Namibia. As shown in Table 6.3, the findings integrate both quantitative and qualitative data to illustrate patients' understanding of HPT and its self-care management, barriers encountered and key areas for improvement.

Patients were aware of HPT as a life-changing chronic disease but showed limited knowledge in full self-care management. Although all patients accepted the need of medication (100%), only 45.6% were of opinion that drugs are sufficient to combat HPT alone. Quantitative and qualitative results indicate that patients believe HPT requires medication and lifestyle intervention and not pills alone. In support, Abate, Thanigaimani, Sinha, Sun and Golledge (2025:19) demonstrate that a combined approach of medication and lifestyle interventions had a significant effect on BP.

As it is emphasised in Table 6.3, although most of the patients relate high BP to symptoms like headaches or dizziness, qualitative information reveals that they mostly attribute it to stress or exhaustion. On the same note, Horne, Stayt, Schutz, Smith, Haberstroh, Bolin, Taylor, Moosav and Bibbey (2023:8) reveal that subjective feelings are often used by patients to assess BP and this delays proper management. The gap indicates presence of significant gaps with interpreting symptoms and underlines the necessity of additional paying attention to patient education about recognising symptoms of BP properly.

The strategies that patients proposed to enhance self-care were educational efforts, social support groups, and better access to resources. In support, Boitchi et al (2021b:113) designate that family support emerged as crucial for sustaining self-care, with both qualitative reports and quantitative confirming its positive impact on adherence.

Challenges such as lack of time, support, and access to healthy food or exercise facilities emerged only in the qualitative component. This indicates that personal, social and environmental barriers are central to how people experience HPT self-care

management. In agreement, Central Disease Control and prevention (CDC) (2021:12) demonstrates that psychological burdens added to these issues, and patients were afraid of complications but were not fully educated on the long-term risks. These results indicate the multidimensional issues that are educational, economical, and systemic, which necessitate combined interventions to manage HPT in resource-constrained environments. Table 6.4 shows experiences of adult patients diagnosed with HPT in Khomas Region, Namibia

Table 6.4: Experiences of adult patients diagnosed with HPT in Khomas region, Namibia

COMPONENT	QUANTITATIVE FINDINGS	QUALITATIVE FINDINGS	INTERPRETATION OF MERGED RESULTS
Understanding HPT and symptom awareness	100% agreed on medication necessity; only 45.7% agreed medication alone suffices. Majority thought they would recognise high BP by headaches or dizziness.	Patients describe HPT as life-changing. Symptoms perceived as stress or fatigue, not high BP. Self-care practices include medication management, lifestyle modification, monitoring.	Convergence: Both methods indicate patients are aware of self-care practices. Divergence: Quantitative data suggest patients recognise HPT symptoms; qualitative interviews reveal misattribution to stress/fatigue. This divergence indicates quantitative self-reports may overestimate true symptom awareness.
Suggested strategies for improvement	Not directly addressed in quantitative component.	Patients propose education/awareness programmes, social support systems, improved resource access.	Complementarity: Qualitative results provide new information not captured quantitatively, essential for designing patient-centred interventions.
Challenges and barriers	Not mentioned by quantitative component.	Personal, social, and environmental barriers: lack of time, support, access to healthy food and exercise facilities.	Complementarity: Qualitative findings reveal barriers not captured by quantitative methods, demonstrating the value of qualitative enquiry.
Key areas for improvement	Physical activity, weight management, follow-up adherence statistically significant ($p < 0.001$). Medication adherence mean=4.45, $t=40.38$ ($p < 0.001$).	Patients recommend: educational workshops; physical activity programmes; stress management; monitoring and feedback mechanisms.	Convergence: Qualitative responses align with quantitative self-care practice items. Complementarity: Probing nature of qualitative interviews revealed specific programme activities not measurable quantitatively.

6.5 NURSES' PERCEPTIONS ON SELF-CARE MANAGEMENT OF ADULT PATIENTS DIAGNOSED WITH HPT

The qualitative results thus confirm that there is a need for a multi-level and multi stakeholders' approach to sustainable control of HPT. The research shows a more complex approach than just a dual approach, in that the role of the PHC nurse should be supported through policy change and resources allocation, patients and families empowered through health education and building self-care skills, and communities engaged through traditional leaders, faith-based organisations and local health committees, intersectoral collaboration in the Ministry of Health, social services, education and non-government organisations, and addressing social determinants of health through poverty alleviation, food security and healthy environments.

This section presents the integrated interpretation of the findings on PHC nurses' perceptions of self-care management for adult patients diagnosed with HPT depicted in Table 6.4. The analysis was guided by the following research objectives to:

- Assess PHC nurses' perceptions of self-care management for adult patients diagnosed with HPT.
- Explore and describe perceptions of PHC nurses regarding self-care of adult diagnosed with HPT.

The study showed that nurses hold positive views about their role in self-care management of HPT and were rated highly for explaining complications of HPT. The qualitative data supported the fact that nurses were knowledgeable about monitoring patients, checking medication, and record keeping. This echoes findings by Hanoun, Beloni and Toniolo (2025:6), found that nurses often lead patient education, follow-up, monitoring and care coordination in noncommunicable disease such as HPT's care. Although such advantages exist, both data strands indicated a dietary education gaps (Mean=3.55), and the qualitative remarks indicated lack of culturally oriented materials. This is in line with the conclusions of Miezah and Hayman (2024:7) who discovered that culturally modified dietary counselling is more effective and relevant regarding patient compliance in chronic illnesses.

Nurses have viewed patient education as a key component in management of HPT, and their quantitative ($t=5.89$, $p<0.001$) and qualitative results have reiterated this point. The perception is congruent with the results of Ito et al (2024b:23) that emphasised the high importance of health literacy in empowering patients to maintain a proper self-care. There was a clear difference between education on medication and education on lifestyle measures such as diet and physical activity.

Barriers to self-care management were not defined in the quantitative component but were eminent in the qualitative data. Some of the structural barriers identified by PHC nurses were delays in making referrals, ineffective inter-professional collaboration, obsolete equipment, and irregularity of drug supply. PHC nurses also reported patient-related factors such as lack of motivation, poverty, unemployment, limited access to healthy foods, and inadequate health literacy. These findings are consistent with Kassahun, Boitchi and Ademe (2020b:348), who found that resource constraints prevent patients from acting on self-care intentions, especially in low-income settings. On the same note, Kappes (2023:7) also indicates that misconception and cultural beliefs might lead patients to giving on medication or preferring traditional remedies. This is especially prevalent in countries with low-income and high poverty rates, in which inequities in health care access are likely to be greater (WHO 2023b:15). Understanding these challenges is critical to the development of self-care management programme, it helps ensure feasibility and effectiveness. This is supported by Konlan and Shin (2023:12), who show that socioeconomic and behavioural factors predict adherence and lifestyle change in people with HPT.

The qualitative results, even though not included in the quantitative analysis, demonstrated some viable strategies that were offered by nurses to address obstacles to effective self-care management of HPT. These measures were: reinforced health-system support; making sessions of lifestyle-modification more frequent; socioeconomic support of the patients; designing custom-made activities to be integrated into the structured self-care programmes. Correspondingly, Lee, Westland, Faulkner, Iovino, Thompson, Sexton, Farry, Jaarsma, and Riegel (2022:12) reveal that systematic self-care interventions in a variety of chronic conditions yield quantifiable patient outcomes due to improvement of self-efficacy and knowledge acquisition.

Moreover, the focus on culturally relevant learning resources by PHC nurses and the proactive participation of patients' families are consistent with recent evidence on the use of culturally focused interventions. Concurring, these interventions that include cultural adjustment usually using community health workers, customised messages and community groups or faith-based associations have been linked to better acceptability and decreased BP (Katz et al 2024:11). Overall, the analysis helps to emphasise significance of culturally responsive self-care management and programme, which are facilitated by an active health-system infrastructure, in improving health outcomes of patients having HPT.

Complementarity was also established because the numerical data revealed certain areas that needed improvement, especially dietary balance knowledge ($M=3.55$, $t=-9.08$, $p<0.001$), while the qualitative data also pointed to insufficient nutritional education and culturally sensitive educational resources. Overall, the combination of results implies that despite the fact that PHC nurses exhibited positive perceptions and skills in the provision of HPT self-care management, improvement is still needed in order to improve the programme. Complementarity was again seen concerning barriers and issues that influence the management of HPT through self-care. The quantitative study showed mainly positive views from nurses concerning their attitude towards the process of self-care management, but the qualitative aspect revealed more about the obstacles within the context. These included barriers such as insufficient staffing, lack of proper referrals, medication supply inconsistency, poor teamwork between health care providers, weak enforcement of adherence procedures, among others. Patient factors such as poverty, unemployment, lack of motivation, lack of proper knowledge on HPT, and inability to access healthy foods were identified as self-care management obstacles by the qualitative study.

The strong support among PHC nurses for the development of a self-care management programme for HPT that emphasises empowerment, regular patient-centred follow-up, and education. Consistently, Li et al (2025:3) report that nurse-led strategies for lifestyle modification in HPT self-care management significantly enhanced medication adherence, knowledge, and self-efficacy, suggesting that the nurses' emphasis on empowerment and teaching is well founded. Both qualitative and quantitative results converge into a single point that education, family support, and

formal advice is the core to effective self-care of HPT. The presence of such convergence shows that, irrespective of contextual differences, major barriers and facilitators to self-care are common between groups of patients. This reflects the conclusion that Lee et al (2022:7) made that behavioural interventions have highest chances of success when they are coupled together in the form of education, social support, and continuous reinforcement.

Table 6.5: Perceptions of self-care management for adult diagnosed with HPT

COMPONENT	QUANTITATIVE FINDINGS	QUALITATIVE FINDINGS	INTERPRETATION OF MERGED RESULTS
Nurse perceived self-care management of HPT	Generally positive view of self-care management high mean scores ranging from 4.00 to 4.66. Nurses perceived positively in explaining complications of HPT (mean=4.44), $p<0.001$. Improvement needed in balanced diet education (mean=3.55, $t=-9.08$, $p<0.001$)	Nurses demonstrated knowledge regarding management of HPT; able to monitor patients adequately. Identified needs: Enhanced dietary education; Cultural adaptation of materials	Convergence: Both methods revealed positive perceptions regarding self-care management of HPT. Complementarity: Quantitative data identified specific areas requiring improvement (dietary education); qualitative observations supported by statistical significance ($p<0.001$).
Patient education practices	Strong positive perception of nursing practices in patient education ($t=5.89$, $p<0.001$). Balanced diet education lower (M=3.55, $t=-9.08$, $p<0.001$)	Nurses prioritised complication prevention and medication adherence but noted less time and fewer resources for nutrition counselling	Divergence: Quantitative data showed strong positive perceptions of patient education practices overall. Qualitative data revealed specific resource and time constraints that may limit education quality. This divergence suggests that while nurses value education, systemic barriers affect implementation.
Barriers to self-care management	Not mentioned by quantitative component	Structural impediments, financial burden, treatment adherence barriers, lifestyle/behavioural change challenges, knowledge barriers, inadequate staffing	Complementarity: Quantitative findings confirmed strong nursing roles; qualitative data indicated obstacles to implementation stemming from health system limitations.

COMPONENT	QUANTITATIVE FINDINGS	QUALITATIVE FINDINGS	INTERPRETATION OF MERGED RESULTS
			The quantitative information lacks these points, demonstrating the value of qualitative enquiry.
Factors influencing self-care management	Not mentioned by quantitative component	Organisational factors (referral delays, poor collaboration, lack of adherence enforcement, outdated equipment, inconsistent drug supply). Patient-related factors (motivation, understanding of HPT, poverty, unemployment, lack of financial support, inadequate access to healthy foods)	Complementarity: The explorative nature of the qualitative component revealed several factors which might influence self-care management of HPT amongst patients. These factors should inform the structure and delivery of future programmes.
Strategies to address challenges of self-care management	Not measured in quantitative findings	Nurses proposed: Strengthening healthcare system improvements; Lifestyle modification sessions; Socioeconomic support; Specific activities to be included in self-care management programme	Complementarity: These strategies, though not cited by quantitative component, are important in the development of the self-care programme.
Support for self-care management programme	Nurses strongly support programme development emphasising empowerment, follow-up, and patient-centred education	Feedback by nurses states that being a team player, following up routinely, and teaching patients may maximise success of such programmes	Convergence: Both methods unambiguously confirmed the need for a self-care management programme. Complementarity: Qualitative findings specified the mechanisms (teamwork, routine follow-up, teaching) through which programmes may achieve success.

6.6 RECOMMENDATIONS FOR THE ACTIVITIES TO BE INCLUDED IN THE SELF-CARE MANAGEMENT PROGRAMME

There is strong support for developing a structured self-care management programme for HPT within the Khomas Region both qualitatively and quantitatively.

Patients gave highest ratings for medication adherence (Mean=4.45, $t=40.38$, $p<0.001$) as well as for physical activity (Mean=4.31, $t=35.27$, $p<0.001$), weight control (Mean=4.24, $t=34.14$, $p<0.001$), and follow-up adherence (Mean=4.16, $t=33.90$, $p<0.001$). Coping techniques, dietary changes, adherence to medication, BP monitoring and follow-up were the critical issues identified as important programme components that nurses emphasized.

Qualitative support: The patients recommended education workshops, physical activity programmes, stress management, and monitoring/feedback mechanisms. Nurses were engaged in BP checking, medication dispensing, patient education/counselling and access to support systems and resources.

Convergence: Both methods concurred that patient education is the keystone of successful management of HPT. Patients with higher HPT knowledge had higher medication adherence, diet change adherence, and frequent monitoring adherence as revealed by quantitative data. Qualitative themes identified the need for practical implementation, adequate BP monitoring and support to ensure adherence.

Table 6.6: Recommendations for Activities to be Included in the Self-Care Management Programme for HPT

Activity Category	Specific Recommendations	Evidence Source
Patient Education	Educational workshops on HPT understanding; nutrition and cooking classes; stress management sessions; structured feedback systems	Quantitative: $p < 0.001$ for knowledge-adherence association; Qualitative: patient and nurse narratives
Lifestyle Modification	Dietary change (low sodium, increased fruits/vegetables); physical activity (group sessions, individualised fitness plans); weight management; stress reduction techniques	Quantitative: mean scores 4.21-4.30, $p < 0.001$; Qualitative: emphasised as essential
Monitoring and Feedback	Regular BP checking; home monitoring kits; health diaries; regular check-ups with healthcare providers	Quantitative: $p < 0.001$ for follow-up adherence; Qualitative: patients requested home monitoring
Support Systems	Family involvement in care; community support groups; peer motivation platforms; multidisciplinary team collaboration	Quantitative: not directly measured; Qualitative: strongly emphasised by both groups
Health System Strengthening	Nurse training in HPT self-care education; improved medication supply; digital monitoring systems; proper resource allocation	Qualitative: nurses identified systemic barriers requiring structural solutions

6.7 SUMMARY

The chapter has demonstrated the triangulation of qualitative and quantitative research findings, combining them with literature to come up with an overall image of HPT self-care management in the Khomas Region. The findings emphasise the importance of patient education, lifestyle change in improving self-care management of HPT. There was a need to create a self-care management programme for HPT patients that address their specific needs in an effort to reduce the impact of high BP and promote better health outcomes among this group. The development of the programme is explained in the following Chapter 7, as guided by the information collected in this Chapter 6.

CHAPTER 7

DEVELOPMENT OF A PROGRAMME TO ENHANCE SELF-CARE MANAGEMENT OF ADULT PATIENTS DIAGNOSED WITH HPT

7.1 INTRODUCTION

The previous Chapter 6 presented a convergent qualitative and quantitative research findings integrated with a literature review that led to a state-of-the-art knowledge of self-care management of HPT in adult patients in the Khomas Region. By carefully comparing these two sets of data, similarities and differences were confirmed regarding patients' knowledge, attitudes, practice, experiences and perceptions of PHC nurses.

The intervention reported in this chapter is based on:

- i. The amended quantitative data presented in Chapter 4
- ii. The qualitative themes reported in Chapter 5
- iii. The integrated findings reported in Chapter 6
- iv. The theories defined in Chapter 1 (Orem's Self-Care Theory, Theory of Self-Care of Chronic Illness, Practice-Oriented Theory)

Where quantitative findings were solely descriptive (no inferential testing) they are described as descriptive patterns rather than statistically significant associations. Where integration highlighted gaps between quantitative and qualitative findings (e.g., knowledge in Chapter 6, Table 6.4), both are considered in the programme design to ensure the programme meets the needs of the full spectrum of patient and provider experiences.

This Chapter 7 deals with the development of the conceptual framework that guided the development of the HPT self-care management programme. Moreover, this chapter introduces a systematic and evidence-based programme, based on the Practice-Oriented Theory (POT) of Dickoff, James and Wiedenbach (1968:422). The current research was focused solely on the development function and empirical confirmation and implementation of the programme was not performed. To this end, this chapter presents the conceptualisation, organisation and assumptions of the

programme; clarifies the major concepts of the programme; and offers the proposed guidelines for the programme.

This chapter had the following main objectives:

1. Identify and conceptualise the framework for self-care management programme development for adult patients diagnosed with HPT guided by Dickoff et al (1968:422) survey list of activities.
2. Develop a programme to enhance self-care management of adult patients diagnosed with HPT.

7.2 THE CONCEPTUAL FRAMEWORK OF THE DEVELOPMENT OF THE SELF-CARE MANAGEMENT PROGRAMME

Conceptual frameworks are logical frameworks, which systematise international ideas regarding phenomena, and offer an orderly method in thinking, seeing, and explaining observed phenomena (Sale & Carlin 2025:2). This conceptual framework is constructed using findings from merged empirical phase of the study and the reviewed literature. The conceptual framework is essential to bring focus within the content and also acts as a link between literature, methodology and results. The main concepts from the convergence study results are identified and classified according to Dickoff et al's (1968: 422), six survey list of activities or elements of POT namely: the agent, recipient, context, procedure, terminus and dynamics and their related question. Table 7.1 depicts the survey list and the related questions.

Table 7.1: Dickoff et al's (1968:422-423) survey list of activities and clarifying questions

Activity	Clarifying Questions	Explanation
Context	Where or in what environment does the activity occur?	Establishes the environment or the conditions within which the activity is conducted.
Agent	Who or what performs the activity?	Determines the person(s) of action.
Recipient	Who or what is the recipient of the activity?	Determines the person(s) or the receiving party the action.
Procedure	What is the activity or process performed?	Details what was done/steps taken in the activity.
Dynamics	What is the power or force behind the activity?	Determines driving forces or motivators of actions.
Terminus (Outcome)	What is the intended outcome or goal of the activity?	Identifies the desired outcome or endpoint of the activity.

7.2.1 Definition of concepts used in conceptualisation of the development of the HPT self-care management programme

The theoretical basis upon which the HPT self-care management programme is formulated and founded on a number of core concepts each of which is defined specifically to allow for theoretical precision and practical use. The structured self-care management programme design is grounded in the six dimensions of practice-oriented theory proposed by Dickoff et al (1968:422). The definitions of the concepts underpinning the conceptualisation of the HPT self-care management programme are presented below.

- **Context**

In this study, the context is the location of the activities of the HPT self-care management programme. This includes the physical, social and institutional environments which affect the ability of HPT patients to manage their condition, including the workplace, home, neighborhood, health service organisation and the community infrastructure.

- **Agent**

Person, group or organization that carries out the action. Agents for this programme are: primary healthcare workers (PHC nurses, who facilitate, educate and support); adult patients with HPT (acting as agents in self-care actions); multidisciplinary health team members (doctors, dietitians, pharmacists); traditional healers and spiritual leaders; family members, community members and co-workers.

- **Recipient**

The recipient is the person(s) or organization that is being acted upon. The self-care management programme mainly benefits adult HPT patients. Patients also have the role of agent in case of self-care, thus the double role. Actions or steps that a procedure does is called the procedure. The procedures for this programme are: educational workshop, lifestyle modification intervention, nurse-patient. Communication, follow-up monitoring and evaluation, repeated visits by health

practitioners, support groups, occupational safety and health practices, community awareness programmes, and goal setting and self-monitoring.

- **Dynamics**

Dynamics are the factors or forces that impact the skill, effectiveness and sustainability of self-care management. These include knowledge and comprehension of HPT self-care, communication and collaboration, motivation and self-efficacy, cultural beliefs and practices, accessibility and affordability of health services and dynamic resources (BP monitors, diaries, mobile apps, support systems, educational workshops, technological aids).

The end goal or goal of the activity is called "terminus. The end points for this programme are: improved BP control and adherence; patient empowerment and self-management; and decreased factors that contribute to stress and complications from HPT.

The environment in which an individual receives care. The setting in which an individual receives care.

- **Application to the programme**

Existing PHC constraints and barriers to home and community uptake through family engagement and community-based activities must be addressed. Physical conditions of the patient's home (ability to refrigerate fresh food, exercise space, safety for walking) directly affect the ability to follow dietary and activity recommendations. Whether patients are encouraged or resisted to making lifestyle changes will depend on the social environment and the level of family support, or lack of it. Institutional environment (consultation times, staff availability, reliability of drugs) is a factor that influences the delivery of the programme by the nurse. Hence, the programme will have home assessment checklists, family invitation letters for engagement sessions and a facility readiness assessment tool to identify and address institutional barriers prior to implementation.

SUMMARY: MAJOR FINDINGS ON DICKOFF CONCEPTS

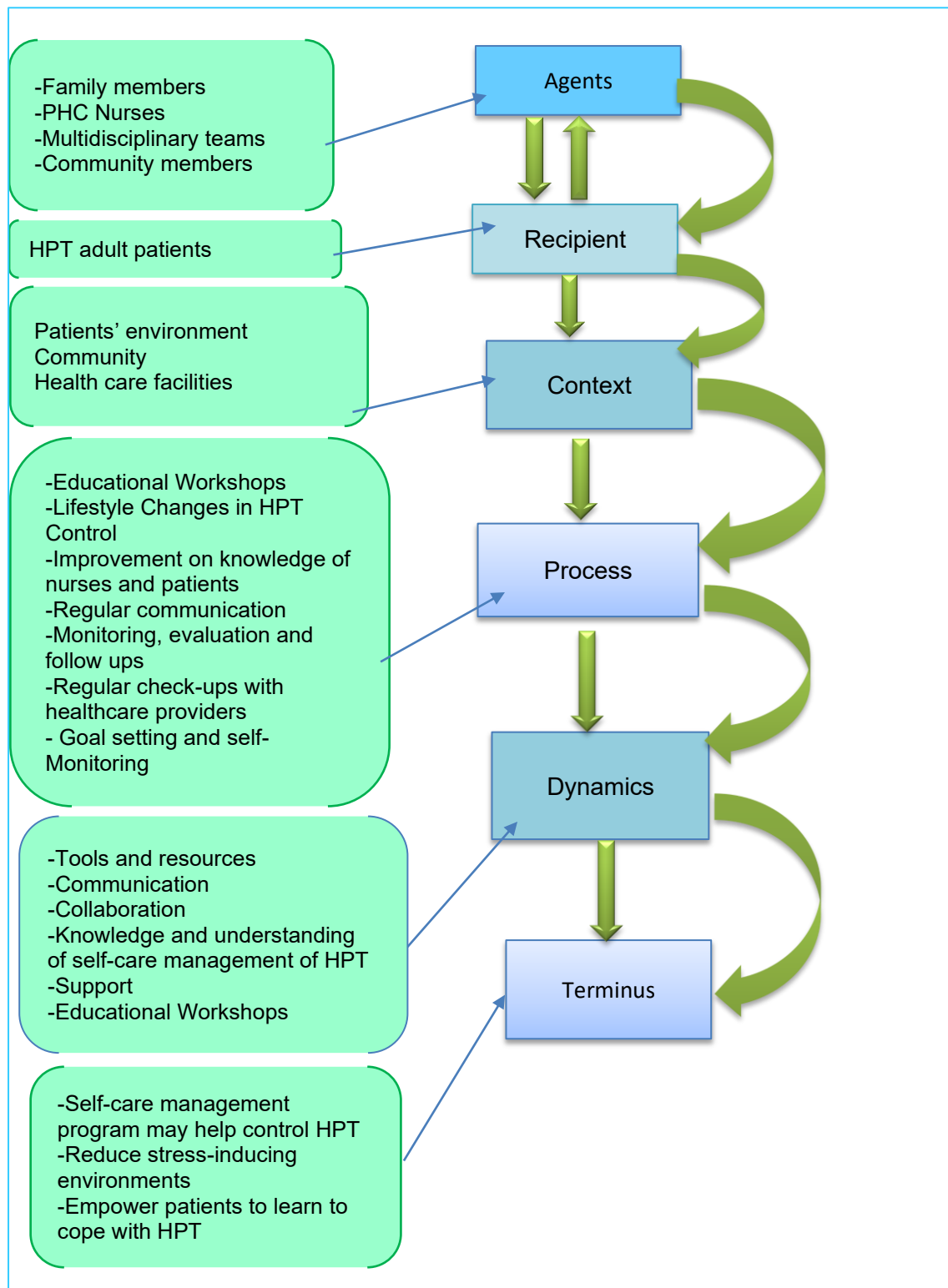


Figure 7.1: The conceptual framework for the HPT self-care management programme to be used by adult patients, based on Dickoff et al's Practice theory (1968:422).

7.3 DESCRIPTION OF THE CONCEPTS AND THEIR APPLICATION TO THE SELF-CARE MANAGEMENT PROGRAMME DEVELOPMENT

In this section, the concepts identified in the conceptual framework are fully described to show the direct link and application to the HPT self-care management programme.

7.3.1 Context: environment of care

The environment of care forms the contextual basis influencing how adults with HPT perform self-care activities. Context entails interrelated physical, social and institutional aspects, which either facilitate or inhibit effective disease management.

- **Physical environment**

The physical supports and barriers in the patient's home, workplace and community. A healthy home environment helps medication adherence, a supportive workplace provides break time and stress relief, and safe community spaces with affordable food help with sustainable self-care (Orem 1985:105)

- **Social environment**

Attitudes and behaviours are influenced by family support, peer influence, cultural beliefs and traditional practices. This study determined that lack of family support is correlated with poor management of lifestyle changes, and that presence of family support significantly improves adherence to lifestyle changes (Chapters 4-6).

- **Institutional environment**

Quality of care depends on the institutional environment, which includes the layout, resources, workforce and policies of PHC facilities. This research found structural problems that hinder follow-up and self-care education (Chapter 6, Table 6.2), including poor resources, overcrowding, and staffing problems.

Figure 7.2 below illustrates the physical, social, and institutional environments in which adult HPT patients engage in self-care activities. All these contextual factors have direct effects on the access of patients to care, health behaviours as well as their general ability to cope with HPT.

- **Application to programme**

The programme must be implementable within existing PHC constraints while addressing home and community barriers through family engagement and community-based activities.

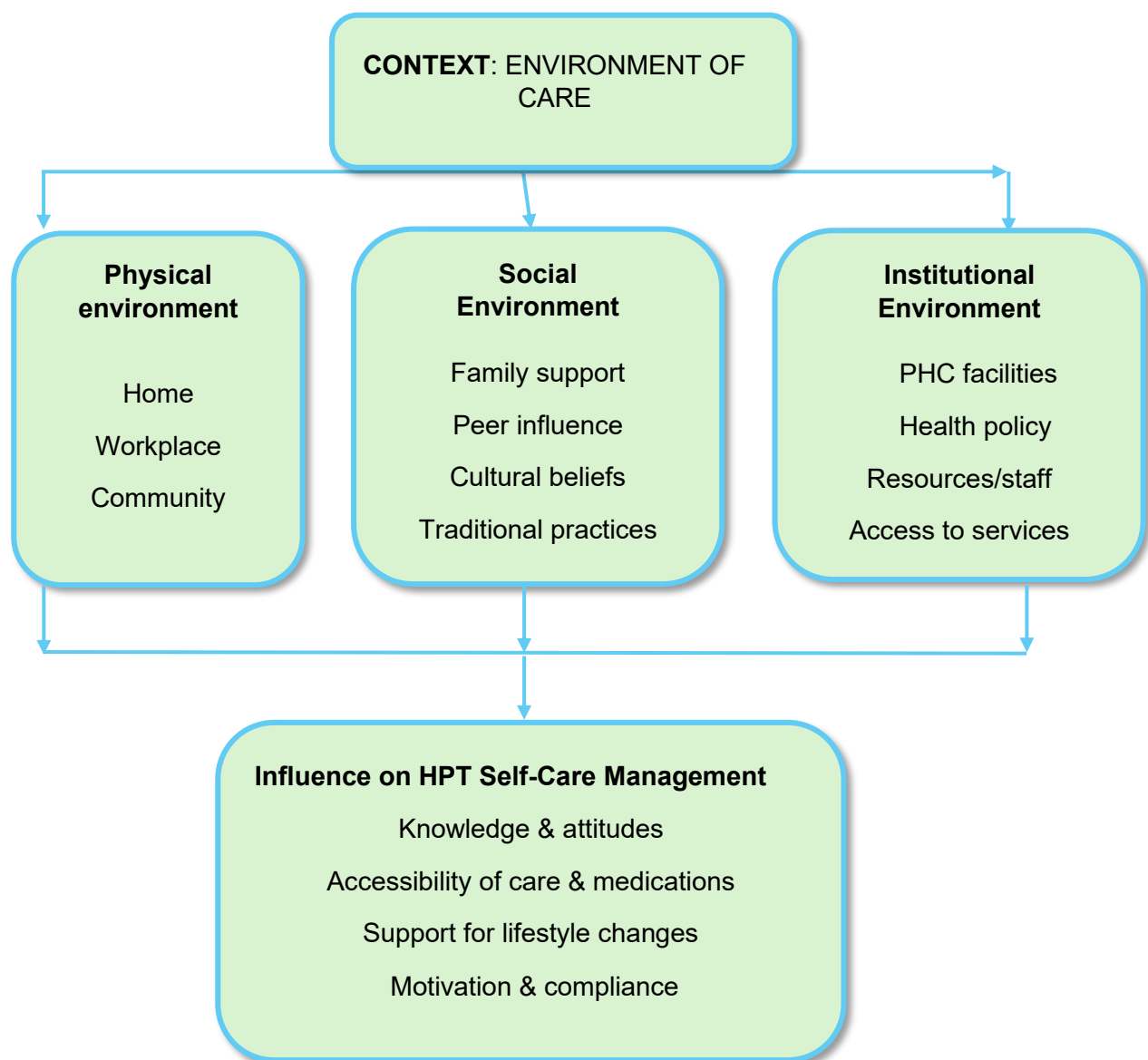


Figure 7.2: Context of the Self-Care Management Programme for HPT

7.3.2 Agents of self-care management programme

In this programme, the following operationalisation of agents is used: PHC nurses are trained as primary facilitators to deliver the structured education sessions and monitor during follow-up and undergo a training workshop on motivational interviewing and demonstration of practical skills. As a recipient and agent of their own self-care, the adult patient is handed a programme handbook and tracking tools to help them monitor progress. During separate family engagement sessions, family members are educated on how to support the person with the illness, such as reminding them to take medication and encouraging them to make healthy food choices. Traditional healers and spiritual leaders are integrated into the community dialogue forum, which takes place quarterly, led by the local health committee and involves discussion of traditional practices and biomedical recommendations. Members of multidisciplinary team (dietitians, pharmacists) give a specialist input at monthly clinical review meetings.

Agents of the self-care management programme encompass diverse stakeholders who influence the self-care behaviours of adults with HPT. The details concerning the programme agents are presented as follows:

- **Health sector agents**

Such health agents include PHC nurses, physicians, pharmacists, social workers and dietitians who are bound by the law to administer the self-care management programme by demystifying involved medical guidance into applicable measures for HPT patients (Dickoff et al 1983:415; Howard 2020:216). According to Orem's self-care deficit theory of nursing (1985:108), such agents assist people who are temporarily or chronically incapable of fully attending to their own self-care needs with needed education, monitoring, and direct care. However, as this study's evidence indicates, health care implementers' effect is often negated by systemic factors such as high patient volumes and short consultation times, which limit their capacity to deliver individualized, integrated care a deficiency likewise reported elsewhere in low-resource contexts (Boitchi et al 2021:113).

- **Traditional and spiritual agents**

Spiritual leaders and traditional healers also serve as culturally important agents who can have a very significant impact on patients' perceptions of illness and acceptance of medical therapy. To reinforce this, Abdu et al (2021:6) and Sundararajan, Alakiu, Ponticiello, Birch, Kisigo, Okello, and Peck (2023:7) observe that spiritual leaders offer emotional support as well as interpret illness in religious contexts, whereas traditional healers are frequently sought after to provide herbal treatment especially in communities which do not believe in biomedicine. On the other hand, traditional and spiritual agents' suggestions might be in opposition to prescribed medical guidance, possibly hindering diagnosis, deterring compliance with medication. Successfully engagement with individual through training bridges cultural and biological models of treatment and increases the relevance and uptake of the programme.

- **Social and occupational agents**

A very important layer of informal agents in promoting or discouraging daily self-care routines is comprised of family, local residents, and workplace influencers. Empirical research is able to validate that the promotion of family members goes a long way in improving compliance to lifestyle changes. Inadequate support from significant others associate with stress, lack of motivation and inhibit proper behaviour. Also, at the workplace, environmental facilitators include employers, workmates, and work occupational health workers; supportive behaviour is supported by favourable work policy and presence of peers, whereas unsupportive workplaces make stressful and hinder health seeking behaviour (McGonagle et al 2024:239). Social and occupational agents' role is in accordance with Orem's (2002:272) theory definition of external support agents, which help to meet self-care requirements when individuals experience situational deficits, for instance, work-related stress or ignorance. Figure 7.3 shows agents of the self-care management programme for HPT

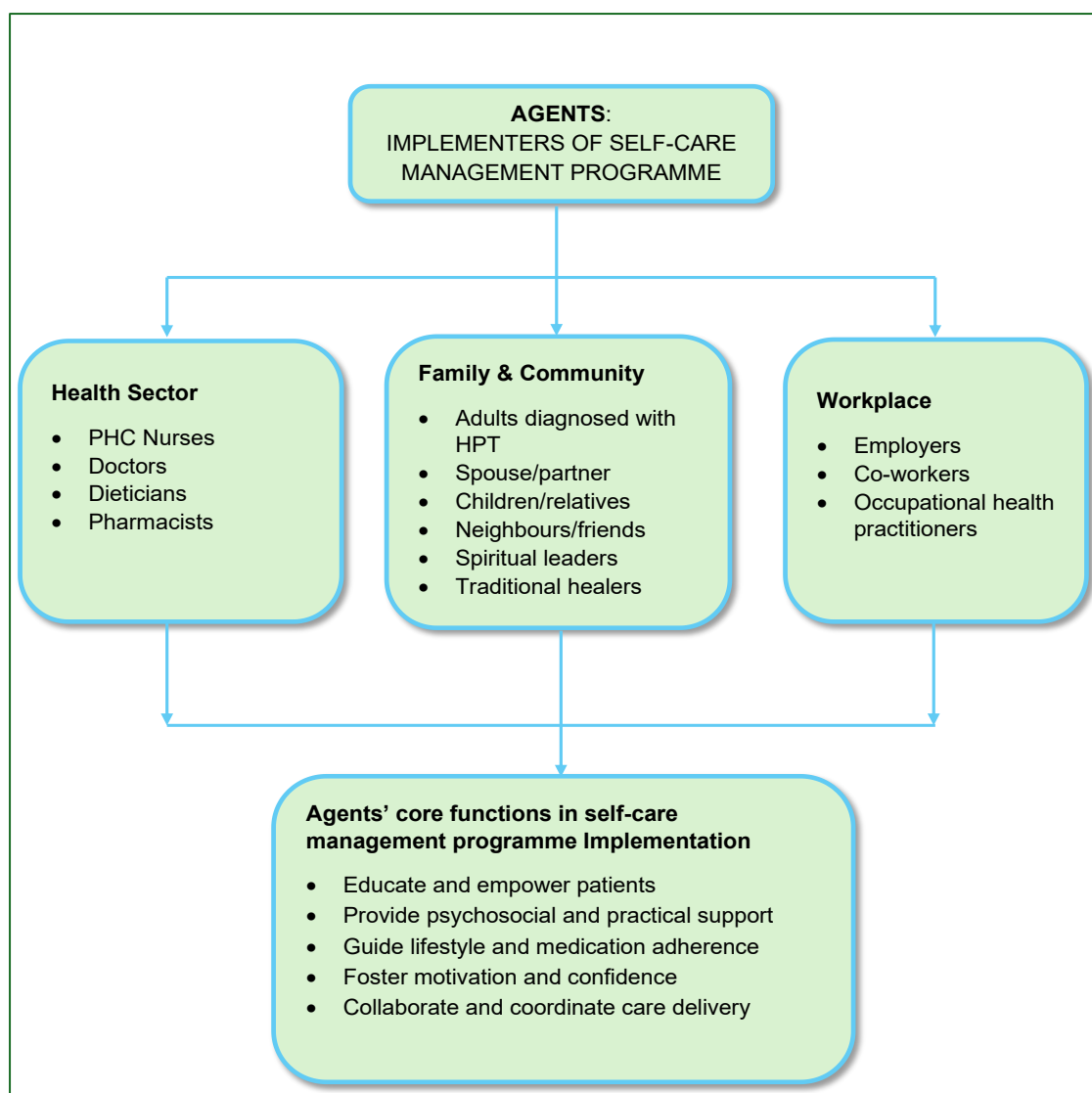


Figure 7.3: The Agents of the Self-Care Management Programme for HPT

7.3.3 Recipient of self-care management programme for HPT

The programme content is directly related to the needs identified in Chapter 4 and 5. Knowledge gaps identified, e.g. 54.3% patients didn't know that HPT is not curable, become specific learning objectives for educational modules. Goal setting worksheets and peer support mechanisms combat low motivation and self-efficacy, as seen in the intention/action gap in Chapter 6. Low-cost dietary substitutes and free community-based exercise programmes are informed by financial constraints (56.40% unemployment).

The desired capacities (problem solving, self-confidence, self-management) are transformed into measurable learning outcomes as a part of the programme. Support

systems are designed to be part of the services provided and not an additional layer tacked on. Family involvement is encouraged and planned for in the form of family sessions. Peer networks are organised in the form of support group meetings which are organised monthly at PHC facilities. The programme schedule contains follow-up systems with default tracking and reminder systems.

The recipients of the self-care management programme are adult patients diagnosed with HPT, whose self-care practices are often hindered by multifaceted needs and challenges detected in the empirical findings of chapters 4 to 6. It is important that the needs, desired capacities, support systems, and active participation of recipients in self-care should be understood in order to develop an effective and sustainable programme that should be consistent with the theoretical framework of Orem (1985:106) and Riegel et al (2012: 194).

- **Needs and challenges**

The targets are adult patients with HPT, with their own set of needs and difficulties hampering effective self-care as seen in the empirical data in chapters 4 to 6. Such obstacles are knowledge gaps, motivation, cultural assumptions, financial constraints and adherence. These challenges include knowledge deficiencies, lack of motivation, cultural beliefs, financial constraints, and poor adherence. Orem's (2001:45) theory labels this as a self-care deficit that needs assistance from others to manage their disease effectively. Limited information on HPT leads to less specific decision making such as premature medication discontinuation or misconception of dietary data. In addition, low motivation creates failure to return for follow-up visits and disengagement from treatment.

- **Desired capacities**

Outcomes of the programme were the development of desired capacities among recipients such as skills to solve problems, feel confident and self-care management so that they could become active co-managers of their own health. In line with Orem (2001:143) self-care theory, which states that self-care is a learned, intentional act, which is necessary to maintain health and well-being. Moreover, the self-care of chronic illness theory, which conceptualises self-care as a process of maintenance, monitoring, and management of HPT (Riegel et al 2012:23). Results of Chapter 4

showed that changes in health literacy and self-efficacy were statistically significant ($p < 0.05$) between the patients involved into the study, which confirms empowerment positively impacts the quality of life and lowers complications.

- **Support systems**

The support systems play a basic role in strengthening the recipient by supplying vital resources, motivation and constant care as indicated in both Orem (2001:253) and Riegel (2012:6) theories. Support systems include family support, peer networks, computerised aids, and follow-up systems. Family support promotes medication compliance and dietary adherence, with or without family support causing frustration and destructive behaviours. Peer groups and cyber technology provide functional and emotional support, which is neutralised by negative influences or inadequate access. Follow-up systems are central to the delivery of continuing care, with this quantitative evidence from empirical data' findings demonstrating unequivocal agreement (mean scores 4.37-4.55, $p < 0.001$) of their value in the detection of management deviation and prevention of treatment default.

- **Recipient's role in the self-care management programme**

In the development of a self-care management programme for adult HPT patients, the recipient plays a central role in promoting health and controlling their condition. HPT adult patient is a stakeholder in the health planning, implements knowledge to control lifestyle and treatment, consults with healthcare professionals, and measures progress. According to Orem (2001:143), self-care theory, individuals have the ability and responsibility to perform self-care actions to maintain health and well-being. Similarly, self-care of chronic illness theory by Riegel et al (2012:23) emphasises self-care maintenance, monitoring, and management, which enable patients to adopt healthy behaviours, identify symptoms, and seek help when necessary. All these theories emphasise the issue of patient empowerment, autonomy, and collaboration in designing effective self-care management programmes about HPT. Figure 7.4 depicts the recipient of self-care management programme for HPT.

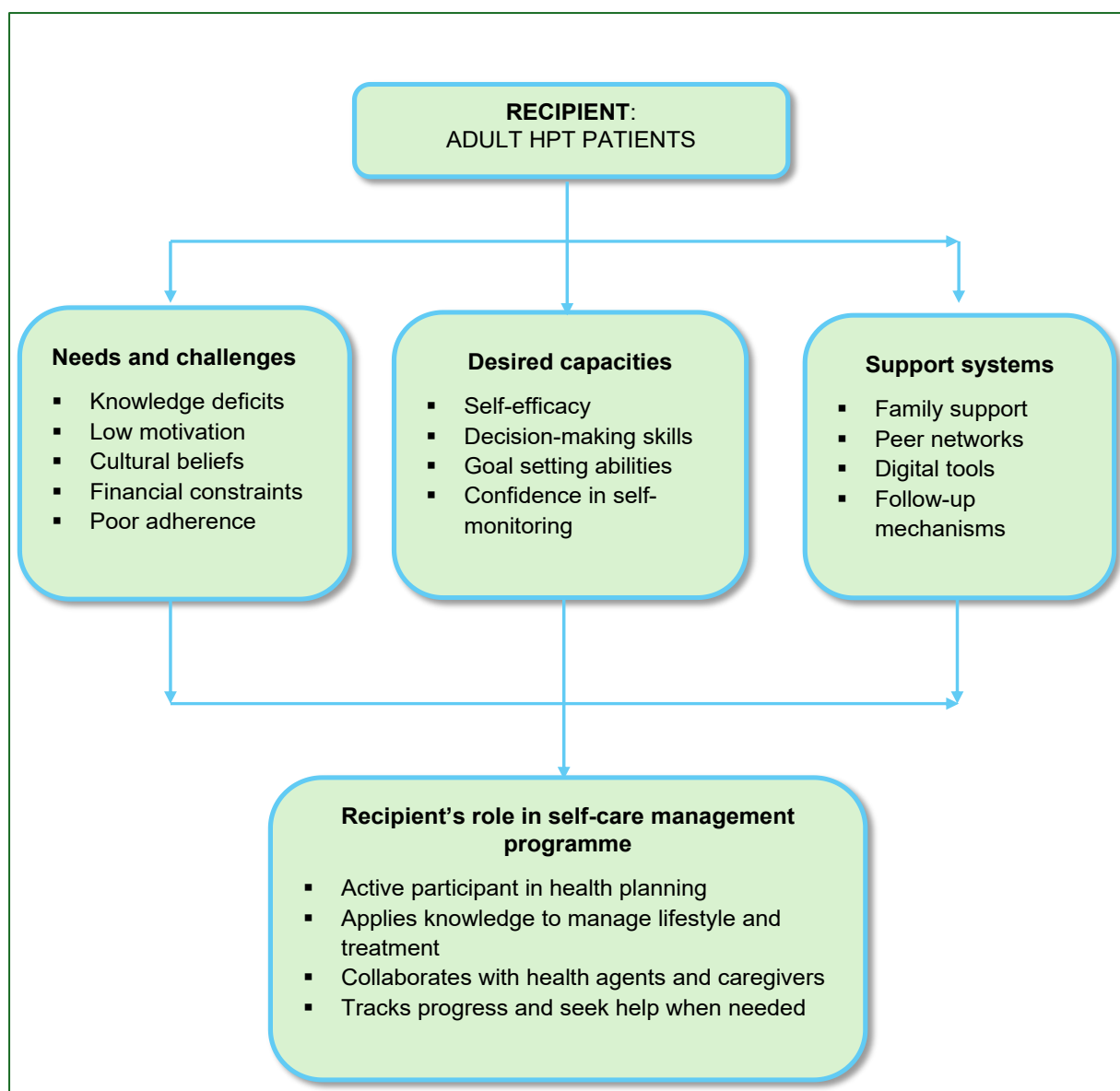


Figure 7.4: The Recipient of the Self-Care Management Programme for HPT

7.3.4 Procedure of the self-care management programme

The procedure represents the sequence of actions in Dickoff et al's (1968:423) theory. The procedure in self-care management of HPT corresponds with the intervention framework in Orem's (2001:354) supportive-educative system. HPT self-care management programme encompasses all intended activities designed to improve patient knowledge, behaviour, and HPT control. There were four key intervention areas that were involved in the procedure for the self-care management programme:

- **Educational interventions**

Educational interventions in the HPT self-care management programme are restorative, designed to fill identified knowledge gaps and build patients through interactive support and demonstration (Orem 1985:34). The workshops and instructional materials correct misperceptions and provide comprehensive understanding to facilitate a move from dependency to self-independence by establishing enhanced self-care agency (Orem 1985:84). In support, Riegel et al (2012:5); Ajzen (1991:202) educational interventions promote positive attitudes, reinforce perceived control over behaviour, and create long-term capabilities by developing skills in care maintenance, self-monitoring, and self-care management.

- **Lifestyle Modification**

Lifestyle modification is an autonomous self-care requirement, emphasizing healthier dietary habits, healthy exercise, and stress management to encourage behaviour change and enhance BP management (Orem 1985:34; Riegel et al 2012:5). Dietary modification involves decreasing processed foods and salt and consumption of fruits and vegetables, is highly evidenced to be effective in the management of BP (Sacks Svetkey & Vollme 2021:220). This empirical study shows that nurses are instrumental in ensuring these lifestyle interventions to prevent uncontrolled HPT. Moreover, emotional stimuli reduction is crucial in reducing stress to improve psychological well-being. All these lifestyle habits are core to long-term management and control of BP (Orem 2001:23).

- **Support and communication**

The culture of constant interaction among the carers, health professionals and patients is developed through communication and support and is highly effective in improving persuasiveness on self-practices like medication and diet (Jariyasakulwong et al 2025:14). Good communication enhances trust, increases health literacy and enables individuals to make informed health choices and carer support offers practical and emotional support enabling permanent behavioural change. Theoretically, these interactions address self-care deficits at the interpersonal level through support, guidance, and education (Orem 1985:34), and strengthen all dimensions of self-care as described by Riegel et al (2012:5). Concordantly, Ajzen (1991:179) emphasises the

fact that subjective norms and perceived behavioural control are bolstered through effective communication and social support. However, excessive caregiver burden may undermine these positive outcomes and negatively influence the effectiveness of self-care practices (Gobourne et al 2024:9).

- **Monitoring and follow-up**

Follow-ups and constant monitoring procedures play a vital role in maintaining the BP levels, preventing deterioration, and improving accountability. Standard of BP monitoring enables patients to respond and identify changes, but the follow-up visits give professional evaluation, drug evaluation, and adherence to treatment recommendations (Chapter 5, Sub-category 3.1.3). Home visits provide customised care, understanding of situational obstacles, tangible support especially to low-income patients, and evidence testify regarding their effectiveness in enhancing dietary adherence and decreasing BP by significant margins (Setyoadi et al 2024:172; Chapter 5, Sub-category 4.4.5). These procedures provide for proper implementation of clinical recommendations in practice. The benefits of home visits are personalised care, better understanding of contextual barriers, and physical support, especially in the case of socioeconomically disadvantaged patients. It is proven to be effective in the improvement of dietary adherence and a great decrease in BP (Setyoadi et al 2024:172; Chapter 5, Sub-category 4.4.5). These interventions help to apply clinical advice to the practical application of evidence-based practice recommendations in the daily setting of patients, which helps to bridge the gap between evidence based theoretical and self-care in the real world. Activities of programme expansion increase the range and influence on self-care management programmes to provide support at family, workplace, and community levels. Family and caregiver participation in support and educative role that Orem defines in the self-care theory of nursing (Orem 1985:34) provides constant motivation to patients. Health awareness creation and empowerment of people to engage in healthy behaviours are encouraged by wellness sessions and community health outreach campaigns at the workplace. Additionally, use of support groups and peer motivation platforms boosts self-efficacy, emotional support, and long-term involvement in self-care. Taken together, these activities form a favourable social environment that enhances self-care capacity and increases long-term outcomes of the management of HPT. Figure 7.5 shows procedure of the self-care management programme for HPT.

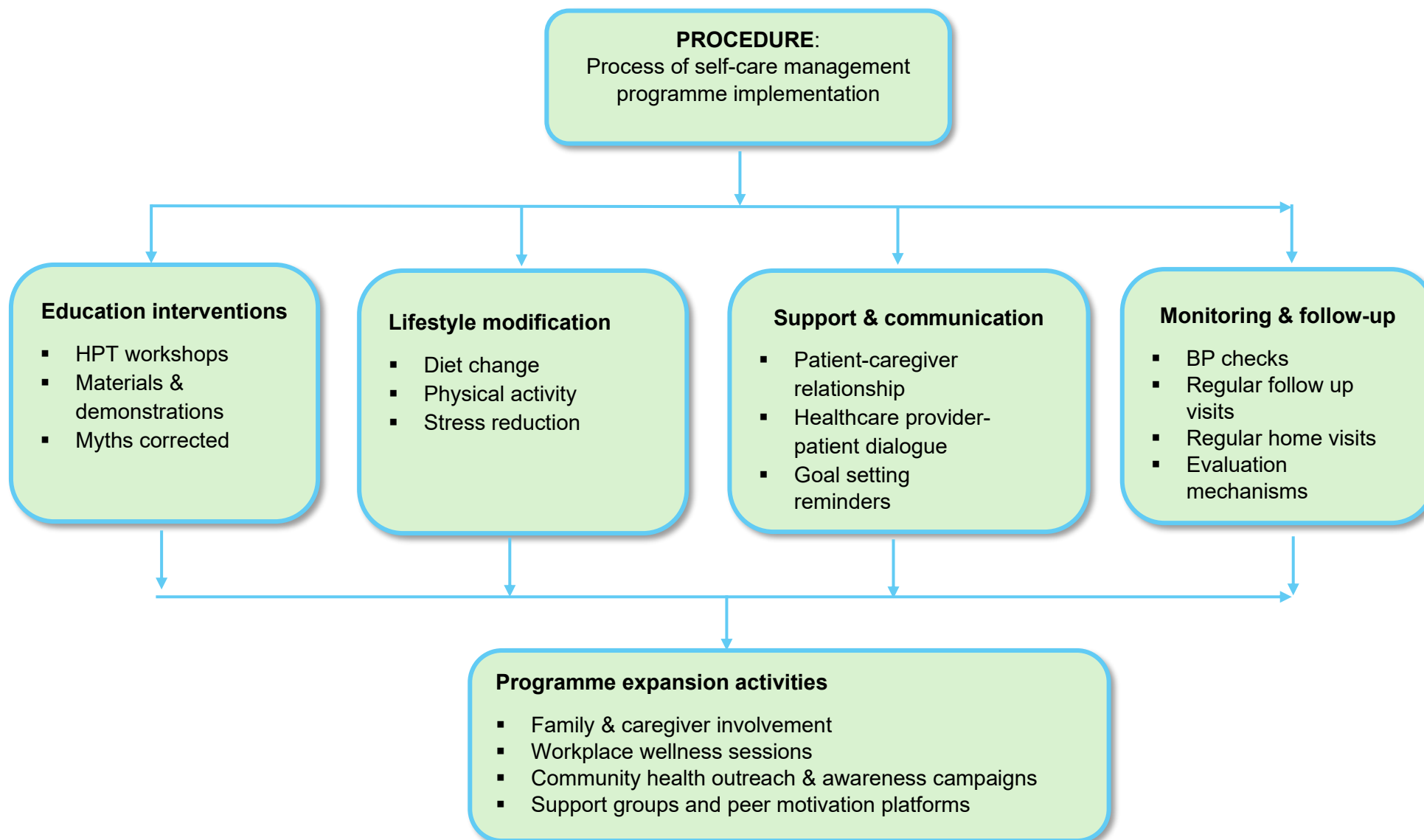


Figure 7.5: The Procedure of the Self-Care Management Programme for HPT

7.3.5 Dynamics of the self-care management programme

- **Knowledge and understanding:**

Empirical evidence was found in Chapter 4, section 4.4.3, where patients with higher knowledge reported greater adherence to medication and changes in lifestyle ($p < 0.001$). Chapter 5, section 5.4.2.1 (Sub-category 1.1.2) also found qualitative evidence that patients with understanding of medication instructions reported higher adherence.

- **Communication and collaboration:**

In Chapter 4, Table 4.8, nurses' positive assessment of patient communication had mean scores >4.0 ($p < 0.001$). Chapter 5, section 5.3.2.1 (Sub-category 1.2.2) included qualitative vignettes of active listening and rapport-building practices that enhanced patient engagement.

- **Motivation and self-efficacy:**

Empirical support was found in Chapter 4, section 4.4.4 where patients had positive perceptions of self-care (mean scores >3.5) but also struggled to sustain their efforts. Chapter 5, section 5.4.2.3 identified frustration and demotivation as barriers when patients tried to change their lifestyle without support.

- **Cultural beliefs and norms:**

Evidence was provided in Chapter 5, section 5.4.2.2 (Sub-category 2.2.2), where participants reported cultural food practices that are in opposition to dietary changes needed for HPT management*

- **Accessibility and affordability:**

Evidence was found in Chapter 4, Table 4.22 (unemployment 56.40%) and Chapter 5, section 5.3.2.2 (Category 2.2), where nurses and patients cited financial barriers as a barrier to medication adherence and access to healthy food

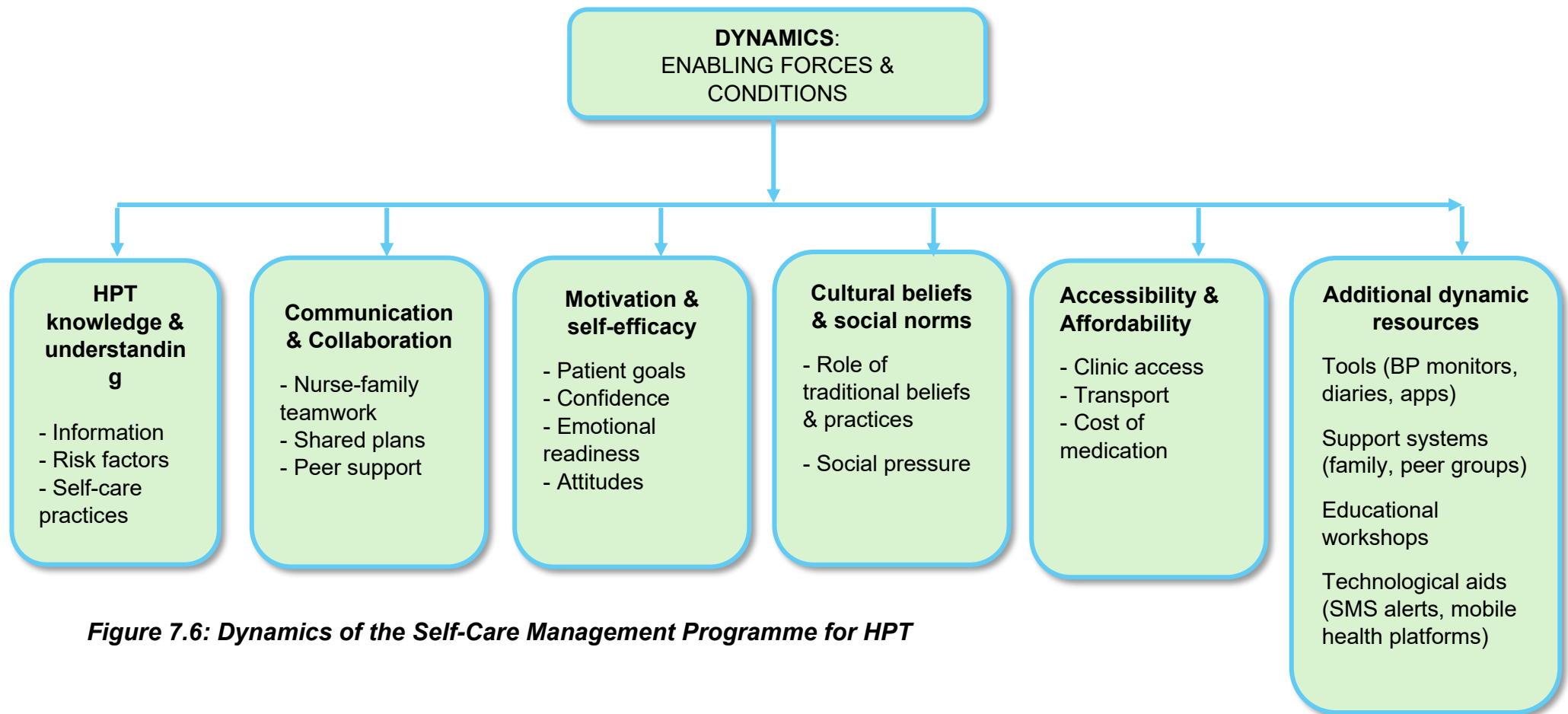


Figure 7.6: Dynamics of the Self-Care Management Programme for HPT

7.3.6 Terminus of the self-care management programme

In Dickoff et al's (1968:428) theoretical framework, the terminus is the end goal or intended outcome of all care procedures, efforts, and dynamics. Terminus of HPT self-care management programme signifies the final outcomes the programme seeks to achieve. This encompasses both clinical advancements and behavioural empowerment. The programme has three principal outcomes as presented in Figure 7.7.

- **Improved BP control and adherence**

The ultimate result of the programme is effective self-care management, as demonstrated through quantifiable decreases in BP results, adherence to medication as prescribed, and regular follow-up attendance at healthcare facilities. These results are indicative of successful self-care and chronic disease management and align with Orem's (2001:251) theory that health achievement through self-care is equal to the elimination of self-care deficits. The stable BP results are solid evidence of successful practices, which encourages and empowers the belief of patients. Martinez et al (2022:142) cite that self-care interventions significantly enhance BP control, especially if patients learn independent management skills. The attendance in the clinic, as empirically proved (figures 6.3 and 6.4) keeps patients engaged, promotes early identification of deterioration, and improves continuity of care, and frequent visits contribute to the improvement of HPT control in a cost-saving strategy (Ganetzky et al 2023:13).

- **Patient empowerment and self-care management**

The terminus reaches beyond physiological control to the behavioural and psychological aspects where patients are independent, competent and self-sufficient in managing their condition. Orem (2001:23) defines this as being capable of fulfilling self-care requisites, while Riegel et al (2012:16) view it as the apex of self-care capacity. Empowerment is dynamic, active, in decision-making in medication, lifestyle change associated with improved compliance, self-efficacy, and improved outcomes (Mesko et al 2025:4). Confidence in care tasks promotes autonomy and decreases reliance on healthcare, and conformity to treatment. Intrinsic motivation and self-

efficacy maintain consistency irrespective of setbacks and encourage resilience through follow-up on a regular basis (Hermansson-Borrebaeck et al 2025:6).

- **Decreased stress inducing factors**

A primary outcome is the minimisation of HPT-related complications and stressors, which are recognised to be contributory to poor illness management. Orem (2001:282) contends that optimum well-being is attained by self-care activities that eliminate self-care deficits. Sustainable living or residential settings that allow stability, consistency, and healthy decision-making help in controlling past experiences through eliminating stimuli such as discord, nutrition, and stress, thus promoting medication adherence and diet (Konlan & Shin, 2023:12). Positive situations may help eliminate mental and physical strain, enhance habituality, and resist loneliness. One of the primary objectives is anxiety relief because stress is not just a factor in elevated BP but also compliance (Yogisutanti & Suha 2025:5). Figure 7.7 shows the terminus of the self-care management programme for HPT.

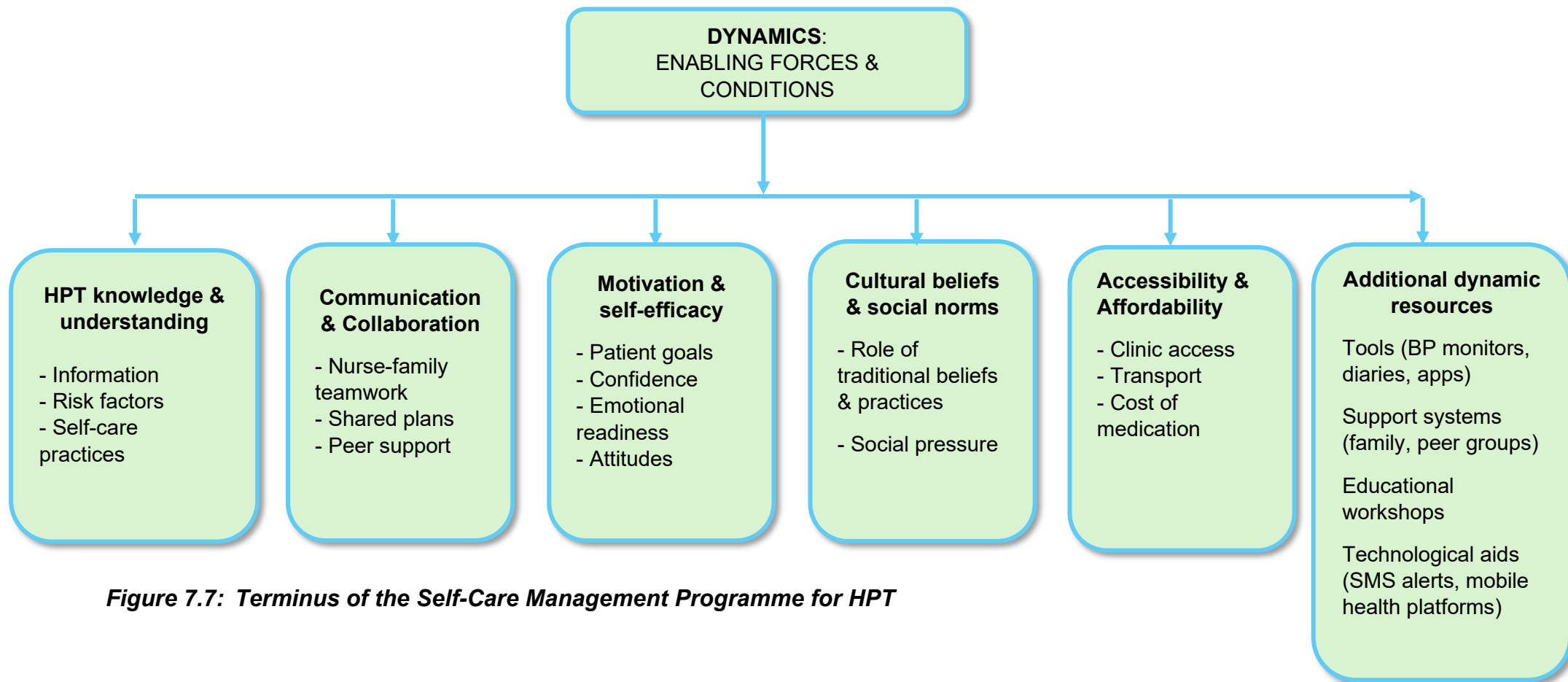


Figure 7.7: Terminus of the Self-Care Management Programme for HPT

7.4 DEVELOPMENT OF SELF-CARE MANAGEMENT PROGRAMME

The self-care management programme designed for adults with HPT is the product of an evidence-based development process using empirical findings and relevant literature. The quantitative data (Chapter 4), the qualitative themes (Chapter 5) and the integrated findings (Chapter 6) were analysed to determine the components of the programme.

When there were differences between quantitative and qualitative results (e.g., symptom awareness in Chapter 6, Table 6.4) both views were taken into account. For instance, quantitative and qualitative findings both indicated patients' ability to identify HPT symptoms, but interviews also highlighted some patients' tendency to misattribute HPT symptoms to stress or fatigue. Thus, the programme includes more in-depth symptom education to correct these misattributions.

The design process was informed by the six elements of POT by Dickoff et al (1968:422): agent, recipient, context, procedure, dynamics and terminus. This provided a framework to re-arrange theoretical concepts into elements. The new programme has core concepts of patient empowerment, health care provider facilitation and system support, allowing patients to implement holistic and culturally sensitive HPT management.

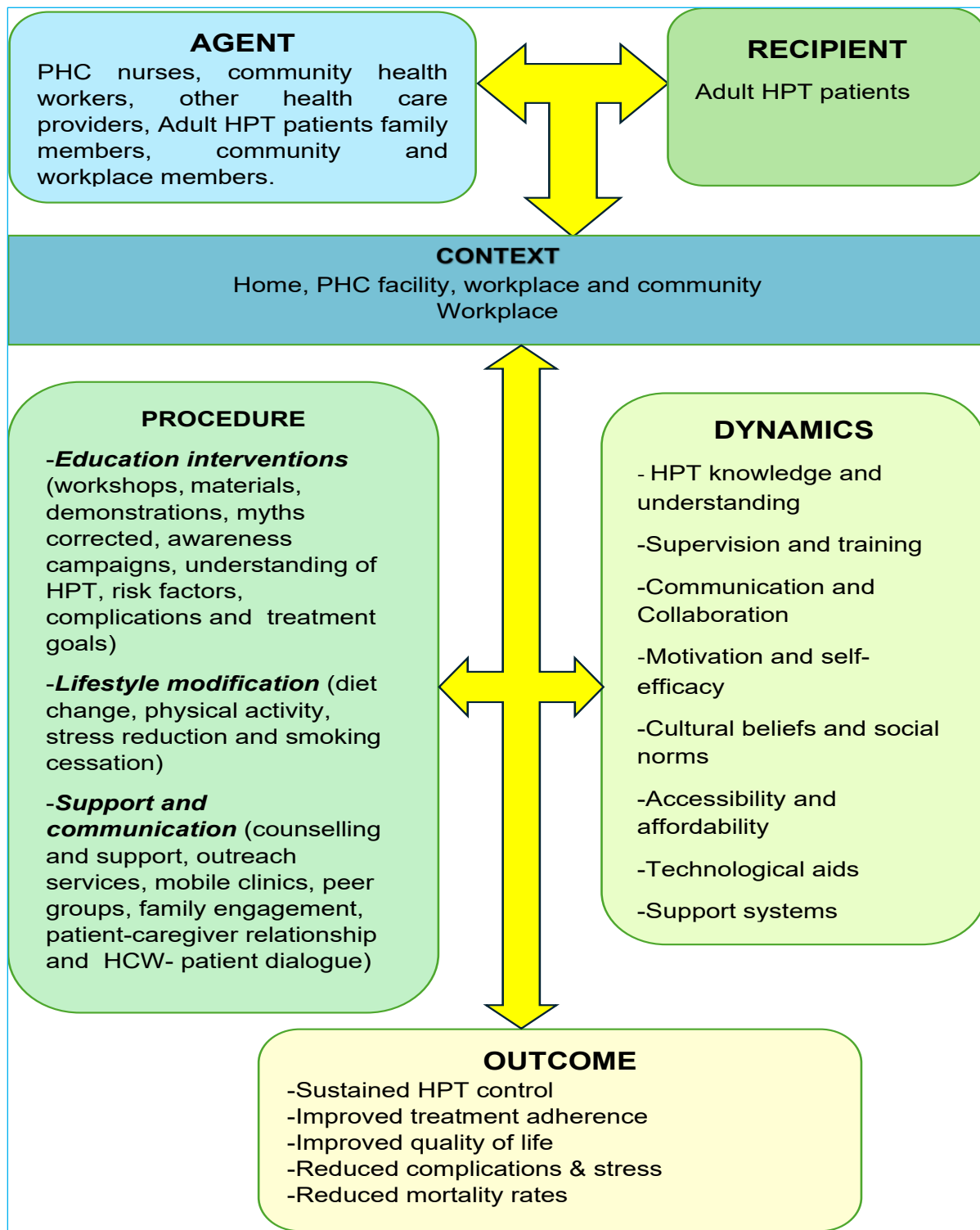


Figure 7.8 Self-care management programme for adults HPT patients (Adapted from Dickoff et al 1985: 422)

7.4.1 Programme overview

The adult HPT self-care management programme is an evidence-based patient-centred framework that is constructed based on empirical evidence and literature. The programme is a combination of elements of clinical, behavioural, and psychosocial approaches, including patient education, support, and facilitation provided by healthcare workers. It has been adapted to the cultural and socio-economic environment of the Khomas Region and uses adaptable and locally pertinent educational resource and dietary recommendations. The self-care management programme may improve competence, ensure patient autonomy, and decrease complications associated with HPT and be implemented in stages with constant monitoring and assessment.

7.4.2 Purpose of the programme

The primary goal of self-care management programme is to empower adult patients with knowledge, skills and confidence to be active stakeholders in the management of their condition, improving clinical outcome and quality of life. Self-care management programme aims at standardising HPT care in Khomas Region PHC facilities, meeting urban-rural disparities, reducing economic burden on patients and healthcare system. Aside from patient outcomes, the programme serves an educational role through healthcare providers' capacity building, primarily PHC nurses. Additionally, this programme provides actionable data to help inform policy towards better management of HPT as a chronic disease in Namibia towards objectives of health equity, patient empowerment, and sustainable healthcare delivery.

7.4.3 Structure and assumptions

The conceptualisation of the self-care management programme was based on comprehensive integration of the functions of the patients, healthcare providers, and the health system overall, to empower HPT adults. Self-care management programme integrates educational, behavioural, and technological elements that are aimed at strengthening patient empowerment. The programme is based on flexible stepped care which means that the intensity and magnitude of interventions can be adjusted to the needs of a patient and severity of the disease.

The following are main assumptions that are based on the implementation of the programme:

- When equipped with proper, user-friendly and cultural supportive and educational interventions, adult patients may be encouraged and adopt healthier behaviours.
- PHC nurses play a critical role in facilitating behavioural change, continuity of care and patient adherence in self-care management framework.
- The current health regime has the institutional capacity to incorporate and maintain the programme within its already stipulated operational and resource frameworks.
- When the empirical evidence proves that the programme would help enhance clinical outcomes and decrease healthcare expenditures, policymakers and stakeholders would endorse and support it.

Self-care management programme will be reviewed and validated in a systematic manner through pilot implementation and sustained feedback to provide assurance that it is practical and flexible, and, depending on the situation, relevant to Namibian PHC context. The practice of self-care and PHC delivery comprises a number of concepts that were interrelated and used to develop the programme. The section below demonstrates the practicability and applicability of self-care management programme in the real HPT patients 'context.

7.4.4 Practicability and applicability of self-care management programme

Design and structure of self-care management programme for HPT adult patients were based on the following key concepts. The definitions of each concept are provided in its theoretical and operational aspect to have conceptual clarity and uniformity throughout the programme framework.

- **Self-care management**

Is the planned and conscious involvement of patients in the HPT management through taking prescribed drugs, changes in their diet and lifestyle, frequent observation of symptoms, and prompt health seeking behaviour. Education, availability of resources and constant professional mentorship by the healthcare providers facilitate this process.

- **Patient empowerment**

A dynamic process by which individuals learn how to make informed choices and take accountability in their health by means of obtaining knowledge, skills and confidence. In this programme, the notion of empowerment is implemented by customised educational initiatives, goal setting, and decision-making in collaboration between the patient and healthcare professionals.

- **Healthcare provider capacity**

The designation of the knowledge, competencies, and skills of nurses and other health care professionals required to provide holistic, evidence-based care to HPT. These include proper diagnosis, patient education and behavioural counselling, as well as the psychosocial support at PHC facility.

- **Cultural adaptation**

Involves the methodical adjustment of health interventions in order to guarantee consistencies with the local beliefs, practices, language, and socioeconomic realities. Adaptation to the culture makes the programme relevant, acceptable and sustainable in the Namibian context.

- **Stepped care**

Healthcare modalities that focus on stratification wherein the extent of intervention is in proportion to the degree of the illness and patient needs. The practice is effective because it guarantees an efficient distribution of clinical, community resources and equitable access to quality care.

The above concepts enlightened the design and purpose of which self-care management programme for the PHC setting. It was based on this theoretical basis that the next sub-section outlines some operational protocols, hence, converting the theoretical constructs into tangible plans of future execution and further validation in Namibia and other similar contexts.

7.5 GUIDELINES FOR OPERATIONALISATION OF THE PROGRAMME

Self-care management programme to address HPT in adults has not been empirically validated or implemented in the context of the scope of this research, but the guidelines below were proposed to inform its future work at PHC of Namibia. These guidelines are developed by synthesising empirical results, literature, and conceptual

framework based on the practice, as developed by Dickoff et al (1968:422), POT. The guidelines aimed to offer a designer and flexible basis to implement the programme in the future, refine and appraise it. The guidelines have been structured in line with the six components of the framework of Dickoff et al (1968:422), namely context, agent, recipient, procedure, dynamics, and terminus to have the systematic coherence and practical applicability.

7.5.1 Guidelines for the context.

The programme will be rolled out as a 6-month pilot in three PHC facilities identified in consultation with Khomas Regional Health Directorate (urban health centre, urban clinic and rural clinic). These three are examples of the potential settings where the programme could be scaled up in the future. The implementation will be done in consultation rooms, with no need of new infrastructure, and the rooms used will be during quieter periods of the day (between 14:00 and 16:00). Memorandum of understanding with local traditional councils will be developed to allow communities to enter and to do home visits. Before implementing, each facility will fill out a readiness assessment checklist with staff availability, room allocation, and baseline patient volume.

The functional settings of this programme include the PHC environment in Namibia, where the HPT management is frequently faced with limited resources, urban-rural inequalities, and health literacy difference in levels.

- The proposed implementation of self-care management programme is to take place within the current PHC structures with the use of existing human and material resources.
- The context-specific adaptation of the programme should consider the cultural, linguistic, and socioeconomic diversity of patients.
- The inclusion in PHC services would be well aligned with current national strategies regarding non-communicable diseases (NCDs), as well as with the provision of the least infrastructure needed in the local facilities to receive education, monitoring and follow-ups.

- An intervention that entails the involvement of community leaders and local health committees should be adopted as part of the participatory approach to ensure the acceptance and sustainability.

7.5.2 Guidelines for the agents

The PHC nurses identified as programme facilitators will undergo a 2-day training workshop on motivational interviewing, dietary counselling with local foods, home BP monitoring training and plain language communication skills. Every participating facility will appoint one nurse coordinator who will be in charge of making programmes and coordinating patients and report monthly to the regional health directorate. A small amount of extra funding, through the pilot budget, will be provided for nurse coordinators to cover extra administrative tasks. Monthly supervision meetings will be held for all nurses who participate in the programme, which will include the exchange of ideas and solutions to challenges. Each nurse will receive a programme manual which will include session scripts, visual aids and data collection forms.

The agents primarily PHC professionals, especially nurses play a central role in facilitating HPT self-care management.

- PHC nurses and other healthcare providers are suggested to be exposed to systematic professional growth in the area of patient education, lifestyle counselling, and motivational interviewing methods.
- The updated knowledge of HPT pathophysiology, pharmacological management, and evidence-based self-care interventions should be available to the agents.
- An interdisciplinary and interprofessional practice which involves physicians, dieticians, social workers, pharmacist etc. is promoted to promote physical, psychological as well as social aspects of HPT.
- The healthcare providers are urged to foster empathy, cultural competence, and effective communication skills in order to gain trust with the patients.
- It is also recommended to employ organisational support systems such as proper supervision and workload by ensuring that the quality-of-service delivery is not affected by burnout.

7.5.3 Guidelines for the recipients

Patients will be recruited across the participating facilities based on an age criterion of ≥ 18 years and a diagnosis of HPT minimum for 1 year with no BP control on 2 successive visits. Patients will be recruited sequentially according to eligible patients (age ≥ 18 years, and HPT diagnosis for ≥ 1 year with no BP control on 2 visits). A programme handbook will be given out to each client in either English or Oshiwambo/Otjiherero/Afrikaans depending on the client's preference. Patients will attend four weekly group sessions (2 hours each) followed by monthly maintenance sessions for six months. Group sessions will be offered to patients, and transportation reimbursement (small cash amount or bus voucher) will be given as determined in Chapter 5 to be a barrier to continued attendance in group sessions. The nurse coordinator will visit the patient at home if the patient forgoes two sessions to re-engage them.

The recipients of the programme adult patients living with HPT should be guided through individualised, patient-centred approaches that empower them to take active responsibility for their health.

- The educational material is suggested to be provided in simple language and local dialects with visual and audio aids to help learners understand.
- Patient guidelines can provide simplified data on the treatment adherence, dietary change, physical activity, stress management, and BP monitoring.
- The patients are encouraged to engage in peer support groups and education programmes in the community to exchange experiences and remain motivated.
- It is advisable to work with family members or caregivers to provide constant support in lifestyle change.
- Further reinforcement of patient adherence and self-efficacy could be provided by additional tools, such as goal-setting strategies, reminder systems (including SMS alerts), and frequent feedback.

7.5.4 Procedure guidelines

The procedural aspect of operationalisation is a systematic approach of the delivery of the self-care management programme step by step. The following steps may be involved in the proposed procedure:

- Primary assessment of the patient: Full medical and medication history, lifestyle behaviour assessment.
- Education about HPT self-care and working collaboratively to create a person-specific plan of care with realistic goals.
- Lifestyle changes, medication taking and many follow-up visits.
- Checking of BP, self-care behaviours and psychosocial well-being.

There should be clear guidance and criteria on how patients who do not respond to the standard intervention, or those with complications, should be referred. There is a strong recommendation to systematically document all the processes to ensure the continuity of the care and programme evaluation. Language, materials and delivery techniques must be flexible enough to be appealing to a variety of literacy and cultural levels.

- The programme is a stepped approach:

Month 1, Week 1: Baseline assessment (BP measurement, medication adherence self-report, dietary recall, physical activity recall) and individual goal setting session (30 minutes per patient).

Weekly group educational modules, 2 hours per session, for 4 weeks (Month 1). Understanding HPT – what is it, why is it important, and the role of medication (Module 1). Module 2: Dietary modification (low salt cooking using local foods and reading food labels). Physical activity (group walk, home based exercise without equipment) (Module 3). Module 4: Stress management and problem solving.

Week 5 – 8 (2 weeks) – month 2 – Bi-weekly practical sessions (cooking demonstration in the setting or in a community setting, community walk).

Months 3-6: Monthly Maintenance (1.5 hours) and home BP monitoring review. The sessions have a short education component covering the education and refresher (15 minutes), sharing successes and challenges (30 minutes), review of BP and medications (30 minutes), and setting goals for the next month (15 minutes).

7.5.5 Dynamics guidelines

The dynamics of the programme can be understood as being based on the reciprocity between the agent and the recipients. Such interactions must be marked by respecting each other, trusting one another, and having common health goal. Nurses are encouraged to take on a mentoring role with patients to provide educational support and emotional support in order to encourage patients to take responsibility for their health behaviours. Communication should be culturally appropriate and emphasize listening and motivational interviewing to set up rapport and address misconceptions. A second principle of dynamics is that of reflective practice which sees healthcare workers continually adapting their educative and clinical practice based on the feedback to and from the patient and the outcomes. It is an iterative process, creating a long-term interaction, responsibility and empowerment of the patient and health care provider.

Motivational interviewing skills will be utilized during all patient interactions by nurses. Patient-provider agreement contract will be signed at enrolment, containing mutual expectations (patient attends sessions and tries to make lifestyle changes, nurse provides respectful clear instruction and follows up regularly). Peer support will be provided in a WhatsApp group for patients who have a smartphone and, in the community, health talks at community meeting points such as churches, community centres, water collection points, monthly for patients who do not have a smartphone. Family members are welcome to join the initial 30 minutes of every monthly maintenance session for a special family corner, where they will hear about their loved one's progress and be trained to offer helpful but non-dictatorial support.

7.5.6 Terminus guidelines

Three key outcomes will be measured at 6-months post-intervention to determine successful outcomes. Firstly, a decrease in mean systolic BP by ≥ 10 mmHg from baseline. Secondly, BP control rate ($< 140/90$ mmHg). Third, medication adherence (proportion of patients reporting adherence on $\geq 80\%$ days in the past 7 days measured on a validated self-report instrument).

Secondary outcomes are improved diet (reported reduction in added salt and increase in vegetables) and increased physical activity (reported walking ≥ 30 minutes/day for

≥5 days/week). These results will be obtained through patient self-report and will have simple pictorial response options for patients with limited literacy.

Baseline, 3- and 6-month measurements will be taken. Each facility will have its nurse coordinator who will collect the data. All information will be anonymised and stored in a central database. Analysis will be intention-to-treated and patients who drop out will be added to the denominator.

7.6 SUMMARY

This chapter presented the creation of self-care management programme specific to adult patients with HPT responding to the multifaceted requirements found in the research. The programme was based on evidence-based practices, theory, and insights that were gained out of the lived experience of HPT patients, as well as the perception of PHC nurses. The programme planning encompasses health education and lifestyle changes, adherence to medication, social support, and home monitoring, which are supported by organised tools and resources to increase the effectiveness. The suggested guidelines provide a systematic basis of possible operationalisation of HPT self-care management programme in Namibian PHC context. Although not proved yet, some guidelines have been proposed to give a clear outline and guide pilot testing, implementation, and evaluation in the future. The programme, through working with healthcare providers and community members, should see an environment created to support long-term health behaviour change. This chapter lays a foundation for future discussions on the evaluation of the programme's impact and its broader applicability within healthcare systems. The subsequent Chapter 8 explores into the conclusions and recommendations of the study.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

Chapter 7 focused on formulating, clarifying, and justifying the HPT self-care management programme, synthesising findings from empirical evidence and literature research. Last chapter illuminated how quantitative and qualitative data intersected to ignite functional programme aspects aimed at facilitating HPT adults to control the disease well in their homes. This concluding Chapter 8 combines the entire research, building on the grounds laid. This chapter gives an overview of the research approach and key results, hence forming conclusions based on the data. Furthermore, this chapter establishes practical recommendations to primary stakeholders, explains how the study informs both practice and research, and discusses its limitations. The chapter focuses on cementing the importance of the study and providing a platform for implementation, further research, and policymaking.

8.2 OVERVIEW OF THE STUDY

This chapter offers a comprehensive explanation of the research methodology and primary results of the quantitative and qualitative study phases. This section re-evaluates the study design, articulates the most significant findings of the quantitative and qualitative studies, and emphasises how combined data contributed to developing and proposed validation of the self-care management programme. This study aimed to develop a self-care management programme designed to empower adult patients with HPT to effectively manage their condition at home within the Khomas Region of Namibia.

8.2.1 Research design and methods

This study employed a convergent parallel MMRD, in which the quantitative and qualitative data were collected simultaneously, treated separately, and combined during interpretation thereafter. A convergent parallel MMRD was utilised throughout

this study, where both qualitative and quantitative data were simultaneously collected and analysed separately but combined during the interpretation stage. The qualitative approach adopted the exploratory descriptive design. This enabled findings to be triangulated and a context-specific, evidence-based self-care management programme for Namibia's Khomas population diagnosed with HPT to be formulated. The study design was executed in two principal phases:

- **Phase One: Quantitative and qualitative study on self-care Management for HPT**

Phase one was data collection aimed at studying and describing the knowledge, attitudes, practice, experiences, and perceptions of HPT self-care management among adult patients and PHC nurses.

- **Quantitative descriptive cross-sectional design**

This study employed a quantitative descriptive cross-sectional design to identify statistical patterns and measurable outcomes. Quantitative data were collected from 328 adult patients and 112 PHC nurses using the descriptive cross-sectional approach. The objective was to measure degree of knowledge, attitudes, practice of patients, perceptions of PHC nurses regarding self-care, and documented activities towards the management of HPT. Convergent parallel MMRD design provided a general overview of the existing conditions under actual-life PHC scenarios using structured questionnaires computed using SPSS software.

- **Qualitative exploratory descriptive design**

The qualitative strand explored the subjective and contextual dimensions of self-care management for HPT. A qualitative exploratory descriptive design was adopted in order to conduct in-depth face-to-face individual interviews with 16 nurses and 12 adult patients. The chosen design was particularly suited to explore the lived experiences of adult patients and perceptions of PHC nurses regarding HPT self-care management in the Khomas Region of Namibia. Thematic analysis facilitated the recognition of common patterns and the creation of meaningful understanding not possible through quantitative methods alone. Together, these two complementary methods provided a rich and sound insight on HPT self-care management in the Khomas Region.

- **Phase II: Programme Development**

During Phase 2, focus was on building the HPT self-care management programme from the empirical data collected during Phase 1. This phase was characterised by synthesis and interpretation of quantitative and qualitative results informed by a conceptual framework from the collective findings in Phase 1. In-depth analysis of the current literature and theoretical foundations in self-care. The main concepts were distinguished, categorised, and organised into theme domains that guided the design of the proposed intervention. Outcome programme was designed to educate adult patients with knowledge, skills, and support to manage the condition better in their own homes. The overall methodology process is concisely explained in Table 1.1 under Chapter 1, and a detailed explanation has been provided in Chapter 3 of this thesis.

8.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS

This section brings together and interprets the main findings from both the quantitative and qualitative components of the study. It explains how the combined results enhanced understanding of factors influencing HPT self-care and development of the proposed management programme for adults in the Khomas region.

8.3.1 Overview of the results for quantitative study

- **Overall synthesis of findings**

The findings from this convergent parallel mixed-methods study bring to the fore one paradox in HPT self-care management in the Khomas region. For adult patients, there were positive attitudes towards self-care (most attitude items mean Likert score >3.5); for PHC nurses, there were high mean score on patient education (M=4.44 – patient education regarding HPT complications; M=4.44 – patient education regarding lifestyle modification) but there were significant gaps between the intention and practice of PHC nurses. These gaps are not primarily due to lack of motivation. Nurses were dedicated in teaching, and patients were always willing to change. Rather, gaps are due to systemic barriers, such as stock out of drugs at state pharmacies (reported by multiple participants), lack of time for dietary counselling during consultations (M=3.55

for balanced diet education), lack of monitoring equipment at the patient's home (M=3.77 regarding encouragement of BP monitor purchase), and socioeconomic factors like 56.40% unemployment and limited access to fresh, affordable food in informal settlements.

The four salient features of the developed programme of self-care management directly target these findings. First, the programme is based on practical, culturally relevant diet education, focusing on local foods (e.g., how to cook traditional foods with less salt and how to include vegetables that don't require refrigeration) and cooking methods instead of blanket advice for dietary changes, assuming access to fresh produce and refrigeration. Second, the sessions with families are included when building up family-based support systems, as the majority of patients (60.67%) did not receive formal social support. Third, the programme educates patients in home BP monitoring with low-cost validated devices, with the group purchasing plans, to reduce individual cost, so as the gap of the practice of self-monitoring revealed by the quantitative assessment of the satisfaction with the devices (mean 3.77/4 for encouraging purchase, M=3.55 for demonstrating use). Fourth, it creates straightforward, paper-based monitoring systems that include pictorial representation to ensure that people with low literacy skills (68.60% had secondary education or less) can easily implement and use.

Findings provide statistical profiling of existing self-care activities, barriers, and support systems affecting HPT management among the population. Results provided the elementary foundation for the determination of priority areas for intervention in self-care education and programme development. The results are discussed in the following sections:

8.3.1.1 *Adults' knowledge, attitudes and practices of self-care management of HPT*

While all patients (100%) were aware of the importance of taking medications adherence, nearly half (45.6%) thought that medication was enough to keep their disease under control. This finding reflects limited knowledge and misconception of the complexity of HPT management.

- Greater knowledge was associated with better adherence to drug therapy and lifestyles changes. This finding is based on a cross-sectional design, so causality cannot be inferred.
- Study participants reported a lack of knowledge of symptoms and complications of HPT.
- Average values of items in the Likert scale were greater than 3.5 for key items related to attitudes towards self-care management of HPT. Participants were ready to engage in control efforts of the disease.
- Participants indicated lack of BP monitors, financial status and limited food literacy as barriers to maintaining lifestyle modifications.

8.3.1.2 *Reviews of PHC nurses about self-care management in HPT*

- Positive perceptions were found regarding nurses' practice in educating their patients and giving them HPT-related support.
- PHC nurses were positively perceived in encouraging patients' participation in HPT management.
- Nurses were perceived positively in encouraging frequent follow-up, exercise and weight check. But nurses were perceived as less involved in dietary education, body mass index (BMI) checks, and side effect check-ups of anti-HPT medication. These perceptions identified opportunities to improve HPT care.
- According to the patients' perceptions, nurses need to better communicate about balanced diets.

The nurses had positive views on how they talked about the significance of stress management, the description of symptoms in HPT, and in educating the patients on the impacts of excessive salty diets. PHC nurses were perceived as informing patients about the benefits of social support in self-care management of HPT, encouraging patients to express their concerns, and educating about stress management. The quantitative analysis thus demonstrated that although the foundations for self-care exist through knowledge and supportive nursing roles structural and contextual barriers continue to inhibit effective implementation.

8.3.2 Overview of the qualitative study results

The qualitative phase offered a nuanced exploration of the contextual and experiential aspects of HPT self-care management. The emergent themes from each participant group were distinct yet complementary, demonstrating how the interplay between professional viewpoints and personal experiences informs and constrains self-care practices in the Khomas Region. These findings provided essential context for explaining the gaps identified in the quantitative component and served as a foundation for developing a patient-centred self-care management programme.

8.3.2.1 *PHC nurses' perceptions towards self-care management for adults with HPT diagnosis.*

Four overarching themes emerged from the interviews with PHC nurses, reflecting their perceptions, challenges, and strategies in promoting self-care among adults diagnosed with HPT:

- **Perceptions of self-care management for HPT**

PHC nurses demonstrated a clear understanding of the importance of self-care in the management of HPT. PHC nurses consistently described medication adherence and regular BP monitoring as the foundation of clinical practice and a key determinant of treatment success. PHC nurses also observed that there was non-adherence by some of the adults with HPT diagnosis, which worsened the condition.

- **Barriers to effective self-care management of HPT**

The PHC nurses identified numerous systemic and contextual obstacles that limit their capacity to deliver comprehensive self-care health education. Overcrowded clinics, time constraints, inadequate equipment, and periodic medicine shortages were cited as major impediments. These situations often reduced opportunities for sustained counselling and patient follow-up.

- **Influencing and determinant factors of self-care management**

Participants described how socio-economic status, cultural beliefs, and low health literacy among patients affected adherence to self-care recommendations. Institutional factors, such as staffing shortages and competing clinical demands, were

also noted as determinants influencing the extent and quality of health education provided.

- **Strategies for improving patient outcomes**

PHC nurses emphasised the need to empower patients through continuous education, goal-setting, and self-monitoring tools such as health diaries and blood-pressure charts. PHC also advocated multidisciplinary collaboration and community-based interventions to improve motivation, knowledge retention, and adherence to treatment regimens. Overall, these themes reveal that PHC nurses recognise self-care as a core professional responsibility but require structural and resource support to implement it effectively and sustainably.

8.3.2.2 *Lived experiences of adults with HPT diagnosis*

Adult patients who attended various state PHC facilities within the Khomas region were interviewed to gain insight into their lived experiences of managing HPT. Four overall themes were derived from the interviews:

- **Understanding and awareness of HPT**

Participants generally recognised the importance of medication adherence but displayed limited understanding of lifestyle modification and preventive measures. Many expressed uncertainties about the relationship between diet, stress, and blood-pressure control, indicating that their knowledge of self-care remained largely biomedical and medication-centred.

- **Challenges and barriers of self-care management for HPT patients**

Patients described numerous socio-economic and structural barriers that hindered consistent self-care. These included financial hardship, restricted access to fresh and affordable food, lack of self-monitoring devices, and prolonged waiting times at PHC facilities. Emotional exhaustion and feelings of discouragement further constrained their ability to maintain healthy behaviours.

- **Recommendations for improvement of HPT self-care management**

HPT patients proposed continuous health education using local languages, visual materials, and interactive community workshops. HPT patients emphasised the need for accessible healthy food options, peer-support groups, and active involvement of family members in health education sessions to reinforce adherence and motivation. Home availability of self-monitoring devices for adult patients to view the BP patterns and assume more responsibility for their own health. Public exercise classes and walking groups were recommended as encouraging and social means.

- **Proposed self-care management programme activities**

PHC nurses and adult HPT patients recommended structured educational activities covering medication adherence, dietary modification, exercise, and stress management. Participants further recommended organised exercise programmes from the community as well as collaboration with local fitness centres, to help achieve regular physical activity. Moreover, participants suggested activities such as peer support, motivation and family involvement. Introduction of stress reduction measures such as counselling and relaxation techniques. The establishment of support groups for sharing of experience, challenges, strategies and bringing in family members to health education sessions with HPT patients.

Collectively, these themes highlight that while patients value treatment and recognise its importance, their capacity to practise self-care is constrained by contextual realities beyond individual control. PHC nurses and HPT patients' suggestions underline the need for a programme that integrates education, psychosocial support, and community participation and policy support.

8.3.3 Synthesis of qualitative themes

The similarities in views on PHC nurses' perceptions and patient experiences show that the attainment of effective self-care management through HPT cannot be achieved through patient education alone. Participants from both perspectives identified the same systems-level barriers (time, overcrowding, lack of resources and socio-economic factors) as important.

Barriers (Theme 2) and factors influencing (Theme 3) were maintained in the synthesis. Barriers are any factor which hinders successful HPT self-care management while influencers encompass both facilitators and barriers to self-care management. When there was no clear distinction, the focus of participants' statements was used to place them in categories.

The qualitative study thus supports that the management of HPT is a multilevel, multisectoral process that requires: (1) institutional support for PHC nurses through policy reform and resource allocation; (2) patient and family empowerment through culturally sensitive health education and self-care skills; (3) community engagement through traditional leaders, faith-based organisations and local health committees; (4) inter-sectoral collaboration between the Ministry of Health, social services, education and non-government organisations; and (5) Addressing social determinants of health through poverty alleviation, food security and healthy environments.

8.3.4 Integration of data, conceptualisation and programme development

In this section, there is an extended description of the way in which results integration between quantitative and qualitative data impacted the self-care management programme development for adult patients with HPT. The ultimate aim of the research addressed this phase, whereby it sought to create a programme for enhancing the self-care management of HPT diagnosed adult patients.

Integration of both data strands revealed convergence around principal findings: limited comprehensive knowledge of HPT management, positive but inconsistent self-care behaviour, and systemic barriers within PHC delivery. Quantitative evidence defined the scope of these gaps, while qualitative narratives explained their underlying causes. While patients' orientations towards self-care were generally positive, routine compliance was resisted by the day-to-day practical obstacles like tiredness, expense, and restricted availability of resources.

After integrating empirical evidence, an adult HPT self-care management programme was designed. Adult patients, PHC nurses and other health care providers emerged as agents for self-care management of HPT during programme development. Adult

patients as recipients, targets of intervention for HPT self-care management. Context of this study's programme was identified as the physical, social and institutional context of care for adult patients with HPT anchored in nurse-led education, culturally sensitive health promotion, and community participation.

Programme dynamics were identified to be the conditions and facilitators that influence HPT self-care management, and these include communication, beliefs, social norms, access, and affordability. Furthermore, the integrated analysis affirmed that effective self-care depends on knowledge, motivation, and an enabling environment. The end point of the programme designed to improve BP control, adherence to medication, reduce complications and stress-related issues, and provide patients with self-care management abilities. Accordingly, the programme includes educational interventions, lifestyle-modification support, and follow-up mechanisms designed to enhance adherence, strengthen self-efficacy, and improve blood-pressure control among adults with HPT in the Khomas Region. Consequently, the programme's potential for effectiveness and sustainability was improved through integration, which made it grounded in the target community's real life and based on information.

8.4 RECOMMENDATIONS

This section presents practical and actionable recommendations for enhancing HPT self-care management among adults in the Khomas region, based on the empirical results and self-care management program. The MoHSS, healthcare providers, non-governmental organisations (NGOs), and public are among important stakeholders to whom the recommendations are addressed to strengthen HPT self-care practices through coordinated action

8.4.1 Recommendations for the adult patients with HPT

- Should be aware of the condition and take an initiative in the self-care management of HPT.
- Should be able to collaborate with other stakeholders such as nurses, family members, colleagues and community members.
- Self-monitoring, maintenance and evaluation should be sustained by keeping a dairy in which BP readings, any adverse effects are recorded.

- Compliance to medication, regular follow-ups and BP check-ups are imperative in control of the condition.
- Participation in stress management activities such as exercises, attending counselling sessions are also important.
- Maintenance of healthy behaviours such as a well-balanced diet, cessation of smoking, alcohol and drugs.
- Knowledge and adherence to self-care management programme is of paramount importance in the control of HPT.

8.4.2 Recommendations for the MoHSS as policy makers

- The MoHSS should incorporate the self-care management programme for patient empowerment and education into national guidelines for managing chronic non-communicable diseases.
- The MoHSS should set aside particular funds to assist self-care programmes, such as education, the creation of educational materials, and the acquisition of equipment enabling low-income patients to monitor their BP at home.
- The MoHSS should increase public awareness of the risks and asymptomatic nature of HPT, create a national awareness campaign that includes multimedia outreach in regional languages.
- The MoHSS should strengthen partnerships with health training institutions to ensure that nursing curricula include competencies in chronic disease counselling, lifestyle modification, and culturally competent care.

8.4.3 Office of the Director of PHC

- Office of the director ensure operational standardisation of the self-care management programme across all PHC facilities by providing operational instructions and checklists.
- Directorate should implement systems to monitor on PHC-level compliance with self-care support initiatives through regular supervisory visits and quality audits.
- PHC facility managers should be supported to incorporate HPT self-care practices, with quantifiable goals and metrics, into their yearly plans for improving service delivery.

- PHC nurses' ongoing professional growth in patient-centred care, behavioural counselling, and motivational interviewing should be strengthened.
- PHC clinics should be equipped with private counselling rooms and visual aids to improve patient education and maintain confidentiality.
- Periodic shortages of anti-HPT medications should be mitigated by enhancing forecasting, procurement, and inventory management.
- Monitoring systems manual or electronic to track follow-up compliance and defaulter management should be established.

8.4.5 Recommendations for PHC providers

- PHC health care providers should improve patient-centred education by using simplified language, culturally relevant resources, and visual aids to conduct regular, structured group education sessions on HPT self-care.
- PHC health care providers enhance comprehension of medication adherence and lifestyle modifications and use proper communication techniques that consider the patient's literacy levels and cultural beliefs.
- PHC health care providers encourage the use of goal-setting worksheets, BP logbooks, and health diaries as self-efficacy tools to help patients monitor their own health and make long-term behavioural changes.
- PHC health care providers to create supportive home environments for patients, including family members in counselling and health education sessions.

8.4.6 Recommendations to self-care NGOs and community-based organisations

- NGOs and community-based organisations support community outreach services by assisting community health workers in educating people about HPT in homes, businesses, places of worship, and informal settlements.
- NGOs and community-based organisations support nutrition and wellness programmes and work with farmers and local markets to expand access to reasonably priced, heart-healthy food options.
- NGOs and community-based organisations should assist patients with HPT in starting peer-led support groups to facilitate the exchange of stories and motivation for lifestyle adjustments.

- NGOs and community-based organisations assist low-income households with the distribution of basic self-monitoring tools and translated teaching materials by collaborating with donors and private partners.

8.4.7 Recommendations for utilising digital health innovations

- Telecommunications companies such as Telecom, Mobile telecommunications (MTC), in collaboration with MoHSS, to develop and pilot SMS-based medication reminders, follow-up dates notifications, and lifestyle tips specifically designed for HPT patients.
- Provide fundamental digital training to healthcare professionals and patients on utilising mobile tools for health monitoring and education.

8.4.8 Recommendations for community engagement and cultural Integration (target: traditional leaders and faith-based groups)

- Tailor health promotion materials to local customs and languages, considering beliefs such as the cessation of treatment upon symptom resolution.
- Initiate walking clubs or community-oriented exercise organisations endorsed by local authorities to encourage healthy lives.
- There should be a collaboration between health care providers and traditional leaders and faith-based organisations. This allows coordination, cooperation, communication, sharing of ideas, openness and opportunities for referrals in the management of HPT.

8.4.9 Recommendations for nursing education

- HPT self-care management programme should be used as a form of teaching strategy for student nurses.
- HPT self-care management programme can be used as a package for newly diagnosed patients during health education and counselling sessions.
- HPT self-care management programme should be included in the mentoring/orientation programmes for the newly qualified nurses.
- HPT self-care management programme should be incorporated in the curriculum development.

- Enhancement of PHC specialisation programs should be considered for competence in the management of HPT and provision of self-care support.

8.4.10 Recommendations for further studies

- This work has yielded significant insights; further research is required to validate and evaluate the long-term effects and scalability of the established self-care management programme.
- Longitudinal studies may assess behavioural adherence, health effects, and cost-effectiveness across time.
- Subsequent research should investigate the potential adaptation of this programme for various areas or demographic groupings within Namibia.
- Research examining the incorporation of mobile health technologies in low-literacy, rural demographics might be beneficial. These investigations will strengthen and complete the golden thread of self-care management for HPT in Namibia.

8.5 CONTRIBUTION OF THE STUDY

This research has greatly contributed to the fields of research, policy formulation, decision-making, implementation, and self-care management practices of Namibia stakeholders. This study theoretically adds to the knowledge of self-care management by placing it in the socio-cultural and health system settings of Namibia. This research made an in-depth contribution towards understanding the complexities involved in self-care management for HPT through convergent parallel MMRD. The quantitative portion of the study had methodological and interpretation flaws which were resolved. The revised analysis and integration of findings enhance the doctoral level contribution. The programme developed in this study can be further validated and implemented in PHC.

- **Cost-effectiveness of HPT management**

The proposed programme in this study can also be validated and implemented in PHC settings. The implementation of HPT treatment protocol management systems in LMICs has been reported to be cost-effective. According to Davari, Kebriaeezadeh, and Sarrafzadegan (2022:18), the implementation of the guidelines for the

management of high BP in Ethiopia from 2020 would have been cost-effective (ICER < GDP per capita). Kostova, Spencer, Moran, Cobb, Husain, Datta, Matsushita and Nugent (2020:2) examined the cost-effectiveness of HPT treatment programmes in LMICs and found treatment of moderate to severe HPT is very cost-effective with costs per DALY averted. Liao, Toh, Sun, Yang, Hu, Wei, Melgarejo and Zhan (2023) showed that intensive blood pressure-lowering for older people with hypertension was cost-effective in China with improved quality-adjusted life years (QALYs).

- **Quality of life implications**

Poorly managed HPT has been found to adversely affect health-related quality of life (HRQoL) in the physical functioning, role limitations because of physical health, and general health items. Good self-care was linked with higher HRQoL scores and the largest improvement in patients who were blood pressure controlled and made lifestyle changes.

8.6 LIMITATIONS OF THE STUDY

The study had some limitations. The study, which was done in Khomas region, may not be as relevant to the underdeveloped regions with varying health systems and patient characteristics. Interviews were done in English, the official language of instruction in Namibian learning institutions. In order to reduce difficulties in language, only those individuals that could read and write in English were recruited in this research.

Additionally, the absence of long-term clinical follow up precludes the ability to determine the long-term impact of the proposed programme on health outcomes such as BP control or complication rates. Furthermore, the programme could not be validated, piloted and evaluated during the study because of the study's aims. Validation and piloting are necessary next steps to determine feasibility, uptake and effectiveness during routine care, which will be undertaken by the researcher during postdoctoral studies.

8.7 CONCLUDING REMARKS

This study tackled a major public health issue by creating an evidence-based, patient-centred programme to improve self-care management of HPT in the Khomas Region of Namibia. The study's findings demonstrated that self-care management of HPT is a complex, multidimensional process that is influenced by socio-economic factors, knowledge, attitudes, practice, resources, and health system support. Integrating quantitative and qualitative evidence, the research established that effective control requires shifting from provider-dominated care toward collaborative, patient-empowering approaches. An evidence-based, patient-centred self-care management programme is a crucial first step in addressing Namibia's rising prevalence of HPT.

The programme is based on empirical data and stakeholder viewpoints, addressing the contextual realities of patients and PHC nurses. The intervention, by emphasising education, support, and system enhancement, has the capacity to alleviate the burden of HPT complications and enhance the quality of life for those affected. The results and suggestions present a framework for national expansion and establish a basis for forthcoming research, policy development, and health system innovation in addressing non-communicable diseases in Namibia and similar low-resource contexts.

In conclusion, a paradigm change is necessary for the optimal self-care management of HPT from disjointed, provider-led interventions to integrated, patient-empowering strategies. This study emphasises that sustainable solutions require transforming the health system to better meet people's needs while simultaneously enhancing health education. The initiative developed in this study lays the foundation for such transformation and promotes further implementation, refinement, and research to support the development of healthier and more resilient communities.

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ANNEXURES

ANNEX A: ETHICAL CLEARANCE LETTER FROM UNISA



COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

29 November 2021

Dear Johanna Penduka Kemanguluko Tuyakula Hanyanya

NHREC Registration # :
Rec-240816-052
CREC Reference # :
12902616_CRECH_CHS_2021

Decision:
Ethics Approval from 29 November
2021 to 29 November 2026

Researcher(s): Name: Johanna Penduka Kemanguluko Tuyakula Hanyanya
Contact details: 12902616@mvlife.unisa.ac.za
Supervisor(s): Name: Dr SH Khunou
Contact details: khunosh@unisa.ac.za

Title: Development of a self-care management programme for adults diagnosed with hypertension in Khomas region, Namibia.

Degree Purpose: PhD

Thank you for the application for research ethics clearance by the Unisa College of Human Science Ethics Committee. Ethics approval is granted for five years.

The *low risk application* was reviewed by College of Human Sciences Research Ethics Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the



University of South Africa
Pretorius Street, Muckleneuk Ridge, City of Tshwane
PO Box 392, UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date (**29 November 2026**). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **12902616_CREC_CHS_2021** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature :



Prof. KB Khan
CHS Research Ethics Committee Chairperson
Email: khankb@unisa.ac.za
Tel: (012) 429 8210

Signature : PP



Prof K. Masemola
Exécutive Dean : CHS
E-mail: masemk@unisa.ac.za
Tel: (012) 429 2298

ANNEX B: REQUEST PERMISSION FROM MINISTRY OF HEALTH AND SOCIAL SCIENCES



P.O. Box 5523
Ausspanplatz
02 August 2021

The Executive Director
Ministry of Health and Social Services
Private Bag 13198
Windhoek

Dear Sir

**RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT PHC,
PUBLIC FACILITIES.**

I, Johanna P.K.T. Hanyanya, hereby applying to conduct a search study at Primary health care, public facilities. I am currently studying towards Doctor of Philosophy in Nursing at University of south Africa under Department of Health Studies. To conduct a research on the topic pertaining health concern is one of my requirements to be awarded the above mentioned degree. The topic of my study is: to develop a self-care management programme for adults diagnosed with hypertension in khomas region, Namibia. The study will include Primary health care nurses who have been working for 1 year, adults diagnosed with hypertension.

All the research ethics will be observed and put into consideration. An approved research proposal from the university that will give full details and the nature of the study will be attached.

For any queries, contact my research supervisor Dr Sisinyana H Khunou at 012 429 6290 or khunosh@unisa.ac.za you can also contact me at 0813970587, meehanyanya@yahoo.com or 12902616@mylife.unisa.ac.za Your positive response will be highly appreciated.

Yours faithfully

A handwritten signature in black ink, appearing to read "Johanna P.K.T. Hanyanya", is written over a horizontal line.

Johanna P.K.T. Hanyanya (The researcher) Contact No: 0813970587



University of South Africa
Pretoria Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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ANNEX C: APPROVAL LETTER FROM MINISTRY OF HEALTH AND SOCIAL SCIENCES


REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
Harvey Street
Private Bag 13198, Windhoek

OFFICE OF THE EXECUTIVE DIRECTOR

Tel: No: 061-203 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

Ref: 17/3/3/JH
Enquiries: Mr. A. Shipanga

Date: 24 March 2022

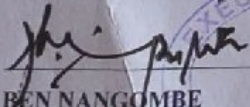
Ms. Johanna Hanyanya
PO Box 5523
Aussanplatz
Windhoek

Dear Ms. Hanyanya

Re: Development of a self-care management programme for adults diagnosed with hypertension in Khomas Region, Namibia.

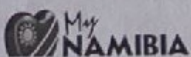
1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
 - 3.1 The data to be collected must only be used for academic purpose;
 - 3.2 No other data should be collected other than the data stated in the proposal;
 - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
 - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
 - 3.5 Preliminary findings to be submitted upon completion of the study;
 - 3.6 Final report to be submitted upon completion of the study;
 - 3.7 Separate permission should be sought from the Ministry for the publication of the findings.
4. All the cost implications that will result from this study will be the responsibility of the applicant and not of the MoHSS.

Yours sincerely,


BEN NANGOMBE
EXECUTIVE DIRECTOR



All official correspondence must be addressed to the Executive Director.



ANNEX D: APPROVAL LETTER FROM DIRECTOR: KHOMAS REGION



**REPUBLIC OF NAMIBIA
MINISTRY OF HEALTH AND SOCIAL SERVICES**

OFFICE OF THE REGIONAL DIRECTOR

Private Bag 13322
Windhoek
Namibia

Khomas Directorate
Florence Nightingale Street
Windhoek

Tel: (061) 203 5016
Fax: (061) 235997
International: (264 61 235997)

Enq: Ms. P. N. Ambumbi/Charly Ilunga

Ref: 25/3.4/29

Date: 16 December 2022

STAFF MATTER: CONFIDENTIAL

**MS. JOHANNA HANYANYA
P O BOX 5523
AUSSPANPLATZ
WINDHOEK**

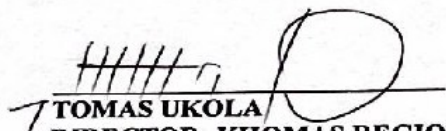
**RE: THE ACADEMIC RESEARCH PROPOSAL, UNIVERSITY OF SOUTH AFRICA,
PHD IN NURSING.**

Dear Ms. Hanyanya

I have pleasure to inform you that on recommendation of the Executive Director, permission has been granted for you to conduct a study on "development of a self-care management programme for adults diagnosed with hypertension" at Khomas Region clinics for a period of four (4) months from 20 December 2022 until 20 April 2023.

The office wishes you success with your research.

Yours sincerely


**TOMAS UKOLA
DIRECTOR: KHOMAS REGION**



All Official Correspondence must be addressed to the Regional Director



ANNEX E1: INFORMATION SHEET FOR THE PARTICIPANTS



INFORMATION SHEET FOR NURSE PARTICIPANTS

14 August 2021

TITLE: Development a self-care management programme for adults diagnosed with hypertension in Khomas Region, Namibia.

Introduction: My name is Johanna P.K.T Hanyanya, student doing a doctoral degree at the University of South Africa (UNISA) in the Department of Health Studies. I am doing a research study with Dr Khonou, SH as my supervisor towards a doctoral degree. I would like to conduct a research study on the development of a self-care management programme for adults diagnosed with hypertension in Khomas Region, Namibia.

Purpose: The overall purpose of the study is to develop a self-care management programme for adults diagnosed with hypertension in Khomas region, Namibia. Namibia through ministry of Health and Social Services (MoHSS) published the guidelines for management of hypertension, which indicates that hypertensive patients can be managed either by using medicine or non-medicine therapy including counselling and lifestyle behavior (MoHSS 2003). Moreover, the MoHSS (2011) developed its first comprehensive Namibia standard treatment guidelines at all public health facilities. MoHSS is well equipped and better prepared to counter a number of diseases, but hypertension still remains one of the major diseases that the ministry has to deal with MoHSS (2013:237).

World Health Organization (2013:Craig 2018;2) portrays a big challenge of hypertension in Namibia with a prevalence rate of 45%, Khomas region being the highest amongst other regions with a prevalence rate of 57% (Kaputjaza, 2017:3; Namibia Statistics Agency 2020:44). The high prevalence Hypertension is among adults men and female at the age of 35 to 64 years old (WHO 2019; Nashilongo 2017:566). Additionally, the research as a nurse educator, who accompanies students during clinical placement at three local primary care state facilities observed a high prevalence of uncontrolled hypertension. (Mashozhera et al, 2021:57). This can result into disability, loss of jobs, overwhelming health system and eventually mortality.



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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In this regard, in order to improve the overall management and treatment outcome in patients with hypertension, the researcher thinks self-care management is crucial intervention to enhance the quality of life for adults diagnosed with hypertension. Therefore, high prevalence of hypertension as well the high prevalence of uncontrolled hypertension in Namibia. And there is no specific self-care management in place that can help patients to cope with a disease while at home, this gave rise to an interest of a researcher the necessity for the study

Procedures: The participants will be required to read and understand this information sheet and sign an informed consent form. The study will include filling of questionnaires by the : PHC nurses in Khomas region; Adults diagnosed with hypertension ,wich will be coming for hypertension follow up at the pharmacy for each PHC facility in Khomas region. In addition ,the researcher will review PHC nurses to explore the perceptions on self-care management of hypertension. The researcher will also interview adults diagnosed with hypertension to explore their experiences on self-care management of hypertension dignity and rights to privacy, confidentiality, anonymity and informed consent will be respected and protected

Right to withdraw: Your participation in this study is voluntary. Participants have the right to refuse filling in the questionnaire or to skip any question that are not comfortable to answer anytime. Participants are free to withdraw at any time and without giving a reason to do so and no penalty will be imposed on them. Any refusal or withdrawal from participating in the study will not have any impact on the employment of the PHC nurses.

Payment or any incentives: Participants will not receive any form of rewards , payments or incentives, coercion or bribery to rule you for participants

Ethics approval: this study has received written approval from the Research Ethics Review Committee of the College of Health Sciences at UNISA

Research findings/results:If you would like to be informed of the final research findings.please contact Mrs Johanna P.K.T.Hanyanya at 0813970587 or send email at this address:meehanyanya@yahoo.com



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Contact details:for any questions or clarity ,please contact Mrs Johanna P.K.T. Hanyanya as indicated above or you can contact my research supervisor Dr Sisinyana H Khunou at +27 12 429 6290

Thank you for taking the time to read this information sheet .the next step is your approval to participate in this study by writing your name and signing in the space provided in the consent form



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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ANNEX E2: INFORMATION SHEET FOR THE PARTICIPANTS



INFORMATION SHEET FOR ADULT PATIENT PARTICIPANTS WITH HYPERTENSION

14 August 2021

TITLE: Development a self-care management programme for adults diagnosed with hypertension in Khomas Region, Namibia.

Introduction: My name is Johanna P.K.T Hanyanya, student doing a doctoral degree at the University of South Africa (UNISA) in the Department of Health Studies. I am doing a research study with Dr Khonou, SH as my supervisor towards a doctoral degree. I would like to conduct a research study on the development of a self-care management programme for adults diagnosed with hypertension in Khomas Region, Namibia.

Purpose: The overall purpose of the study is to develop a self-care management programme for adults diagnosed with hypertension in Khomas region , Namibia. Namibia through ministry of Health and Social Services (MoHSS) published the guidelines for management of hypertension, which indicates that hypertensive patients can be managed either by using medicine or non-medicine therapy including counselling and lifestyle behavior (MoHSS 2003). Moreover, the MoHSS (2011) developed its first comprehensive Namibia standard treatment guidelines at all public health facilities. MoHSS is well equipped and better prepared to counter a number of diseases, but hypertension still remains one of the major diseases that the ministry has to deal with MoHSS (2013:237).

World Health Organization (2013:Craig 2018;2) portrays a big challenge of hypertension in Namibia with a prevalence rate of 45%, Khomas region being the highest amongst other regions with a prevalence rate of 57% (Kaputjaza, 2017:3; Namibia Statistics Agency 2020:44). The high prevalence Hypertension is among adults men and female at the age of 35 to 64 years old (WHO 2019; Nashilongo 2017:566) Additionally, the research as a nurse educator, who accompanies students during clinical placement at three local primary care state facilities observed a high prevalence of uncontrolled hypertension. (Mashozhera et al, 2021:57). This can result into disability, loss of jobs, overwhelming health system and eventually mortality.



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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In this regard, in order to improve the overall management and treatment outcome in patients with hypertension, the researcher thinks self-care management is crucial intervention to enhance the quality of life for adults diagnosed with hypertension. Therefore, high prevalence of hypertension as well the high prevalence of uncontrolled hypertension in Namibia. And there is no specific self-care management in place that can help patients to cope with a disease while at home, this gave rise to an interest of a researcher the necessity for the study

Procedures: The participants will be required to read and understand this information sheet and sign an informed consent form. The study will include filling of questionnaires by the : PHC nurses in Khomas region; Adults diagnosed with hypertension ,wich will be coming for hypertension follow up at the pharmacy for each PHC facility in Khomas region. In addition ,the researcher will review PHC nurses to explore the perceptions on self-care management of hypertension. The researcher will also interview adults diagnosed with hypertension to explore their experiences on self-care management of hypertension dignity and rights to privacy, confidentiality, anonymity and informed consent will be respected and protected

Right to withdraw: Your participation in this study is voluntary. Participants have the right to refuse filling in the questionnaire or to skip any question that are not comfortable to answer anytime. Participants are free to withdraw at any time and without giving a reason to do so and no penalty will be imposed on them. Any refusal or withdrawal from participating in the study will not have any impact on their clinical care.

Payment or any incentives: Participants will not receive any form of rewards, payments or incentives, coercion or bribery to rule you for participants

Ethics approval: this study has received written approval from the Research Ethics Review Committee of the College of Health Sciences at UNISA

Research findings/results:If you would like to be informed of the final research findings.please contact Mrs Johanna P.K.T.Hanyanya at 0813970587 or send email at this address:meehanyanya@yahoo.com



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Contact details:for any questions or clarity ,please contact Mrs Johanna P.K.T. Hanyanya as indicated above or you can contact my research supervisor Dr Sisinyana H Khunou at +27 12 429 6290

Thank you for taking the time to read this information sheet .the next step is your approval to participate in this study by writing your name and signing in the space provided in the consent form



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ANNEXURE F1: CONSENT FORM FOR PHC NURSES COMPLETING A QUESTIONNAIRE



CONSENT FORM FOR PHC NURSES COMPLETING A QUESTIONNAIRE

I..... (Full name and surname) confirm that I am willingly participating in the study on development of an educational programme for primary health care nurses to empower state patients on self-management of hypertension in Khomas region – Namibia. I have received, read and kept a copy of the information letter. I have had the opportunity to ask questions about this research, and I have received satisfactory answers. I understand the general purposes, risks and methods of this research.

I consent to participate in the research project, and the following has been explained to me:

- The research may not be of direct benefit to me
- My participation is completely voluntary
- My right to withdraw from the study at any time without any implications to me
- The steps that have been taken to minimize any possible risks
- Whom I should contact for any complaints with the research or the conduct of the research
- I can request a copy of the research findings and reports
- Security and confidentiality of my personal information.
- I will complete the questionnaire in approximately 30 minutes to 45 minutes
- Publication of results from this study on the condition that my identity will not be revealed.

Participant Name & Surname.....

Participant Signature.....Date.....

Researcher's Name & Surname.....

Researcher's signature.....Date.....



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE F2: CONSENT FORM FOR PHC NURSES PARTICIPATING IN AN INTERVIEW



CONSENT FORM FOR PHC NURSES PARTICIPATING IN AN INTERVIEW

I..... (Full name and surname) confirm that I am willingly participating in the study on development of an educational programme for primary health care nurses to empower state patients on self-management of hypertension in Khomas region – Namibia. I have received, read and kept a copy of the information letter. I have had the opportunity to ask questions about this research, and I have received satisfactory answers. I understand the general purposes, risks and methods of this research.

I consent to participate in the research project, and the following has been explained to me:

- The research may not be of direct benefit to me
- My participation is completely voluntary
- My right to withdraw from the study at any time without any implications to me
- The steps that have been taken to minimize any possible risks
- Whom I should contact for any complaints with the research or the conduct of the research
- I can request a copy of the research findings and reports
- Security and confidentiality of my personal information.
- I will be interviewed and audio recorded for approximately 30minutes-1 hour
- Publication of results from this study on the condition that my identity will not be revealed.

Participant Name & Surname.....

Participant Signature.....Date.....

Researcher's Name & Surname.....

Researcher's signature.....Date.....



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
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ANNEXURE F3: CONSENT FORM FOR PATIENTS WITH HPT COMPLETING A QUESTIONNAIRE



CONSENT FORM FOR PATIENTS WITH HYPERTENSION COMPLETING A QUESTIONNAIRE

I..... (Full name and surname) confirm that I am willingly participating in the study on development of an educational programme for primary health care nurses to empower state patients on self-management of hypertension in Khomas region – Namibia. I have received, read and kept a copy of the information letter. I have had the opportunity to ask questions about this research, and I have received satisfactory answers. I understand the general purposes, risks and methods of this research.

I consent to participate in the research project, and the following has been explained to me:

- The research may not be of direct benefit to me
- My participation is completely voluntary
- My right to withdraw from the study at any time without any implications to me
- The steps that have been taken to minimize any possible risks
- Whom I should contact for any complaints with the research or the conduct of the research
- I can request a copy of the research findings and reports
- Security and confidentiality of my personal information.
- I will complete the questionnaire in approximately 30 minutes to 45 minutes
- Publication of results from this study on the condition that my identity will not be revealed.

Participant Name & Surname.....

Participant Signature.....Date.....

Researcher's Name & Surname.....

Researcher's signature.....Date.....



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
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ANNEXURE F4: CONSENT FORM FOR PATIENTS WITH HPT PARTICIPATING IN AN INTERVIEW



CONSENT FORM FOR PATIENTS WITH HYPERTENSION PARTICIPATING IN AN INTERVIEW

I..... (Full name and surname) confirm that I am willingly participating in the study on development of an educational programme for primary health care nurses to empower state patients on self-management of hypertension in Khomas region – Namibia. I have received, read and kept a copy of the information letter. I have had the opportunity to ask questions about this research, and I have received satisfactory answers. I understand the general purposes, risks and methods of this research.

I consent to participate in the research project, and the following has been explained to me:

- The research may not be of direct benefit to me
- My participation is completely voluntary
- My right to withdraw from the study at any time without any implications to me
- The steps that have been taken to minimize any possible risks
- Whom I should contact for any complaints with the research or the conduct of the research
- I can request a copy of the research findings and reports
- Security and confidentiality of my personal information.
- I will be interviewed and audio recorded for approximately 30minutes-1 hour
- Publication of results from this study on the condition that my identity will not be revealed.

Participant Name & Surname.....

Participant Signature.....Date.....

Researcher's Name & Surname.....

Researcher's signature.....Date.....



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEX G: DATA COLLECTION TOOL QUESTIONNAIRE THE PHC NURSES

Section A: Background information

Please fill in your response and make an X in appropriate responses

Demographic and medical history data		X
1.What is your age?	----- years	
2.What is your gender?	Male	1
	Female	2
3.What is your professional rank	Enrolled nurse	1
	Registered nurse	2
4.How long have you been working in PHC facility	1-4years	1
	5 – 10 year	2
	11- 15 years	3
	16 – 20 years	4
	21years and above	5
5. What is your highest qualification	Certificate in nursing	1
	Diploma in nursing	2
	Degree in nursing	3
	Other qualifications	4
6.What is the level of the health facility you are working in	Clinic	1
	Health centre	2
Marital status	Single	1
	Married	2
	Widowed	3

Section B: Perceptions of self-care management for HPT (adapted from Ukomadu (2019:74).

Instructions:

Please make an x to the appropriate response

Select your answer using the following scale:

Key:

1 = Strongly Disagree (SD)	3 = Agree (A)
2 = Disagree (D)	4 = Strongly Agree (SA)

Select your answer by marking with **X** using the following scale:

Nursing agency	Strongly Disagree	Disagree	Agree	Strongly Agree
1.Nurse need to explain what HPT is to the patient.	1	2	3	4
2. Nurse need to explain the complications of HPT is to the patient.	1	2	3	4
3. Nurses play a role in self-care management for an adult patient diagnosed with HPT?	1	2	3	4
4. Explain BP measurement guidelines to patients and how to follow them.	1	2	3	4
5. Encourage patients to be involved in management of their HPT.	1	2	3	4
6. Alert the patients to avoid salty and processed food	1	2	3	4
7. Inform patients the implication of high sodium intake in their diet	1	2	3	4
8. Patients to take their medications at the same time every day as prescribed	1	2	3	4
9. Tell patients to keep their doctor's appointment regularly	1	2	3	4
10. Remind patients to exercise regularly and monitor their weight	1	2	3	4
11. Patients need to be informed about the balanced diet	1	2	3	4
12. Body mass Index (BMI) check up is needed when a patient comes for HPT follow up.	1	2	3	4
13.Patients needs to be assessed for any side effects of anti-HPT medication.	1	2	3	4
14.Support system is essential for self-care management	1	2	3	4
15.Nurses should allow patients to say out their concerns	1	2	3	4
16.Stress management should be discussed with the patient.	1	2	3	4
17.The signs of HPT should be explained to the patient.	1	2	3	4
18.The option of buying a BP machine should be discussed with the patient.	1	2	3	4
19.Patient should be shown how to use his\her BP machine by the nurse	1	2	3	4
20. Self-care activities related to lifestyle modification can prevent the occurrence of HPT	1	2	3	4

Section C: Self-care management programme

Please indicate how much you agree with the following statements about the self-care management programme.

Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Self-care management programme will reduce high prevalence of HPT in Khomas region	1	2	3	4
2. Self-care management programme is important	1	2	3	4
3. Self-care management programme may enable HPT patients to acquire more effective interpersonal, cognitive and emotional behavior.	1	2	3	4
4. Self-care management programme may change a stress-inducing environment	1	2	3	4
5. Self-care management programme may empower patients learn to cope with HPT	1	2	3	4
6. Self-care management programme may cause better adherence to medication and follow up visits	1	2	3	4
7. Self-care management programme will bring confidence to a patient to self-manage HPT while at home.	1	2	3	4

Section D: Perceptions of the factors that should be included in the self-care management programme for the adults diagnosed with HPT.

Items	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Overview of HPT condition (symptoms, complications and expected development of the condition)	1	2	3	4
2. Human capability for engaging in self-care	1	2	3	4
3. Medication adherence	1	2	3	4
4. Coping mechanism (disease, stress, fear, and disappointment management)	1	2	3	4
5. Diet adherence	1	2	3	4
6. Physical activities	1	2	3	4
7. weight management	1	2	3	4
8. Follow up adherence	1	2	3	4
9. Accurate BP measurement	1	2	3	4
10. Self-care management support	1	2	3	4

Any suggestion regarding self-care management programme for the adults diagnosed with HPT

Thank you for taking your time to fill in the questionnaire

ANNEX H: QUESTIONNAIRE FOR ADULT PATIENTS DIAGNOSED WITH HPT

Section A: Background information

Please fill in your response and make an X in appropriate responses

Demographic and medical history data		X
1.What is your age?	----- years	
2.What is weight	-----kg	
3.What is your ethnicity	-----	
4.Which location do you stay in Khomas region	Formal settlement	1
	Informal settlement	2
5. At what age were you first diagnosed with HPT (High BP)	-----years	
6.How many years are you diagnosed with HPT ((High BP)	-----years	
7.How much was the BP last time checked	-----mmHg	
8.What is your gender?	Male	1
	Female	2
9. Highest level of Education reached	Tertiary Education	1
	Secondary education	2
	A primary education	3
	None	4
10.What is your occupation	Employed	1
	Self-employed	2
	Unemployed	3
	Student	4
11.What is your marital status	Single	1
	Married	2
	Widowed	3
12.Do you have family history of HPT	Yes	1
	No	2
13.Do you have any other disease	Yes	1
	No	2
14.If answered yes in no.12, please specify	----- -----	

Section B: Knowledge on self-care management for HPT (adapted from Bonnecwe (2012:115-117) of the questionnaire develop by Ike (2009) and Kusuma (2009).

Instructions:

Please make an x or write in appropriate response

Select your answer using the following scale:

Key:

1 = Yes
2 = No
3= I don't know

Statements	Responses	X
1.A patient with HPT should take medication	Yes	1
	No	2
	I don't know	3
2.Some of our lifestyle's behaviour can contribute to HPT	Yes	1
	No	2
	I don't know	3
3.There are alternative ways to manage HPT.	Yes	1
	No	2
	I don't know	3
4.HPT can have a serious consequence in your life.	Yes	1
	No	2
5.HPT can affect anybody.	Yes	1
	No	2
	I don't know	3
6.If HPT is managed properly, it can be cured.	Yes	1
	No	2
	I don't know	3
7.HPT can be prevented	Yes	1
	No	2
	I don't know	3
8.Taking part in changing your lifestyle behaviours can prevent the occurrence of HPT, (stop smoking, exercising, stop drinking alcohol and reduce fat).	Yes	1
	No	2
	I don't know	3
9.HPT can affect my brain, kidneys, eyes and my heart	Yes	1
	No	2
	I don't know	3
10.Being involved in self-care activities related to lifestyle modification can prevent the occurrence of HPT	Yes	1
	No	2
	I don't know	3

Section C: Attitudes of self-care management for adult diagnosed with HPT

(adapted from Kearney and Fleisher, 1979:26-34).

Key:

1 = Strongly Disagree (SD)	3 = Agree (A)
2 = Disagree (D)	4 = Strongly Agree (SA)

Select your answer by marking with **X** using the following scale:

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I am often too tired to look after my health the way I would like to	1	2	3	4
2. I tend to neglect my personal needs	1	2	3	4
3. I would gladly give up some of set ways if it meant improving my health	1	2	3	4
4. I take pride in doing the things I need to stay healthy	1	2	3	4
5. I often put off doing things that I know would be good for me	1	2	3	4
6. I strive to improve my health	1	2	3	4
7. I enjoy life	1	2	3	4
8. I think my health is very well	1	2	3	4
9. I look for better ways to look after my health	1	2	3	4
10. I deserve all the time and care it takes to maintain my health	1	2	3	4
11. I take good care of myself	1	2	3	4
12. I have a planned programme for rest and exercise	1	2	3	4
13. I only promote my health when the opportunity arises	1	2	3	4
14. I take responsibility for my own actions	1	2	3	4
15. I want to learn all that I can about my body and how it functions	1	2	3	4
16. I rarely carry out resolutions I make concerning my health	1	2	3	4
17. In the past I have changed some of old habits to make my health better	1	2	3	4
18. I have little to contribute to others.	1	2	3	4
19. I feel I am a valuable member of my family	1	2	3	4

Section D: Practice of self-care management for adult diagnosed with HPT D

(adopted from Akter, 2010)

Key:

1 = Never (I have never practiced the behaviour)
2 = Rarely (I rarely practice the behaviour)
3 = Sometimes (I sometimes practice the behaviour)
4 = Always (I always practice the behaviour)
5= Not applicable (this behaviour is not applicable to my life)

Select your answer by marking with X using the following scale:

Self-care management practices	Never	Rarely	Sometimes	All the time	N/A
Self-integration					
1. I consider food portions and choices whenever I eat food.	1	2	3	4	5
2. I eat fruits, vegetables, grains and beans more than when I did not have HPT	1	2	3	4	5
3. I have decreased food that contain high saturated fat (e.g. Fatty meat, butter, cheese etc.) since being diagnosed.	1	2	3	4	5
4. I eat less salty food (not more than 3/4 teaspoon) per day	1	2	3	4	5
5. I exercise to reduce my weight e.g. walking, running etc. for about 30 minutes/session	1	2	3	4	5
6. I have made my routine to fit with things I have to do for my HPT e.g. work, hospital follow ups etc.	1	2	3	4	5
7. I reduced smoking to 1 cigarette per day	1	2	3	4	5
8. I reduced drinking alcohol to 1 glass per day	1	2	3	4	5
9. I control my stress by listening to music, taking a rest, talking to someone I trust.	1	2	3	4	5
10. I never use extra salt, Aromat, Kapana spice or any spice to season my food since being diagnosed with HPT	1	2	3	4	5
11. I drink at least 2L or 8 glasses of water everyday	1	2	3	4	5
12. I control myself to eat a low salt diet in any situation	1	2	3	4	5
Self-regulation					
13. I manage my HPT (high BP) signs and symptoms properly.	1	2	3	4	5

Self-care management practices	Never	Rarely	Sometimes	All the time	N/A
14. I manage my hypertension (low BP signs and symptoms properly).	1	2	3	4	5
15. I have made my action plan to achieve my goal towards my BP control.	1	2	3	4	5
16. I always compare my current BP level with the target (desired, controlled) level.	1	2	3	4	5
17. I manage situations that may increase my BP.	1	2	3	4	5
Interaction with health professionals and significant others					
18. I always ask the doctors and PHC nurses when there are not clear	1	2	3	4	5
19. I always discuss with the doctors and nurses when my BP is too high or too low	1	2	3	4	5
20. I help the doctors and PHC nurses to find why my BP is not controlled	1	2	3	4	5
21. I always ask the doctors and PHC nurses where I can learn more about my HPT (High BP)	1	2	3	4	5
22. I ask others e.g. neighbours, family members, friends, other patients how to manage or techniques they have used to control their BP	1	2	3	4	5
Self-monitoring					
23. I visit the PHC facility to check my BP when I experience signs and symptoms of high BP.	1	2	3	4	5
24. I visit the PHC facility to check my BP when I experience signs and symptoms of low BP	1	2	3	4	5
25. I visit the PHC facility to check my BP when I feel sick.	1	2	3	4	5
26. I check my BP on a regular basis	1	2	3	4	5
Adherence to recommended regimen					
27. I take my HPT medication as ordered.	1	2	3	4	5
28. I follow the doctors and PHC nurses' advice regarding my BP control	1	2	3	4	5

Section E: Perceptions of the factors that should be included in the self-care management programme for the adults diagnosed with HPT.

Key:

1 = Strongly Disagree (SD)	3 = Agree (A)
2 = Disagree (D)	4 = Strongly Agree (SA)

Select your answer by marking with X using the following scale:

Items	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Overview of HPT condition (symptoms, complications and expected development of the condition)	1	2	3	4
2. Human capability for engaging in self-care	1	2	3	4
3. Medication adherence	1	2	3	4
4. Coping mechanism (disease, stress, fear, and disappointment management)	1	2	3	4
5. Diet adherence	1	2	3	4
6. Physical activities	1	2	3	4
7. Weight management	1	2	3	4
8. Follow up adherence	1	2	3	4
9. Accurate BP measurement	1	2	3	4
10. Self-care management support	1	2	3	4

Any suggestion regarding self-care management programme for the adults diagnosed with HPT

Thank you for taking your time to fill in the questionnaire.

ANNEX I: INTERVIEW GUIDE FOR THE PHC NURSES

1. Introduction and orientation

- Provide information about the purpose of the study
- Highlight the issues regarding voluntary participation
- Provide the information about notes taking, tape recording the interview
- Signing of consent form

2. Obtaining information regarding the following:

- Age
- Gender
- Year of work experience

3. Perceptions of the primary health nurses regarding the provision of self-care management for HPT.

Main question

- Tell me your perceptions regarding self-care management for HPT at the PHC facility where you are currently working?

Probing questions

- Probing questions will depend on the respondent's answers, example tell me more about what you mean, other appropriate questions:
- Based on the experience, what are the factors that influence self management of HPT?
- What challenges or barriers to self-care management of HPT?
- What can be done to reduce the challenges/barriers to self- management of HPT?
- What are the activities that can be included in the programme for self- management of HPT?
- Do you have any other recommendations to what we have discussed?

ANNEX J: INTERVIEW GUIDE FOR THE ADULT PATIENTS DIAGNOSED WITH HPT

1. Introduction and orientation

- Provide information about the purpose of the study
- Highlight the issues regarding voluntary participation
- Provide the information about notes taking, tape recording the in-depth interview
- Signing of consent form

2. Obtaining information regarding the following:

- Age
- Gender
- Duration with HPT

3. Lived experience of the patients living with HPT

Main question

- Tell me your lived experience with self-care management of HPT at home?

Probing questions

- Probing questions will depend on the respondent's answers, example tell me more about what you mean, other appropriate questions:
- How do you self-care for HPT at home?
 - Based on the experience, what are the challenges or barriers to self-care management of HPT?
 - What can be done to reduce the challenges/barriers to self- management of HPT?
 - What are the activities that can be included in the programme for self-care management of HPT?
- Do you have any addition to what we have discussed?

NN

ANNEX K: CONFIDENTIALITY BINDING FORM



CONFIDENTIALITY AGREEMENT WITH RESEARCH THIRD PARTIES

Hereby, I **Wilbert Manyangadzi**, ID number, **24173266N24** in my personal capacity as a **transcriber, coder and statistician** collaborating with **Johanna Penduka Kemanguluko Tuyakula Hanyanya** on a research titled **Development of a self-care management programme for adults diagnosed with Hypertension in Khomas Region, Namibia** acknowledge that I am aware of and familiar with the stipulations and contents of the conditions of ethical clearance specific to this study. I shall conform to and abide by these conditions. Furthermore, I am aware of the sensitivity of the information collected and the need for strict controls to ensure confidentiality obligations associated with the study.

I agree to the privacy and confidentiality of the information that I am granted access to in my duties as a **transcriber, coder and statistician**. I will not disclose nor sell the information that I have been granted permission to gain access to in good faith, to anyone.

I also confirm that I have been briefed by the research team on the protocols and expectations of my behaviour and involvement in the research as a **transcriber, coder and statistician**.

A handwritten signature in black ink, appearing to be "W. Manyangadzi", is written over a horizontal line.

SIGNED: _____

Date: 05 November 2021

ANNEX L: CERTIFICATE OF QUANTITATIVE DATA ANALYSIS

Wilbert Manyangadzi

Contact No: +264 812 115 574

Email: wmanyangadzi@gmail.com

Date : 08/02/2024

TO WHOM IT MAY CONCERN

RE: CONFIRMATION OF ACADEMIC STATISTICAL SUPPORT

This letter serves to confirm that I, WILBERT MANYANGADZI, am an academic statistician holding a Master of Science (MSc) in Development Studies and a Master of Business Administration (MBA). I am also currently pursuing a Doctor of Philosophy (PhD).

I further confirm that I assisted Mrs Johanna P.K.T. Hanyanya, student number 12902616 with data analysis for her PhD thesis titled “Development of self-care management programme for adult patients diagnosed with Hypertension in Khomas region, Namibia” through the use of R programming as part of her academic research work.

Yours faithfully,



Wilbert Manyangadzi

Academic Statistician

MSc (Development Studies), MBA, PhD (Candidate)

ANNEX M: CERTIFICATE OF QUALITATIVE DATA ANALYSIS

Wilbert Manyangadzi

Contact N0: +264812115574

Email: wmanyangadzi@gmail.com

Date :08/02/2024

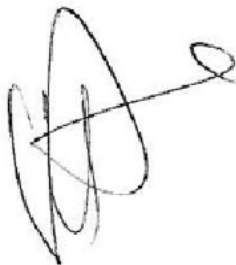
TO WHOM IT MAY CONCERN

RE: CONFIRMATION OF QUALITATIVE DATA TRANSCRIBING, CODING AND NVIVO ANALYSIS SUPPORT

This letter serves to confirm that I, Wilbert Manyangadzi, am an academic statistician holding a Master of Science (MSc) degree in Development Studies and a Master of Business Administration (MBA) degree. I am also currently pursuing a Doctor of Philosophy (PhD).

I further confirm that I assisted Mrs Johana P.K.T. Hanyanya, student number 12902616 with data analysis for her PhD thesis titled "Development of self-care management programme for adult patients diagnosed with Hypertension in Khomas region, Namibia" with qualitative data coding and analysis using NVivo software as part of her academic research work.

Yours faithfully,



Wilbert Manyangadzi
Data Science Analyst

MSc (Development Studies), MBA, PhD (Candidate)

ANNEX N: RESEARCHER ACKNOWLEDGEMENT



RESEARCHER ACKNOWLEDGEMENT

Hereby, I, Johanna Penduka Kemanguluko Tuyakula Hanyanya, ID number: 83050810262, in my personal capacity as a researcher, acknowledge that I am aware of and familiar with stipulations and contents of the

- Unisa Research Policy
- Unisa Ethics Policy
- Unisa IP Policy

and that I shall conform to and abide by these policy requirements.

A handwritten signature in black ink, appearing to read "JH Penduka", is placed over a light blue rectangular background.

Signature:

02 November 2021

Date:



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEX O: EDITING CERTIFICATE

KUKU COMMUNICATION & CONSULTANCY

For all your language editing needs

P. O. Box 21537
Windhoek
Namibia
Cell +264 810 336 206
Email: colettakandemiri173@gmail.com

kec

PHD IN ENGLISH (UNAM), M.A. IN ENGLISH STUDIES (UNAM), BA HONOURS IN ENGLISH (UZ)

13 November 2025

To whom it may concern

LANGUAGE EDITING – JOHANNA PENDUKA K. T. HANYANYA

This letter confirms that the thesis, *Development of a Self-Care Management Programme for Adult Patients Diagnosed with Hypertension in Khomas Region, Namibia*, for Johanna Penduka K. T. Hanyanya, student number 12902616, was submitted to me for language editing and technical formatting.

The thesis was professionally edited. Track changes and suggestions were made in the document, which, if Johanna Penduka K. T. Hanyanya follows, would result in a thesis with high-standard English.

Yours faithfully



Dr. Coletta Kandemiri
PHD IN ENGLISH (UNAM)
M.A. IN ENGLISH STUDIES (UNAM)
B.A. HONS. IN ENGLISH (UZ)

KUKU CONSULTANCY
Communication Editing & Training
PO Box 21537 Windhoek, Namibia
Cell: (+264) 81 033 6206
colettakandemiri173@gmail.com

ANNEX P: TURNITIN REPORT

Similarity Report

PAPER NAME

ed CHAPTER 1-8 corrected 17 Novemb
er 2025 latest.docx

AUTHOR

JOHANNA PENDUKA KEMANGULUKO T
UYAKULA HANYANYA

WORD COUNT

102642 Words

CHARACTER COUNT

581167 Characters

PAGE COUNT

386 Pages

FILE SIZE

12.1MB

SUBMISSION DATE

Nov 17, 2025 3:26 PM GMT+2

REPORT DATE

Nov 17, 2025 4:45 PM GMT+2

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Summary

● 19% Overall Similarity

Top sources found in the following databases:

- 11% Internet database
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- Crossref database
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TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

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2	repository.nwu.ac.za Internet	<1%
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ANNEX Q: SELECTED INTERVIEW TRANSCRIPT FROM PHC NURSES

INDIVIDUAL INTERVIEW: PARTICIPANT NO.6

Gender: Female

PHC facility: Clinic

Duration: 1hour

Interviewer

Good afternoon, ma'am. How are you?

Interviewee

Good afternoon, sister.

Interviewee

I'm fine, thank you.

Interviewer

I'm also well. I'm Johanna Hanyanya. I'm a student at Unisa. I'm doing PhD in nursing. And today, I would like to do some questions with you. I want to do an interview with you. Is it fine?

Interviewee

Yes, it's fine, sister.

Interviewer

OK, all right, I will introduce you some little background about what I am doing.. I'm doing research and this is to develop a self-care management programme just to empower adults who are diagnosed with HPT in order to control the disease while they are at home, so I will need your views on how you care for these patients.

Interviewee

OK (nodding).

Interviewer

I just want to highlight to say your participation is voluntarily, I'm not charging you anything and if you feel like maybe, it's too personal, you can withdraw any time without being punished for anything. But I would like you to give me a consent if it's fine with you.

Interviewer

May you write your name and surname and then you sign there. This is just to say you agreed. But it will not be associated with your voice or anything or to be singled out on whatever that we discuss here.

Interviewee

OK, I will just write my name.

Interviewer

So, this interview will take about 45 minutes to 1 hour, and I will use a tape recorder and I will also take some notes just for the important information that you are telling me so I rely on it.

Interviewee

OK, no problem, sister. I give consent for the interview. Just a little disclaimer that the information that I'm giving you is regarding my experience by being a nurse for the past five years and the clinic on the outside of Windhoek.

Interviewee

So, this is not any kind of information that is from Ministry of Health and Social services, but it is my personal, just my perceptions.

Interviewer

Can you please tell me your age.

Interviewee

I am 44 years old.

Interviewer

Ok, what is your years of work experience.

Interviewee

I have been working for 18 years.

Interviewer

Ok, please tell me, do you get patients with high BP?

Interviewee

Yes (nodding)

Interviewer

How is their BP? Is it under control or not controlled?

Interviewee

Ok, sister, our patients because it's an outside clinic and the way I'm highlighting outside clinics so that they can differentiate between being in the city where everything is easy to get like the

hospitals or the doctors, because there's a difference between being outside and being in the city centre. So being outside, it is a little bit challenging. Controlling the HPT patients, our patients.

Interviewee

We cannot specify like how many patients that we see, but I can say it's quite challenging especially it's mostly the older people.

Interviewer

Ohh you get more older people than the young ones? OK. Can you tell me your views regarding the care that you give to these patients as they are at home with HPT?

Interviewee

OK, I have experienced myself that because of these people social, economic standard, you have to continuously give health education because what we do here because we don't have a doctor, we just give the refill, we do not initiate here the initiation always start in Windhoek. I can simply tell you, just a kind of a short, brief. If we find someone today being HPT and after monitoring for the number of times that you need to monitor according to the guidelines, then what we do is we send to Windhoek and then that's when the initiations start after initiation, it's when the control will be done.

Interviewer

OK. Please tell me more when you first detect high BP. Let's start there, what do you do?

Interviewee

Hmm...(smiling) well, like I said, when we start, let me say like today we monitor first before we send for review by the Doctor.

Interviewer

How long do you monitor and so on?

Interviewee

We monitor on everyday basis. First three days and then after that every second day, for three to four times, and that's when we can really query diagnose, and send to the doctor.

Interviewer

OK, so your care comes mostly when they come back. when they are being put on treatment?

Interviewee

No (Shaking the head slightly while speaking), like I said when they come to us and we notice it they start medication that you give according to guidelines again and then you allow them to be there for 2-3 hours and then you monitor and then you see it's still elevated, you speak

telephonically with the doctor. Doctor can give you guidance on what you can do so that the patient can come back for two or three days because you don't just start sending from the first day. Because it could be just anything that can have elevated the BP at the first onset. So that's why onset, yes, there is the standard dose of medication that you give and then telephonically after discussion you and the doctor discussed, but you do monitor for first a few days before sending to the doctor.

Interviewer

OK, I noted it and what other specific activities do you do to these patients to help them to care for themselves with high BP?

Interviewee

OK, except for the health education that is extensively done, we have two days in the week that I allow, especially the ones who are closer because I'm a community nurse, closer to me when I go for health education to them, then we have gotten together where I show them exercises or breathing exercises that they can do. And that's when we will emphasize on our health education. We have this campaign so little like we have sport days because we have a school here also. So, when we do have sport days we get as a community together, meet together with them, and then we discuss what can we do. Also just to stay active and to keep on changing our lifestyle towards the HPT. Exercising is one of the things that I discuss with my HPT patients.

I always tell the patients that small exercises like daily 30-minute walks would help a lot in not only improving BP but also a relatively healthy body overall. We talked about including exercises into their everyday routine in rather basic forms, like walking up the stairs rather than using the elevator and walking over lunch. Later on, they could see their gains not only in their BP readings but also in the physical and mental sense in which they felt. They attributed increased energy and reduced stress which contributed to their motivation to keep on with the exercises (maintaining a positive tone). Yes...This experience helped me to say again the value of supporting the patients in identifying effective and maintainable mechanisms of remaining active

Interviewer

You mean, so you have two days in a week ?

Interviewee

Yes, two days, but not every time. Let me just say that there's sometimes that, for example, when I'm on leave or when I'm on workshop and my colleague is alone and she cannot do it. But when both of us are here, then we all do that once or twice in a week.

Interviewee

When we go out in the community and sit and talk do little activities, cause my community has to go look for wood to make fire for example, and we can do small activities like that just to communicate and understand each other.

Interviewer

OK. Any other activities that you also do or any care that you do for this patient?

Interviewee

No. Unless you maybe elaborate with or maybe advise me whatever case then needed to be done.

Interviewer

OK, if there is nothing, it's OK. But according to your experience, what are the challenges that you face when you care for these patients?

Interviewee

I would again go back to because of their social standard, their minds are not in, let me not say their minds, but because of the economical social standard, they are not in the kind of environment where they would want to see the changes for themselves, so that is a challenge, it's almost like if you don't continuously talk, like do the health education, then they would slack on. So, it's like you have to continuously not just have to, they have to but monitor and monitor. So, then they would still slack back. Because they would always give the excuse that we don't have what, you know. So, the social economical standards really plays a very big role and it affects them mentally, which is very hard for them physically. Yeah, let me put it like that.

Interviewer

Could you please specify some of the things that HPT patients say they are unable to do it because of their economic status?

Interviewee

Let me say you encourage them to go for exercise every day and they will tell you I don't even have food. So because I don't have a job and it is affecting me mentally, you know, so and then just that discouraged them to be active or let me say when you say change your diet more veggies, more fruits. Then they will tell you that they don't have money to live that kind of lifestyle. Then you're encouraged to do garden and then they would talk about not having

the equipment to start the garden. So it's just the whole chain, but at the same time I am proud like for the few who does it because there was a few who did it, especially this year.

Well, a significant number of the patients have not been provided with nutritional health education which would go a long way in assisting them manage the condition. Patients can be unaware that the eating might be positively or negatively affecting his BP directly. They can talk of affection of salty foods and as long as they continue taking their medication, they don't understand why they need to change their dietary habits. Patients are highly dependent on education, as without it, they will be unaware of how various life factors will be used in their health outcomes

Interviewer

Ok, any other challenges apart from what you have just mentioned?

Interviewee

Most of these patients, who are expected to be controlled regarding their HPT are not well supported in terms of finance. Jobless patients cannot afford the cost of the routine visits and even the lifestyle modification such as buying healthier foods etc. I have experienced a patient whose prescribed medication of HPT could not be purchased in many months because of financial inability to do it as there were other important needs like food and children school fees. This economic impact leads to low treatment compliance by the patients therefore impacting negatively on the health outcomes. To this, of course, we try to help as much as possible by offering generic medication or referring them to government programmes for assisting unemployed citizens; however, the resources are not there, and not everybody qualifies. In the absence of a stable financial support, having patients to control their BP properly is nearly impossible, no matter how well we educate and advise them.

Interviewer

Okay, with all these now challenges, what do you think can be done now to help these patients just for them to care better for their BP to be controlled while they are at home.

Interviewee

Ok, let me talk personally for this community, ma'am. The community here does not have stable homes, ma'am. And maybe if by a bigger or broader perspective they could have their home state being developed that could change the way they look at their lifestyle because they don't have stable homes.

Interviewer

What do you mean?

Interviewee

People here they stay in ghetto, and they don't have electricity, and the water is also far from their homesteads not too far, but it is. So, there's no electricity, just the way that they stay is not up to standard to a point where they want to really make the changes in their lifestyle.

Interviewer

I think I am lost because with water I feel fine since they should drink water to hydrate the body and it will assist in blood circulation. But what impact will it have now to them with BP, if they are houses are like that?

Interviewee

You know when where you stay your environment is not conducive, it does affect you mentally and when it affects you mentally, it changes the whole parameters of how you view life, and that's what I've been noticing. Let me just talk from my community myself, so that's why I'm saying like if you don't continuously talk to them, it's almost like a baby that you have to talk and talk and that it's almost like you give them a little bit of hope by continuously talking, so don't let your environment be the reason why they should not take their medication, whether be it the HPT, the diabetes or the TB or the ARVs. Let that not be the reason for, but it's a continuously talk like getting through to them like it's a lot. And again, you can talk and I've been seeing it for the past five years. Like you can talk and talk, but it's almost like, what are you doing for my lifestyle. How are you changing my life? You now, want to change how I take the medication, but what about my lifestyle? Like how I live? Like what do you do? That's almost a question that you can see in the eyes all the time that I cannot answer.

Interviewer

You mean, patients think when there is a change in their housing setup that can improve the way they care for themselves regarding HPT?

Interviewee

Exactly, when there is a change in their housing setup that can improve the way they care for themselves regarding HPT? Like I would agree 100% on that one, like that's how they see it and I would actually guarantee like on 80 to 89% that that will happen because your environment and how you stay in and it's just unfortunately affect your mental well-being. To your mind, health is a state of mind, as we say. So yeah. With some exception, the housing plans, which we have been discussing like altering the atmosphere. Professional development activities will be useful in increasing the knowledge of healthcare workers on the current guidelines of HPT management and treatment. The workshops are interactive with the participants being taught about HPT, changes in lifestyle, and self-care management skills.

Seminars include medical professionals who discuss the most current research findings and practical tips of managing BP. We arrange culturally oriented workshops to meet the needs of certain community and peer support to the participants. Interviewer I understand what you are saying. Yeah.

Interviewer

I get what you are saying. Yeah. I also want to know, I'm now developing a programme that I want to include things like diet, exercises that you have just mentioned, is there another crucial thing that you think it's very important, should be noted in there for the patients?

Interviewee

Except, for what we've been talking like changing the environment, the housing setups. Is let an organization or let them be helped by providing them with the necessary tools to start gardens, to actively start, let me say gardens at their houses, or whether it's where they are staying. Big gardens, but there have to be a programme like helping them to do that, organization that will also help a lot and then again the jobs, a lot of the people would also help. I would suggest that the community gardens should be established that will promote community participation and a feeling of ownership and a sense of pride.

Interviewer

Ok, anything else that you would like to share with me?

Interviewee

Yes sister (leaning forward toward the interviewer), I would like to share my experience when I was working in Windhoek before coming to work at this facility at rural area of Windhoek. I have seen poor collaboration among healthcare professionals affecting the effective management of HPT. I have observed a lack of good cooperation among medical practitioners when it comes to management of HPT. A case in point was one patient who had to take two treatments that consisted of a dietician and a doctor; there was minimal communication between the two. As opposed to the nutritionist who had prescribed a particular low-sodium diet, the physician was not entirely aware of such a diet and consequently prescribed medication that may affect such dietary alterations. I had to intervene to make things clear to them and bring the dietician and the doctor into the same level of understanding. My moral of the story was that collaboration and communication between healthcare professionals is highly significant towards assuring consistency and safety in patient care in situations of HPT.

Interviewer

OK. What in your view are some of the strategies that would be useful in enhancing the collaboration between healthcare professionals in the management of HPT?

Interviewee

Mmmh... teamwork, proper communications and maybe meeting once or twice a week or once a month can make all the people on track of patients with HPT. It also contributes to the formation of teamwork and trust.

Interviewer

Ok. Anything else sister?

Interviewee

No, that is all.

Interviewer

Ok. Thank you so much for your input. I really appreciate it. Have a blessed day.

ANNEX R: SELECTED INTERVIEW TRANSCRIPT FROM ADULT PATIENTS DIAGNOSED WITH HPT

INDIVIDUAL INTERVIEW: PARTICIPANT NO.1

Gender: Female

PHC facility: Clinic

Duration: 55 minutes

Interviewer

Good morning, ma'am.

Interviewee

Good morning. How are you?

Interviewer

I'm fine. My name is Johanna Hanyanya. I'm a student at Unisa. I'm doing a PhD, doctor in nursing and my topic is development of an educational programme for PHC nurses just to help people with high BP to manage while they are at home.

Interviewer

Yes, I see you came for your follow up today for your medication. How long have you been having this problem of high BP?

Interviewee

I have been with this problem for two years now.

Interviewer

I just want to tell you that this is a free interview discussion. You are just helping me to know more about this problem that it's voluntarily I will not force you to do anything.

Interviewer

Then it's by your will, and so you need to sign a consent. Pls write your name here, but I will not use it elsewhere. It's just to say you are agreed for me to do this, questioning your name and your surname and sign there. So we will not use your particulars for anything.

Interviewer

Yes, and you can withdraw anytime if you think that you are no more interested and so on, and this will take about 45 minutes to one hour of your time.

Interviewer

I would like to know your age please.

Interviewee

My age is 26 years

Interviewer

Ok, tell me your experience with this self-care management. The management of yourself at home is termed as self-care management.

Interviewee

Ok, I did not know much about HPT, until my doctor told me about having it. I had not learned the term, but I did not realize what it means or its importance. Upon providing my issue, which was high BP, some pamphlets were given to me, which were to some extent confusing. There are times that I become emotional whenever I hear the doctor mention big terms in the medical field. I know that I have to control my BP, however, I do not always know how to do it. I would like to get better explanations on what I am able to do to enhance my health. It would make me feel to be in control of my well-being.

Interviewee

It was not easy at the beginning because sometimes I forget to take your medication on time. But as time went, I got used to when I take my medications on time, I go for follow up on time and yeah now I'm getting used. At the beginning it was so challenging because sometimes you went to the hospital. There are no medications. You have to go buy from the pharmacy, which is not easy if you don't have money and by then, yeah. Now I'm coping. They will tell you to go buy at the pharmacy. You have to make a plan because you cannot stay without taking those medications. You know you can just take your passport cards at the pharmacy and that's all. Yeah, like the medication that I am taking is very expensive because it's N\$ 300 something at the pharmacy that I always spent.

Interviewer

If your BP medication is out of stock, do you receive a paper we call it a prescription that you take it to the pharmacy so you can buy the medication?

Interviewee

No (shaking the head), you can just take your passport cards and that's all.

Interviewer

Anything else that you want to tell me on the how you care for this disease at home, apart from the medication?

Interviewee

Yeah, I used to take care of myself because I keep myself away from any other problems so that I cannot think so much, so I stressed myself for nothing. I have to become friendly all the time. So if something has happened, I have to control my anger so that my BP will not go up. Sometimes a person just provokes you, but you can just take it as a joke. You don't take that as a serious matter. I set an alarm for 8 AM every day to remind me to take my medication right after breakfast. It is now a routine, which assists me in moving on. There have been times when the pharmacy didn't have my medication in stock. This is annoying, but, I have come to make a call beforehand to inquire and tell them to order it in case.

Interviewer

OK. And for as you have been now having this problem of high BP when you come to the clinics, do nurses/doctors tell you the status of your BP?

Interviewee

Yes, my BP does go up sometimes. When it does, the doctors change the medicine I'm taking. In my case, if my BP is too high, they might raise the number of tablets I take from one and a half per day to two. In case it returns downward or remains unchanged, they reduce it to one and one-half pills once again. So the amount I take will depend on my BP at that time.

Interviewer

Ok, and do you experience any challenge or any problem apart from when you come for your medication and you find that it is not there, is there anything else that you think it's a challenge while you are having this high BP?

Interviewee

Yes, stress, especially from work, is one of the most main ones. A lot of work pressure gets on me sometimes, and the tense atmosphere makes me feel even worse. I do my best to stay cool and deal with the stress, but sometimes it's just too much for me. I didn't choose it, but it does happen, and I have to get through it because I need the job. I always tend to have an increase in my BP when I am stressed, I do not know why. I know it may give me headaches, or make me dizzy, or simply making me to feeling bad. Thus the stress does not allow me to maintain my BP level despite the medication. Not being able to just take a pill to deal with stress is annoying because it affects your mood, sleep, and even your energy. I always try to stay calm in order to relax. Just calm down myself and think about my healthiness and that's all. If I could find better ways to deal with or lower my stress, I think it would help me a lot in controlling my situation.

Interviewer

Meaning, you're saying that stress especially from work, plays a big role in making it harder to manage your BP, even when you're taking your medication?

Interviewee

Yes (nodding)

Interviewer

Ok, from your experience what can be done to reduce these challenges for self- management of high BP?

Interviewee

Not really, because it's not that easy to deal with some problems, like weight issues, especially when you can't get the right food or work out. I now understand that my health must be your leading priority. I should put it above everything else. It is also good to maintain low levels of stress. I have to be able to manage my emotions, particularly anger and stressful situations, as they directly impact on my BP. I keep my head straight and avoid worrying about things when things are not going as expected. Health comes first is not necessarily simple to do, however, it will make make a person better self-caretaker. Ah, there was a time when my BP was too high. And then I have to consult the counsellors. The Doctor refers me to the counsellor because perhaps he was thinking that maybe I was having a big problem that I didn't want to share with anybody. But when I went for counselling, the counsellor told me that: whenever you are stressed, stress is a problem. Is the one that causes the high BP, so you to control my stress. You have to control all your angers, be friendly and need to cope with any situation that comes around. What's important is to make your health a priority That's why when you are not stressing too much, then the BP will also go down. It will help you a lot if you avoid stress.

Interviewer

Ok, is there another thing apart from stress that you think can reduce the BP also.

Interviewee

Yeah, the counsellor also told me about some foods that I need to eat and that to lower the BP like you have to eat garlic. You have to eat the food, which is not having too much salt. I must also not eat food which is oily. My problem has always been; I struggle with making healthy food particularly after I was informed that I am having high BP. I had difficulties with making the correct food choices. I chose to start some private nutrition and cooking classes which proved quite useful. They taught me to make low salt and high vegetable content meals. I also got to know how to read food labels and make healthier replacements, such as changing

herbs with salt as a flavouring agent. During these classes, I was taught practical skills and easy recipes to prepare at home. Today, I even love to cook and feel much more confident about the food I eat. It has enhanced my capacity to control my BP and I am better generally.

Interviewer

And tell me about the garlic. How do you use it?

Interviewee

And the garlic that I'm using, sometimes I used to eat uncooked garlic, sometimes I have to use the garlic that I have to put in my food.

Interviewer

Ok, it's a good thing trying to care for yourself. I'm trying to develop a programme that nurses and patients can use for self-care management of HPT. What are the activities that can be included in the programme for self-care management of HPT?

Interviewee

What is it now that you're having in that programme? Do you have something now?

Interviewer

No, I'm busy searching for the information. Like right now, I know stress management will be there because you have mentioned it

Interviewee

Okay, but I think you should add exercise to the list of things you should do. Exercise is a good method of managing high BP. Exercise does not only benefit the body, but it also makes my mind feel better. There is something about it that makes my mind relax and I do not think too much of the things that are stressing me. In my case, I have discovered that exercising makes me feel lighter, both physically and emotionally. I do not have to walk far to get to the store. It does not leave me as angry and stressed. Using this, exercising is not only a method of weight loss; it is also a good method of reducing the BP as well since you are not as stressed. Well, in my case, I am only doing exercises at home. I'm not going for the gym. I am not doing any but there is not a day that I get up in the morning without making some exercises. Even the push-ups or the joking, those things.

Interviewer

Ok, anything else that you would like to add?

Interviewee

Yes, I've had HPT for a few years now, and my routine at home revolves around controlling what I eat and staying active. The doctor told me to avoid salty foods, so I cook without adding

salt, using herbs like garlic and ginger to flavor my meals instead. I also eat more fruits and vegetables now, especially ones like bananas and spinach that I've read are good for lowering BP. On top of that, I exercise regularly. I take a 30-minute walk every morning, and sometimes I do yoga in the evening. I also keep a close eye on my BP by checking it at home. I take readings once a day, usually in the morning. This gives me an idea of how well I'm managing my condition.

Interviewer

Ok. Anything else apart from exercising and low salt diet that you can think of?

Interviewee

Not really. I asked the doctor to write for me a BP machine which I can at home, and it has made my health management a lot easier. Previously I used to test my BP only at the clinic and at times I even forgot to enquire what the numbers were on the BP machine. I can now monitor my BP at any time I desire with the machine at home. It is easy to operate; I need only to follow the steps and write down the numbers in a notebook.

Interviewer

Ok. Thank you very much for your time and thank you for sharing your experience with me. I really appreciate it. Have a blessed.

Interviewee

Okay sister. Have a blessed too.

ANNEX S: LETTER FOR TECHNICAL EDITING



To Whom It May Concern

Re: Technical Editing

This letter serves to inform you that the **Doctor of Philosophy in Nursing** thesis for **Johanna Penduka Kemanguluko Tuyakula Hanyanya**, title: **“Development of a self-care management programme for adult patients diagnosed with hypertension in Khomas region, Namibia”**, was technically edited and formatted.

Regards

Rinnie Matlou

A handwritten signature in black ink, appearing to read 'Rinnie Matlou', is located below the typed name.

ANNEX T: FORMULAS USED IN DETERMINING THE SAMPLE SIZE.

A formula developed by Krejcie and Morgan (1970:607) was used for the calculation of a sample size for PHC nurses is described below:

$$n = N * Z^2 * p * (1-p) / [(N-1) * e^2 + Z^2 * p * (1-p)]$$

Where:

n = sample size

N = population size

Z= desirable confidence level in relation to Z-score.

p = approximated percentage of the population that possesses a given characteristic.

e = level of precision that is desired (margin of error)

Using calculated sample size of 95% of confidence, 5 percent margin of error and response distribution of 50 percent:

N = 156 (population size)

Z = 1.96 (Z-score of 95% level of confidence)

p = 0.5 (proportion of the distribution of responses that are most probable)

e = 0.05 (margin of error)

$$n = 156 * (1.96^2) * 0.5 * (1-0.5) / [(156-1) * 0.05^2 + (1.96^2) * 0.5 * (1-0.5)]$$

$$n = 156 * 3.8416 * 0.25 / [155 * 0.0025 + 3.8416 * 0.25]$$

$$n = 150.82656 / [0.3875 + 0.9604]$$

$$n = 150.82656 / 1.3479$$

$$n = 112.01$$