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FACTORS AFFECTING ADHERENCE TO ANTI-HYPERTENSIVE TREATMENT IN THE ASUOGYAMAN DISTRICT IN THE EASTERN REGION OF GHANA

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DECLARATION

I hereby declare that this submission is my work for the master's degree in public health and that, to the best of my knowledge, it does not contain any material previously published by any person or material accepted for the granting of any other degree from the college, except where proper attribution has been indicated in the text.

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DEDICATION

I humbly dedicate this effort to God Almighty for His guidance and wisdom throughout the writing of this thesis. The credit for this job also goes to my family for their unwavering support. Next, I would like to thank my supervisor, Dr. Sandra Boatemaa Kushitor, for her guidance and unwavering support throughout the writing of my thesis.

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LIST OF ACRONYMS

CCM	Chronic Care Model
CHPS	Community-based Health Planning and Services
GDHS	Ghana Demographic and Health Survey
GSS	Ghana Statistical Service
LMICs	Low and middle-income countries
OPD	Outpatient department
WHO	World Health Organization

ABSTRACT

Background: Hypertension is a major public health issue as its consequences for the individual and society are enormous. Addressing the treatment needs of persons living with hypertension can only be achieved through an understanding of their lived experiences. However, there is a dearth of empirical literature on the lived experiences of persons living with hypertension in the Ghanaian context to inform public health policies and practices.This study explored the lived experiences and adherence to medication of the persons living with hypertension receiving care at the Anum-Boso Clinic in the Eastern Region.

Methods: A qualitative research approach was used and the phenomenological design was employed. A total of 30 participants were recruited and individual in-depth interviews were conducted using an interview guide consisting of the key areas of interest. A descriptive thematic analysis was used to analyze the data and the results were presented in themes and sub-themes. Adherence to medication was also measured using the Morisky Adherence Scale.

Results: The findings of this study highlighted the lived experiences and unmet medical care needs of people living with hypertension in the Anum-Boso community. Many respondents described times when they felt poorly and sought medical care as a result of symptoms including headaches, dizziness, or irregular heartbeat. Additionally, majority of respondents highlighted the high cost of anti-hypertensives and how that has impacted the management of their condition. None of the respondents reported high adherence to medications. Highlighting a critical gap in hypertension education and management in the community.

Conclusion: In conclusion, this study provides valuable insights into lived experiences of individuals living with hypertension in Ghanaian context, The findings underscore the significant challenges faced by hypertensive individuals, ranging from experiencing distress symptoms to grappling with financial burden of medication costs. The luck of reported high adherence to medications also points to a substantial gap in hypertension education and management within the community. By recognizing and addressing these specific issues, policymakers and healthcare providers can work towards improving the quality of life for individuals with hypertension in the Anum-Boso community and beyond, ultimately mitigating the broader societal impact of this prevalent health concern.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

1.0. Introduction

1.1. Background

The world's leading non-communicable disease is hypertension, defined by persistently high blood pressure (World Health Organization, 2023). It is a vital health concern since it poses a significant risk for cardiovascular illnesses and early mortality (Okai et al., 2020). Those with hypertension are more likely than those without to suffer kidney and cardiac disorders (Tannor et al., 2022). According to recent data, hypertension's incidence, prevalence, and mortality increased globally between 1990 and 2015 (Forouzanfar et al., 2017).

According to Center for Disease Control and Prevention report (CDC,2023) adult hypertension prevalence was predicted to be 40% worldwide in 2023, with the majority of cases being concentrated in sub-Saharan Africa. Hypertension is disproportionately prevalent in low- and middle-income nations, especially in Africa (Okai et al., 2020). In fact, 46% of persons in Africa aged 25 and older have hypertension, making it the continent with the highest prevalence now (Bosu et al., 2019; Okai et al., 2020). This suggests that low- and middle-income nations account for two-thirds of all instances of hypertension, partly because of the expansion of risk factors in these areas over the previous ten years (Schutte et al., 2019). Urbanization, an increase in life expectancy, and a change in lifestyle are all contributing contributors to this rise in prevalence (Sanuade et al., 2018).

The prevalence of hypertension has grown significantly in Ghana. Between 2011 and 2014, hypertension accounted for the most outpatient instances, according to the Ghana Demographic

and Health Survey (GDHS) 2014 ;(Okai et al., 2020). Despite the frightening numbers and data, the nation's treatment and management of hypertension remain insufficient (Sanuade et al., 2018).

Controlling blood pressure is essential to managing hypertension. Adherence to prescribed antihypertensive medication is crucial for achieving effective control (Abeasi et al., 2022). Unfortunately, research has indicated that hypertension individuals in sub-Saharan Africa often have poor blood pressure control (Boima et al., 2015). According to Boima et al. (2015), nonadherence to treatment is a significant patient-related factor causing the rising prevalence of hypertension in Ghana and Nigeria.

It is essential to comprehend the elements that affect patients' adherence to antihypertensive medicines to create efficient solutions to the problem. According to Odiase and Ogbemudia (2019), the World Health Organization (WHO) divides the causes of medication nonadherence into five categories: factors relating to the patient, socioeconomic factors, therapy-related factors, factors relating to the health system and healthcare providers, and factors relating to the condition. Patient-level and socioeconomic factors significantly contribute to nonadherence to medication in sub-Saharan Africa (Sarkodie et al., 2020). Pharmacotherapy and lifestyle changes are both necessary for blood pressure control, underscoring the significance of patient cooperation (Choi et al., 2018).

It is critical to investigate the issues affecting patients' adherence to antihypertensive medications given the high prevalence of hypertension and the difficulties related to drug compliance. This study intends to examine these variables, and produce useful insights to guide the creation of solutions that can successfully address nonadherence and enhance hypertension management.

1.2. Problem Statement

High blood pressure, often known as hypertension, is a serious public health issue that has a considerable global impact. Globally, the prevalence of hypertension has increased noticeably over the past ten years (Tannor et al., 2022). According to estimates from 2014, hypertension impacted 22% of people worldwide who were 18 years of age and older (Choi et al., 2018). The World Health Organization estimates that hypertension causes 12.8% of all deaths worldwide (Tannor et al., 2022). According to (Choi et al.,2018), factors like population expansion, aging populations, and unhealthy lifestyles are risk factors for this increase in prevalence.

In Africa, where the prevalence of hypertension is higher, especially among the elderly, the burden of hypertension is more severe. Up to 57% of older Africans are predicted to have high blood pressure, according to(Choi et al.,2018). According to (Choi et al.,2018), there may be 10 to 20 million hypertensives in Sub-Saharan Africa alone. These are only estimates; the prevalence may actually be higher. This is a significant public health issue that could get worse as the population ages. In Ghana, hypertension is a serious health problem that affects both urban and rural communities. According to reports, it has a prevalence of 27.3% and is the third most common cause of mortality in the general population (Sarkodie et al., 2020; Tannor et al., 2022). Healthcare systems have extra difficulties because hypertension is frequently linked to other medical problems, such as kidney failure and stroke (Bosu & Bosu, 2021). Alarmingly, just one in four Ghanaian persons who have hypertension are diagnosed, treated, and effectively manage their illness (Risk and Collaboration, 2021). This can be partly attributable to adults not being aware of problems until they occur (Schutte et al., 2019).

In controlling hypertension and preventing related disorders including stroke and myocardial infarction, effective blood pressure management is essential (Boima et al., 2015). However, blood

pressure control among hypertension patients is typically subpar across sub-Saharan Africa, particularly Ghana (Sarkodie et al., 2020). Many factors, such as a lack of pertinent knowledge about the ailment, socioeconomic circumstances, belief systems, and insufficient mechanisms for patient follow-up, may impact this difficulty (Sarkodie et al., 2020). The ongoing prevalence of the illness in the population is caused by the major difficulties associated with managing hypertension in developing settings (Sarkodie et al., 2020).

In rural and peri-urban regions, noncompliance with therapy is commonly noted as a barrier because of socioeconomic issues and patient belief systems (Nyaaba et al., 2018). This noncompliance, which impairs the efficacy of therapy, lowers patients' quality of life, and strains the limited resources of the healthcare system, is a result of cultural dispositions and underdevelopment (WHO, 2003).

The Boso clinic has seen an increase in mortality caused by hypertension, which has led to a decline in local life expectancy. According to recent data from the Boso clinic from 2023, the death rate was 5.0% compared to 3.5% in 2021. While there may be similar causes for the rise in hypertension-related mortality observed in other areas, no special publication is addressing this problem in the Boso community. To find the best methods for lowering the prevalence and mortality of hypertension in the Boso community, it is necessary to examine and confirm these aspects.

1.3. Rationale of Study

High blood pressure, often known as hypertension, is a serious public health concern and a key risk factor for the emergence of chronic disorders, including stroke and cardiovascular diseases. According to alarming forecasts based on present trends, one in three people will have hypertension by 2025 (Ashoorkhani et al., 2018). It takes a diversified approach to manage and

maintain high blood pressure, including dietary changes and adherence to treatment schedules. Achieving this can help patients live better lives and lessen the burden of difficulties that come with it.

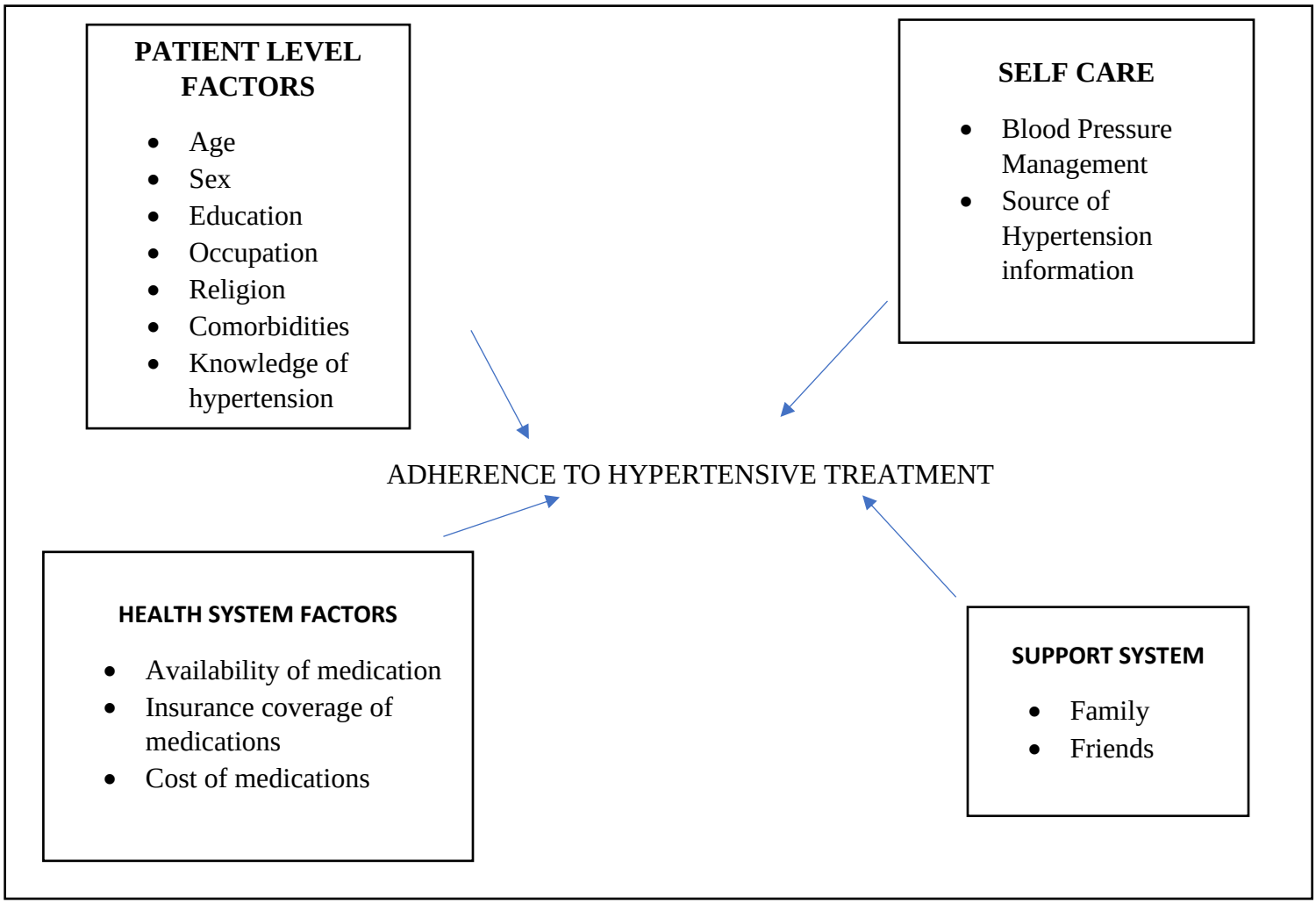
Nevertheless, despite the availability of efficient medications, many patients have trouble adhering to their treatment regimens, especially after the first six months of diagnosis. The potential benefits of therapy are undermined by noncompliance with medication, which is a significant barrier to managing hypertension effectively (Ashoorkhani et al., 2018). Developing interventions targeted at enhancing patient compliance and outcomes requires an understanding of the causes causing poor treatment adherence.

The goal of this research study is to recognize and understand the obstacles that patients have in sticking with their hypertension medication. By doing this, the study hopes to offer suggestions for best practices that can improve patient compliance and enable people to participate in the management of their disease actively. This study also aims to advance our awareness of the complicated factors impacting medication adherence in hypertensive patients, adding to the body of knowledge already available on the subject.

For treatments to be tailored to patients' requirements and circumstances, impediments to treatment compliance must be identified. Healthcare professionals can improve patient awareness, encourage self-efficacy, and enable people to actively participate in their treatment by diversifying the design and implementation of diverse interventions. The need to address not only clinical problems but also psychological, social, and environmental elements that affect treatment adherence is acknowledged by this comprehensive approach.

It is hoped that the research study's findings will aid in the creation of comprehensive plans to increase patient adherence to hypertension treatment, which will, in turn, improve health outcomes and lower the incidence of complications related to uncontrolled high blood pressure.

1.4. Conceptual Framework



Authors own construct, 2023

Figure 1: Conceptual Framework

Study shows that older patients are more likely to adhere to medication regimens than younger patients (Choudhry et al., 2011). Another study found that older patients are more likely to have their blood pressure controlled, even when they have additional comorbidities (Pimenta et al., 2003). Comorbidities are another patient-level factor that can affect adherence to hypertension treatment. Patients with multiple chronic conditions may find it difficult to manage their medication regimens and may have more complicated treatment plans. One study found that patients with multiple comorbidities were less likely to adhere to medication regimens for hypertension (Matsuzaki et al., 2018). Occupation is a patient-level factor that may also affect adherence to hypertension treatment. Patients with physically demanding jobs may have difficulty managing their blood pressure if their work involves prolonged standing or heavy lifting. One study found that patients with physically demanding jobs were less likely to adhere to medication regimens for hypertension (Mamdouh et al., 2019).

Knowledge and awareness about hypertension and self-care factors such as blood pressure management are also patient-level factors that can affect adherence to hypertension treatment. Patients who have a better understanding of their condition and how to manage it may be more likely to adhere to their treatment plan. One study found that patients who had received education on hypertension were more likely to adhere to medication regimens (Pladevall et al., 2004). Another study found that patients who had access to home blood pressure monitoring were more likely to adhere to their medication regimens (Jankowska-Polanska et al., 2016). These findings suggest that knowledge and awareness about hypertension and self-care factors can positively affect adherence to hypertension treatment. Healthcare system factors such as the availability of medication and insurance coverage of the cost of medication can also affect adherence to hypertension treatment. Patients who have difficulty accessing medication may be

less likely to adhere to their treatment plan. One study found that patients who experienced medication stockouts were less likely to adhere to their medication regimens for hypertension (Zhang et al., 2020). Another study found that patients who lacked insurance coverage for their medications were less likely to adhere to their medication regimens (Piskorz et al., 2020) since hypertension medication are often expensive and taken routinely for good management. In conclusion, patient-level factors such as age, comorbidities, occupation, knowledge and awareness about hypertension, and self-care factors can all affect adherence to hypertension treatment. Healthcare system factors such as the availability of medication and insurance coverage of the cost of medication can also play a role in adherence to hypertension treatment. These findings highlight the importance of a comprehensive approach to hypertension treatment that considers both patient-level and healthcare system factors.

1.5. Research questions

1. What are the lived experiences of patients living with hypertension?
2. What is the medication history of hypertensive patients?
3. What support system is available to people living with hypertension?
4. What are the barriers and enablers to adherence of treatment?

1.6. General objective

This study examines adherence to antihypertensive treatment amongst adults seeking care at Boso clinic.

1.7. Specific objectives

1. To understand the lived experiences of hypertensive patients
2. To identify the medication history of patients with hypertension

3. To assess the support systems hypertensive patients have
4. To identify barriers and enablers to adherence to anti hypertensive treatment

1.8. Profile of study area

Anum-Boso is a town in Asuogyaman District in the Eastern Region of Ghana. Atimpoku serves as the district's hub. Popularly, the capital is recognized for the Adome Bridge, which spans the Volta Lake. Farming is the primary occupation in Boso, where there are up to 23, 000 inhabitants. The local dialect is Guan. The community used to be difficult to reach due to an inadequate road system. It is now much easier to get to the community because of recent population growth and current road improvement projects.

Three Community-based Health Planning and Services (CHPS) compounds, two private health facilities, and one health center are all present. Additionally, the Volta and Eastern Regions' neighboring settlements are served by the Boso health center. Anum, Asikuma, Dodi, Kpalime, Dzemeni, and Tsanakpe are a few of the communities. The facility offers laboratory and maternity, reproductive, and child health services. The outpatient department (OPD) sees 1500 people a month on average. Referrals for Peki Government Hospital in the Volta Region are made for complicated medical illnesses that require urgent care. Malaria, anemia, diarrheal illnesses, and chest infections are among the recurrent instances. The chronic conditions that receive frequent attention are hypertension and diabetes. The community's prevalence of hypertension has dangerously increased over time, with mortality rates of 3.1% in 2021 and 5.0% in 2022. There is pressure on the institution due to the rise in hypertension cases.

1.9. Scope of Study

In a particular environment, the Boso Health Center, this research study will concentrate on examining the obstacles to treatment compliance among people who have been diagnosed with hypertension. The Boso population, which is in Asuogyaman District of the Eastern Region of Ghana study shows that older patients are more likely to adhere to medication regimens than younger patients (Choudhry et al., 2011). Another study found that older patients are more likely to have their blood pressure controlled, even when they have additional comorbidities (Pimenta et al., 2003). Comorbidities are another patient-level factor that can affect adherence to hypertension treatment. Patients with multiple chronic conditions may find it difficult to manage their medication regimens and may have more complicated treatment plans. One study found that patients with multiple comorbidities were less likely to adhere to medication regimens for

hypertension (Matsuzaki et al., 2018). Occupation is a patient-level factor that may also affect adherence to hypertension treatment. Patients with physically demanding jobs may have difficulty managing their blood pressure if their work involves prolonged standing or heavy lifting. One study found that patients with physically demanding jobs were less likely to adhere to medication regimens for hypertension (Mamdouh et al., 2019). Action, has a high prevalence of hypertension, and deaths from hypertension have been seen to rise recently (Boso clinic, 2023 data).

The researcher hopes to grasp the regional dynamics and factors that contribute to poor treatment adherence among hypertension patients in this environment by focusing the study on the Boso Health Center. By considering cultural, social, economic, and healthcare system elements that can affect patients' adherence behaviors, this localized approach will enable a more nuanced analysis of the hurdles particular to the Boso community.

The Boso Health Center will be used to gather a sample of hypertension patients for the study. In-depth interviews, and inspections of medical records will all be used to gather information in order to gain a thorough understanding of the variables influencing treatment compliance. The study will look at socioeconomic factors like income, education, and access to healthcare as well as patient-related factors including knowledge, attitudes, and beliefs about hypertension and its management. The World Health Organization's classification of factors affecting pharmaceutical nonadherence will also be used to evaluate healthcare provider-related factors, health system-related factors, and condition-related factors (Odiase and Ogbemudia, 2019).

Along with identifying the obstacles to treatment adherence, the study aims to make recommendations for enhancing patient compliance and provide information for the creation of

customized interventions. The results will add to the body of knowledge on treatment adherence in hypertension and give healthcare practitioners, policymakers, and other stakeholders important added information to consider when managing hypertension in the Boso community and other contexts.

It is significant to emphasize that the Boso Health Center is the sole subject of this study, and as such, its findings might not apply to other healthcare settings or populations. However, the knowledge gleaned from this study can act as a basis for additional research and contribute to a more comprehensive understanding of treatment adherence in hypertension.

1.10. Organization of report

The research topic is introduced in this chapter in the chapter one, which emphasizes the need to research medication compliance in hypertensive patients. It outlines the study's aims, goals, research questions, and justification for carrying it out. The scope of the study is also described in the chapter, along with its location (Boso Health Center) and target audience. Finally, it offers a summary of how the entire argument is structured.

Chapter two presents a thorough analysis of the pertinent literature. It examines the literature on hypertension, treatment adherence, and the variables affecting these behaviors. The goal of the literature review is to identify research gaps that will be filled in the current study as well as to develop a theoretical framework for the research. The chapter also discusses significant discoveries from earlier research and their relevance for comprehending hypertensive patients' medication compliance.

Chapter three provides an overview of the study's methodology, participants, data gathering strategies, and data processing methodologies. It justifies the decision to choose a particular

research design, such as a mixed-methods strategy that combines surveys, interviews, and examinations of medical records. The chapter also covers the participant selection criteria and sample procedure. It also describes the ethical considerations and steps taken to guarantee the quality and dependability of the data.

The gathered information is presented and examined in chapter four. The Boso Health Center's hypertension patients' hurdles to treatment compliance are investigated using descriptive statistics and qualitative thematic analysis. The results are arranged in accordance with the elements that have been identified as impacting adherence habits, including patient-related factors, socioeconomic factors, factors related to healthcare providers, factors connected to the health system, and factors linked to conditions. To support the presentation of the findings in the chapter, there are tables, graphs, and quotes.

The findings are interpreted in the discussion chapter in relation to the prior research and goals are presented in chapter five. It examines the ramifications of the findings and contrasts them with earlier research and theories. Additionally, the chapter highlights recurring themes, patterns, and linkages in the data and connects them to the study's central concerns. The study's limitations are acknowledged, and recommendations for additional research are given. Based on the study's findings, suggestions are also made to improve medication compliance among hypertension patients at the Boso Health Center.

The study's primary conclusions are outlined in this last chapter (chapter five), which also restates the study's goals and key questions. It goes over the research's ramifications and its contribution to the field. A succinct overview of the recommendations for healthcare professionals, decision-makers, and other parties involved in the management of hypertension in the Boso community concludes the chapter. To increase our understanding of medication adherence in hypertension, it

concludes by considering the significance of the study and outlining potential areas for future research.

CHAPTER 2

2.0. Literature Review

2.1. Hypertension and its Prevalence

High blood pressure, generally known as hypertension, is a serious global public health issue. Numerous studies have emphasized the condition's rising prevalence and the cost it places on patients and healthcare systems. According to Tannor et al. (2022), the prevalence of hypertension has increased recently, with the disorder affecting about 22% of people worldwide who are 18 years of age and older in 2014. Population increase, aging populations, and unhealthy lifestyles are some of the causes of this worrying trend (Choi et al., 2018). According to the World Health Organization (WHO), hypertension causes about 12.8% of all fatalities (Tannor et al., 2022). With elderly people in the region being disproportionately impacted, sub-Saharan Africa has seen a significant prevalence of hypertension (Bosu & Bosu, 2021). According to (Tannor et al,2022) the prevalence of hypertension among elderly persons in Africa could reach 57%. In both global and regional contexts, these numbers highlight the urgent need for efficient solutions to combat hypertension and its accompanying problems.

For the purpose of creating efficient public health plans and interventions, it is essential to comprehend the prevalence of hypertension over the world. According to study, the number of adults with hypertension has significantly increased in recent years. For instance,(Abeasi et al,2022) noted that in the previous 30 years, the number of persons aged 30-79 with hypertension virtually doubled to 1.28 billion. Population expansion, aging populations, and changes in lifestyle are some of the causes of this rise (Choi et al., 2018). Additionally, the burden of hypertension is not distributed equally across the globe. Forouzanfar et al. (2017) report that in 2008, the prevalence of adult hypertension was estimated to be 40% worldwide, with a sizable proportion of

cases occurring in sub-Saharan Africa. According to(Okai et al,2020). the prevalence among adults in this area who are 25 years of age and older is thought to be 46%. These results underline the pressing need for focused interventions and policies to reduce the worldwide burden of hypertension and the health concerns it entails.

Hypertension is a major risk factor for cardiovascular diseases and premature death, contributing significantly to the global burden of disease. Studies have consistently shown the strong association between hypertension and adverse cardiovascular outcomes. For example (Okai et al.,2020).reported that individuals with hypertension are more likely to develop heart and kidney diseases compared to those without the condition. Hypertension has been identified as a leading cause of stroke, coronary heart disease, and heart failure (Tannor et al., 2022). In fact, the World Health Organization (WHO) reported that hypertension accounts for approximately 12.8% of all deaths globally (Tannor et al., 2022). This highlights the critical importance of effectively managing hypertension to reduce the burden of cardiovascular diseases and premature mortality.

Furthermore, evidence suggests that the impact of hypertension on cardiovascular diseases is not limited to high-income countries but also affects low and middle-income countries (LMICs). (Boima et al,2015). found that approximately 7.5 million deaths worldwide are linked to hypertension annually, with a significant proportion occurring in LMICs. In sub-Saharan Africa, where the burden of hypertension is particularly high, individuals with hypertension are at an increased risk of cardiovascular diseases and premature death (Okai et al., 2020). The rising prevalence of hypertension in these regions, coupled with limited access to healthcare and suboptimal management, contributes to the increased burden of cardiovascular diseases and premature mortality (Boima et al., 2015). Addressing hypertension and its impact on cardiovascular health is crucial for reducing the burden of disease in both high-income and LMICs.

Low and middle-income countries (LMICs) are more prone to hypertension, which adds to the region's high disease burden. Studies have shown how common hypertension is in LMICs, particularly in sub-Saharan Africa. According to estimations ranging from 46% among individuals aged 25 and over,(Schutte et al,2019). found that the prevalence of hypertension in sub-Saharan Africa is higher than in other regions of the world. This shows that a sizable proportion of cases of hypertension occur in LMICs, highlighting the urgent requirement for efficient care and prevention methods in these settings.

Urbanization, increased life expectancy, and changing lifestyle factors have contributed to the rising prevalence of hypertension in LMICs. These regions have experienced rapid urbanization, leading to lifestyle changes such as sedentary behavior, unhealthy diets, and increased stress levels (Sanuade, Boatemaa, & Kushitor, 2018). These factors, coupled with limited access to healthcare and resources, have further exacerbated the prevalence of hypertension in LMICs. Bosu et al. (2019) found that the burden of hypertension is highest in people aged 45 to 69 years in Africa, with a prevalence of 57%. This age group is particularly vulnerable to the development of hypertension and its associated complications.

The high prevalence of hypertension in LMICs poses significant challenges for healthcare systems. Limited resources, inadequate healthcare infrastructure, and a lack of awareness contribute to sub optimal detection, treatment, and control of hypertension in these settings. Despite the increasing burden of hypertension, treatment and control rates remain inadequate in LMICs. Sanuade, Boatemaa, and Kushitor (2018) reported that in Ghana, less than half of adults with hypertension were on treatment, and only 23.8% had their blood pressure under control. These findings underscore the urgent need for targeted interventions to improve the prevention, diagnosis, and management of hypertension in LMICs.

Due to the disproportionately high prevalence of hypertension in Sub-Saharan Africa, the condition is a major public health issue in the area. Adults in sub-Saharan Africa have a significant prevalence of hypertension, according to studies. According to (Okai et al,2020), Africa is predicted to have a prevalence of hypertension among persons aged 25 and older of roughly 46%, which is much higher than the global average. The urgent need for focused measures to combat the rising prevalence of hypertension in sub-Saharan Africa is highlighted by this.

The high prevalence of hypertension in sub-Saharan Africa is caused by a number of causes. In the region, there has been an epidemiological transition with a shift towards non-communicable diseases like hypertension as a result of urbanization, westernized foods, sedentary lifestyles, and rising life expectancy (Schutte et al., 2019). These alterations in lifestyle, along with genetic predisposition, are a part of the rising prevalence of hypertension in sub-Saharan Africa.

Additionally, different sub-Saharan African nations have variable prevalence rates for hypertension. For example, Ghana has recorded prevalence rates of between 26% and 48% in urban regions and between 19% and 33% in rural areas (Okai et al., 2020; Tannor et al., 2022). Other countries in the region have seen comparable patterns. These variances emphasize the need for context-specific interventions that consider each country's socio-cultural, economic, and healthcare system aspects.

The high rate of hypertension in sub-Saharan Africa has serious repercussions. In the area, hypertension is a significant risk factor for cardiovascular diseases and early mortality. Heart disease, stroke, and kidney disorders are all more likely to manifest in people with hypertension (Tannor et al., 2022). Comprehensive initiatives for the prevention, early detection, and management of hypertension are required due to the burden these consequences have on the region's already scarce healthcare resources in sub-Saharan Africa.

2.2. Treatment Adherence in Hypertension

Patient compliance with medication is essential to achieving optimal blood pressure control and treating hypertension. Adherence to hypertension medications and advised lifestyle changes, however, continues to be a substantial difficulty. The degree to which patients comply to their doctor's orders for medicine, lead healthy lifestyles, and show up for visits is referred to as treatment adherence. Ineffective blood pressure control, an elevated risk of complications, and higher healthcare expenses have all been linked to poor medication adherence. For creating focused interventions and enhancing patient outcomes, it is essential to comprehend the elements that affect treatment adherence. This section of the literature review will examine the many patient-related, socioeconomic, healthcare system, and therapy-related aspects that impact treatment adherence in hypertension. Understanding these variables can help healthcare professionals and policymakers create plans to improve patient compliance with treatment, improve blood pressure control, and lessen the burden of consequences associated with hypertension.

To effectively manage hypertension and avoid related problems, treatment adherence is essential. It has been demonstrated that optimum antihypertensive medication adherence and lifestyle changes improve blood pressure control and lower the risk of cardiovascular events. The significance of treatment adherence in the management of hypertension has been underlined by numerous research. For instance, a study by (Schroeder et al,2017) showed that patients with better blood pressure control and a lower incidence of cardiovascular events compared to non-adherent patients had higher adherence to antihypertensive drugs. Similar to this, a systematic review by(Nieuwlaat et al,2014). discovered that increasing treatment adherence in hypertensive patients

resulted in a significant drop in blood pressure as well as a reduced risk of myocardial infarction and stroke.

In addition to blood pressure control, treatment adherence has also been associated with improved quality of life for hypertensive patients. A study by(Ho et al,2018) showed that patients who adhered to their medication regimens reported better physical and mental well-being, reduced symptoms, and enhanced overall health-related quality of life. Non-adherence, on the other hand, has been linked to increased healthcare utilization, higher healthcare costs, and a greater burden on healthcare systems (Bosworth et al., 2011; Chowdhury et al., 2017). This highlights the significant economic implications of poor treatment adherence in hypertension management.

Furthermore, treatment adherence in hypertension is a dynamic process that requires ongoing patient engagement and self-management. Patient education and empowerment have been recognized as key components in improving treatment adherence. By providing patients with accurate information about their condition, treatment options, and potential risks, healthcare providers can enhance patients' understanding and motivation to adhere to prescribed regimens. Self-efficacy, or the belief in one's ability to successfully manage the condition, has also been identified as a crucial factor influencing treatment adherence (Svensson et al., 2010). Empowering patients to take an active role in their treatment and involving them in shared decision-making processes can foster a sense of ownership and responsibility, leading to improved treatment adherence.

A theoretical framework that can offer insights into patient behavior and decision-making processes is necessary to comprehend the elements impacting medication adherence in the management of hypertension. Exploring treatment adherence in chronic illnesses like hypertension has been done using a variety of ideas and frameworks. The Health Belief Model (HBM), a widely used concept, contends that people's beliefs about the seriousness of their conditions, the benefits of treatment, and the perceived obstacles to adherence affect their health-related behaviors (Rosenstock, 1974). According to(Bosworth et al,2011; Morisky et al.,2008), the HBM has been used to study how patients' perceptions of the risks and consequences of uncontrolled blood pressure, the efficacy of antihypertensive medications, and the barriers to treatment adherence impact their adherence behaviors.

The Social Cognitive Theory (SCT), which emphasizes the role of self-efficacy in influencing behavior change (Bandura, 1977), is another significant theory in the area of treatment adherence. According to SCT, persons who have high self-efficacy are more likely to act in ways that promote good health, whereas those who have low self-efficacy may find it difficult to follow treatment plans. Self-efficacy has been proven to be a major predictor of medication adherence in the context of managing hypertension (Svensson et al., 2010). Patients who have confidence in their abilities to control their hypertension are more likely to practice self-care, take their medications as prescribed, and alter their lifestyles.

Another useful approach that has been used to analyze medication adherence in hypertension is the Theory of Planned Behavior (TPB). According to TPB, attitudes, subjective standards, and perceived behavioral control all impact people's intentions to engage in certain behaviors (Ajzen,

1991). TPB has been used to investigate how patients' attitudes toward medication, social influences, and perceived control over their treatment regimen effect their adherence behaviors in the context of managing hypertension (Al-Qazaz et al., 2010; Zhao et al., 2018). Understanding these elements enables healthcare professionals to design interventions that speak directly to the attitudes, norms, and self-perceived control of the patient, thereby fostering treatment adherence.

Additionally, the Chronic Care Model (CCM) offers a thorough framework for enhancing medication adherence in chronic illnesses like hypertension. According to (Wagner et al,1996), the CCM highlights the need for a proactive, patient-centered approach that includes a variety of elements such self-management assistance, delivery system restructuring, decision support, and community services. The CCM has been used to create interventions for the management of hypertension that improve patient self-management abilities, encourage collaboration and communication between patients and healthcare professionals, and support continuity of care (Petersen et al., 2015; Verberk et al., 2014).

2.3. Barriers to Treatment Adherence

Due to several obstacles that prevent patients from adhering to their recommended medication regimens, achieving adequate treatment adherence in the management of hypertension is frequently difficult. These obstacles can be divided into a variety of categories, such as patient-related problems, factors connected to the healthcare system, and socioeconomic reasons. Patient-related hurdles can be caused by a variety of things, including forgetfulness, a lack of understanding of how to manage hypertension, misconceptions about the recommended course of treatment, fear of adverse effects, and the complexity of prescription regimens. The motivation and capacity of patients to follow their treatment programs might be considerably impacted by

these obstacles (Krousel-Wood et al., 2009; Khatib et al., 2014). Contrarily, healthcare delivery-related difficulties such as poor patient-provider communication, restricted access to healthcare services, inadequate support for self-management, and disjointed care coordination are included in the category of healthcare system factors (Sabate, 2003; Agarwal et al., 2010). Finally, socioeconomic issues can make treatment non-adherence in vulnerable populations even worse (Dailey et al., 2012; Huffman et al., 2018). These factors include poor income, a lack of health insurance, restricted access to drugs, and transportation hurdles. Understanding these obstacles is crucial for creating efficient interventions that target the unique difficulties patients confront, raise medication adherence rates, and improve outcomes for the management of hypertension.

When it comes to people with hypertension, patient-related factors are quite important. These variables cover a broad spectrum of psychosocial and behavioral facets that affect patients' willingness and capacity to follow their recommended treatment strategies. Patients' knowledge and comprehension of hypertension and its treatment are crucial. Studies have indicated that patients are more prone to engage in poor adherence behaviors when they lack understanding about their ailment, its long-term effects, and the significance of medication adherence (Krousel-Wood et al., 2009; Correa-Rodrigues et al., 2018). Patients' attitudes and perceptions regarding hypertension and its management can also have a big impact on how well they adhere. Non-adherence can be attributed to a variety of factors, including misperceptions about drug effectiveness, worries about side effects, and doubts about the value of therapy (Krousel-Wood et al., 2009; Al-Qazaz et al., 2012). A decreased incidence of treatment adherence has also been linked to psychological problems such depression, anxiety, stress, and a lack of social support (Bosworth et al., 2008; Wang et al., 2013). These patient-related aspects underline how crucial it

is to fill in patients' information gaps, clear up their misconceptions, and offer psychosocial support to improve medication compliance in the management of hypertension.

The degree to which people with hypertension adhere to their therapy is significantly influenced by socioeconomic circumstances. These variables cover a wide range of areas, such as healthcare accessibility, employment, income, and education. Poorer adherence to hypertension medication has consistently been associated with lower socioeconomic status (Krousel-Wood et al., 2009; Correa-Rodrigues et al., 2018). Limited financial resources may make it difficult for patients to afford their prescription drugs, which will lead to non-adherence (Al-Qazaz et al., 2012). Furthermore, poor levels of education can lead to a lack of health literacy, making it difficult for people to comprehend treatment guidelines and practice self-care behaviors (Krousel-Wood et al., 2009; Bosworth et al., 2008). Employment situation can also affect treatment compliance because people who are stressed out at work or have unstable jobs may find it difficult to prioritize their health needs (Al-Qazaz et al., 2012; Wang et al., 2013). Additionally, crucial factors affecting treatment adherence include healthcare access and the availability of healthcare services. Regular follow-up and medicine refills may be hindered by difficult access to healthcare facilities, protracted wait times, and a distance from healthcare providers (Wang et al., 2013; Correa-Rodrigues et al., 2018). Promoting treatment adherence and enhancing the results of hypertension therapy require addressing these socioeconomic determinants.

The adherence of hypertension patients to their medication is significantly influenced by therapy-related factors. These variables cover a range of features of the recommended therapy, such as the drug schedule, side effects, complexity of the treatment strategy, and patients' attitudes and views

regarding medication. The frequency of administration and the number of tablets patients must take each day can have an impact on medication adherence (Gwadry-Sridhar et al., 2013). Patients may find it difficult to continuously follow treatment strategies that require various drugs or lifestyle changes (Sabate, 2003). Adherence to antihypertensive drugs might also be impacted by the perceived or actual side effects. Patients may stop taking their prescribed medication or alter it if they experience common adverse effects such lethargy, vertigo, or sexual dysfunction (Gwadry-Sridhar et al., 2013; Naderi et al., 2018).

Adherence is also affected by patients' attitudes and opinions about their medications. Non-adherence might be caused by unfavorable perceptions about the requirement of treatment or worries about potential negative effects (Bosworth et al., 2008; Khatib et al., 2014). To improve treatment adherence and optimize hypertension management results, it is critical to address these therapy-related aspects and customize treatment programs to individual patients' requirements and preferences.

Treatment adherence among hypertensive patients is significantly impacted by factors relating to the healthcare system and healthcare providers. These characteristics cover a range of healthcare system components, such as the standard of healthcare services, the accessibility of healthcare facilities, the relationship between patients and healthcare practitioners, and people' confidence in the healthcare system. Patients' trust in the healthcare system and their adherence to recommended therapies can be impacted by the quality of healthcare services, including the availability of necessary resources, appropriate diagnostic procedures, and effective treatment monitoring (Khatib et al., 2014; Pladevall et al., 2004). Treatment adherence can also be impacted by the

accessibility of healthcare facilities, including the proximity of clinics or pharmacies, available transportation, and the cost of healthcare services (Gwadry-Sridhar et al., 2013).

Effective patient-provider communication is essential for promoting patient participation, clarifying treatment objectives, and addressing any worries or misconceptions patients may have about therapy (Sabate, 2003). For patients to feel confident in the recommended therapy and adhere to the suggested regimen, they must have faith in the healthcare system and its professionals (Pladevall et al., 2004). Healthcare systems can increase treatment adherence and improve the outcomes of hypertension management by addressing these aspects relevant to the health system and healthcare providers.

When it comes to people with hypertension and medication adherence, condition-related factors are extremely important. The characteristics and makeup of the illness itself, such as its symptoms, perceived severity, and the perceived advantages of therapy, are included in these categories. Patients' willingness to stick with treatment can be strongly impacted by symptoms including headaches, vertigo, or exhaustion (Tajeu et al., 2014). According to Tajeu et al. (2014), patients who have troublesome symptoms are more likely to be motivated to control their hypertension and adhere to recommended medications. Treatment compliance can also be affected by the perceived severity of hypertension, including knowledge of the risks and potential problems linked to uncontrolled blood pressure.

People are more likely to stick with therapy if they view hypertension as a serious medical illness and understand the potential side effects (Burnier et al., 2016; Hill et al., 2013). Patients' adherence habits can also be influenced by their perceptions about the advantages of their therapy, such as

how well their medications work to regulate their blood pressure and prevent problems (Burnier et al., 2016; Sabate, 2003). For healthcare professionals to customize interventions and educational efforts to suit patients' unique needs, beliefs, and perceptions linked to their hypertension management, it is imperative that they have a thorough understanding of these condition-related aspects.

2.4. Strategies to Enhance Treatment Adherence

The management of hypertension and improvement of patient medication-taking habits depend on effective treatment adherence strategies. The complexity of treatment adherence has been addressed using several different strategies. Patient education and counseling is one efficient tactic that gives people in-depth knowledge of hypertension, its side effects, and the significance of adhering to recommended medicines (Ogedegbe et al., 2015; Haynes et al., 2008). Also, adherence rates have improved with reminder systems, such as phone calls, text messages, or pill organizers (Bobrow et al., 2016; Thakkar et al., 2016). Another tactic is to make pharmaceutical regimens simpler by cutting back on the number of pills and how frequently they need to be taken, as complex regimens can be overwhelming for patients and encourage non-adherence (Choudhry et al., 2011; Crowley et al., 2014). Involving family members or other caregivers in the therapeutic process can also offer patients encouragement and support, which improves adherence (Khatib et al., 2013; Ogedegbe et al., 2015). Healthcare professionals can successfully encourage medication adherence and enhance the health of hypertensive patients by putting these techniques into practice.

Interventions focused on patient empowerment and education are essential for increasing treatment compliance in people with hypertension. These treatments are designed to provide patients with the information, abilities, and self-assurance they need to actively participate in their own care. The use of educational materials, such as leaflets, brochures, and movies, to spread awareness of hypertension, its management, and the value of adherence is one successful strategy (Figueiras et al., 2011; Bosworth et al., 2011). To improve patients' comprehension and engagement with the information, these materials can be modified to reflect the literacy levels and cultural backgrounds of the patients.

Increased treatment compliance in hypertensive patients requires interventions that emphasize patient empowerment and education. These therapies are intended to provide patients the knowledge, skills, and confidence they require in order to actively participate in their own care. One effective tactic for raising awareness about hypertension, its management, and the importance of adherence is the employment of educational materials such pamphlets, brochures, and movies (Figueiras et al., 2011; Bosworth et al., 2011). These materials can be changed to suit the patients' literacy levels and cultural backgrounds to increase comprehension and engagement with the information.

Additionally, empowering patients through joint decision-making procedures can enhance therapy compliance. In shared decision-making, patients and healthcare professionals work together to develop treatment plans based on the preferences, values, and treatment objectives of the patients (Stiggelbout et al., 2012; Mulley et al., 2012). This method encourages a sense of ownership and responsibility by acknowledging patients as active partners in their care. Healthcare professionals

can accommodate patients' unique requirements, preferences, and barriers by including them in treatment decision-making, which improves adherence and treatment results.

Another successful approach in patient education and empowerment initiatives is self-management. Through education, goal setting, problem-solving techniques, and self-monitoring, these programs enable patients to actively participate in treating their hypertension (Bosworth et al., 2011; Ogedegbe et al., 2015). Self-management programs might involve lifestyle changes like dietary adjustments, increased physical activity, stress management methods, and medication adherence measures. These programs give patients the knowledge and assistance they need to decide wisely and practice self-care, increasing their adherence to treatment plans.

Individuals with hypertension who use behavioral interventions are more likely to adhere to their treatment regimens. These interventions seek to alter the habits and behaviors of patients to encourage regular adherence to treatment plans. Use of prompts and reminders is one successful behavioral intervention. To remind patients to take their medications or do self-care tasks, these can be given to them via text messages, phone calls, or electronic reminders (Vervloet et al., 2012; Thakkar et al., 2016). Reminders can be tailored to the preferences and schedules of the patient, ensuring that they receive prompts and cues for adherence at the appropriate times. Additionally, the usage of medication calendars and pill organizers can assist patients in managing their medications and monitoring their adherence by offering visual signals and structure to enhance adherence behaviors (Zedler et al., 2013).

The establishment of adherence contracts or agreements between patients and healthcare professionals is another behavioral intervention. Specific treatment objectives, expectations, and penalties for non-adherence are outlined in these contracts (Schedlbauer et al., 2010; Kreys et al.,

2017). Adherence contracts foster a sense of accountability and responsibility by involving patients in the process of creating goals and outlining the repercussions of non-adherence. You can organize routine follow-up meetings to evaluate your progress, talk about your issues, and reinforce your adherence practices. Adherence contracts give patients a clear framework for actively participating in their care, boosting their motivation and dedication to adherence.

Additionally, behavioral coaching and counseling have demonstrated efficacy in enhancing treatment adherence. According to (Murray et al,2012;Schoenthaler et al. (2013), these interventions entail one-on-one or group sessions with healthcare professionals skilled in behavior modification strategies. Providers can evaluate patients' adherence challenges, pinpoint potential fixes, and create tailored behavior change plans during counseling sessions. The use of motivational interviewing strategies can help patients feel more intrinsically motivated, deal with ambivalence, and change their behavior (Miller and Rollnick, 2012). Patients who receive behavioral counseling or coaching receive on-going assistance, direction, and skills that will help them overcome obstacles and form adherence behaviors that will last.

Social support is also very important for increasing treatment adherence. Peer support initiatives, such as buddy systems or support groups, link patients with people going through comparable experiences (Dunbar-Jacob et al., 2008; Daley et al., 2015). Peer support offers a forum for exchanging knowledge, coping mechanisms, and emotional support, which can promote a sense of community and motivation to stick with treatment. As family members can offer reminders, encouragement, and help in adhering to prescription regimens and lifestyle modifications, family involvement and support also help to promote adherence (Conn et al., 2010; Ho et al., 2014). Social

support programs use social networks to encourage adherence because they are aware of how they affect patients' actions.

Medication management programs are a useful tactic to improve treatment compliance in hypertensive patients. These initiatives center on enhancing pharmaceutical use, enhancing awareness of prescription medications, and removing obstacles to medication adherence. Medication education is a part of programs for medication management. Patients can be empowered to make knowledgeable decisions and actively participate in their treatment when given thorough information on medications, including their purpose, dose, potential adverse effects, and proper administration (Carter et al., 2010; Macharia et al., 2014). To accommodate patients' varied learning preferences, education can be provided through a variety of channels, including in-person consultations, textual materials, multimedia tools, or digital platforms.

Medication reminders and adherence support tools are frequently included in medication management programs in addition to education. Alarm clocks, smartphone apps, or other electronic devices that signify the right time to take medication can serve as these reminders (Hedegaard et al., 2011; Guénette et al., 2012). The complexity and stress of medication management can be lessened by using automated medicine dispensers to arrange and deliver medications at predetermined periods (Mason et al., 2010; Osterberg and Blaschke, 2011). These prompts and assistance act as reminders for patients, making it easier for them to remember to take their prescriptions as directed and follow the suggested schedule.

Programs for medication management may also include protocols for drug review and reconciliation. Medication reconciliation lowers the possibility of medication errors or omissions by ensuring that patients' medication lists are correct and current (Mekonnen et al., 2016; Mueller

et al., 2018). Regular medication reviews by medical professionals allow for the evaluation of medication appropriateness, the detection of potential drug interactions, and, if necessary, the modification of treatment regimens (Farris et al., 2017; Al-Jumaili et al., 2019). These procedures aid in the improvement of patient safety, the optimization of drug therapy, and the reduction of obstacles that can impair treatment compliance.

Interventions in the health system are essential for improving treatment compliance in people with hypertension. In order to promote patient participation, accessibility, and continuity of care, these initiatives concentrate on enhancing the overall healthcare delivery system. The use of interdisciplinary care teams is one efficient health system intervention. In terms of enhancing medication adherence and blood pressure control, collaborative care models combining healthcare professionals from various specialties, such as doctors, nurses, pharmacists, and allied health workers, have demonstrated promising results (Bosworth et al., 2011; Logan et al., 2018). These teams offer thorough evaluation, individualized care planning, and continuing patient support, ensuring a comprehensive approach to the management of hypertension.

Furthermore, by enhancing coordination and communication among healthcare practitioners, the integration of electronic health record (EHR) systems might improve treatment adherence. EHR systems make it easier to share patient data throughout various healthcare facilities, including medication lists, lab results, and treatment plans (Mosen et al., 2012; Bokhour et al., 2018). In especially for patients receiving care from several healthcare facilities or providers, this integration lowers the possibility of medication errors, improves medication reconciliation procedures, and allows for seamless care transitions.

Implementing rules and guidelines to support evidence-based practices and quality improvement programs is another aspect of health system interventions. National or local guidelines for managing hypertension offer standardized advice to medical professionals, guaranteeing consistent and effective care (James et al., 2014; NICE, 2019). Healthcare professionals are motivated to enhance treatment outcomes, including adherence rates, by quality improvement initiatives such pay-for-performance programs or performance feedback systems (Baskerville et al., 2015; Hogg et al., 2018). These laws and programs support healthcare professionals by encouraging adherence-focused treatment and ongoing quality improvement.

Additionally, a key element of health system interventions to improve treatment adherence is the provision of patient-centered care. According to(Epstein and Street Jr,(2011; Scholl et al,2018), patient-centered care stresses patients' active participation in their own care while considering their preferences, values, and goals. A collaborative approach to therapy is made possible through shared decision-making between patients and healthcare professionals, which gives patients a sense of ownership and empowerment. Motivational interviewing, goal setting, and action planning are examples of patient-centered therapies that have been shown to improve treatment adherence and patient satisfaction (Miller and Rollnick, 2012; Schmittdiel et al., 2017).

In addition, health system interventions may involve giving patients access to tools and support services to help them get over obstacles to adherence. These services may include access to community resources, self-management assistance, and patient education programs (Kripalani et al., 2014; Ogedegbe et al., 2018). These interventions aim to improve patient self-efficacy, problem-solving skills, and resilience in controlling their hypertension and sticking to treatment regimens by providing them with knowledge, skills, and useful tools.

2.5. Contextual Factors and Treatment Adherence

People with hypertension are significantly impacted by contextual factors when it comes to medication adherence. These variables cover a broad spectrum of social, cultural, and environmental aspects that affect how people behave and adhere to rules. Developing specialized interventions that address the particular needs and difficulties of varied populations requires a thorough understanding of the contextual elements that affect treatment adherence. Researchers and healthcare professionals can learn a great deal about the intricate interactions between these characteristics and treatment adherence by looking at the larger socio-cultural, economic, and healthcare system contexts. The context-related factors that affect medication adherence in the management of hypertension are examined in this portion of the literature review, shedding light on the many components that must be considered when developing efficient adherence strategies. Individuals' views, attitudes, and behaviors—including their adherence to hypertension treatment—are greatly influenced by their cultural background. Cultural norms, attitudes, and traditions can have a big impact on how people view and interact with healthcare, particularly adherence to medicine. The influence of culture on treatment adherence in the management of hypertension has been addressed in numerous research. For instance, (Bokhour et al,2010) investigated the impact of cultural practices and beliefs on the adherence to treatment among African American patients with hypertension. The results showed that cultural factors like the way people see sickness, their level of faith in medical professionals, and their dependence on complementary and alternative therapies affected how people took their medications. Like the previous study,(Schoenthaler et al, 2012) looked at cultural aspects that may affect the way Hispanic/Latino patients with hypertension adhere to their drug regimens. The study highlighted cultural norms associated with medicine use, language difficulties, and health attitudes as

significant drivers of adherence. These studies emphasize the value of considering cultural factors while comprehending and addressing treatment adherence in hypertension management.

Additionally, local customs and norms around sickness management and health-seeking behavior can affect how well patients adhere to their treatments. For instance, certain cultures may view getting medical attention or taking medication as a show of weakness or a loss of independence, which might hinder adherence. On the other hand, cultural values that place a high value on family, community, and health can have a favorable effect on adherence behaviors.(Ogedegbe et al,2012) conducted a study to investigate the influence of cultural factors on the hypertension medication adherence of African immigrants. The results showed that cultural values, such as collectivism, social support, and religious convictions, were especially important in encouraging adherence to medical regimens. These findings emphasize the significance of considering cultural aspects and customizing adherence programs to correspond with patients' cultural values and customs.

It is critical to remember that culture is a dynamic and diverse construct influenced by a range of elements, including acculturation, social status, and varied racial and religious affiliations. Therefore, healthcare professionals must adopt a culturally sensitive strategy that respects patients' cultural backgrounds and preferences as well as the diversity that exists within different cultural groups. Healthcare professionals can promote trust, improve communication, and create interventions that are culturally relevant and successful in increasing treatment adherence by integrating cultural competency into hypertension management. The development of culturally appropriate therapies aiming at enhancing treatment adherence across various populations with hypertension should be guided by future research that further examines the influence of cultural characteristics and their interplay with other contextual factors.

Social norms play a crucial influence in determining how people behave and can have a big impact on how well people follow their treatment plans when managing their hypertension. These norms are the unspoken guidelines that direct people's behavior and decisions inside a society or social group. For the purpose of creating successful interventions that take into account the social context in which patients live, it is imperative to comprehend the impact of social norms on treatment adherence.

The effect of social norms on treatment adherence in hypertension has been examined in a number of studies. For instance, a research by (Choudhry et al,2011) looked at how peer standards affected individuals with chronic diseases like hypertension's adherence to their medication. According to the research, individuals were more likely to stick to their own treatment plans when they believed that their peers were taking their medications as prescribed. This shows that social norms regarding medicine adherence can have a favorable or negative impact on an individual's adherence behaviors and that people are impacted by the attitudes and behaviors of others around them.

Additionally, social support networks and family relationships can have a big impact on how well people stick to their treatments. In a study,by (Ruppar et al,2017) which highlighted the importance of family support for individuals with hypertension in maintaining medication adherence. According to the study, patients who received support, reassurance, and helpful advice from their family members were more likely to follow their treatment regimens as directed. On the other side, decreased adherence rates were linked to family disputes or negative attitudes regarding medication adherence. These results emphasize the significance of considering social and familial networks as influencing elements in treatment adherence and the development of therapies that involve and utilize social support networks to encourage adherence.

Social norms around healthy lifestyle choices, like diet and exercise, also interact with treatment compliance in the treatment of hypertension. In a study published in 2014, Chen et al. investigated how social norms affected individuals with hypertension's self-care practices. The results showed that people's beliefs of societal norms about healthy lifestyle practices, like maintaining a low salt diet or exercising frequently, affected their actual adherence to these practices. Patients who believed that healthy habits were strongly valued in society were more likely to conduct self-care and follow their treatment regimens.

It is crucial to understand that social norms might differ amongst various cultural, racial, and socioeconomic groups. For instance, cultural norms concerning food preferences, mealtime customs, and social events can have a big impact on how closely people with hypertension stick to their diets. Similar to how social norms can influence treatment adherence, socioeconomic issues like income inequality and access to healthcare resources can do so as well. The development of focused therapies that address the social context and encourage adherence behaviors can be guided by an understanding of the distinctive social norms within particular communities.

To improve patient outcomes in the management of hypertension, healthcare systems must play a significant role in influencing treatment adherence. Healthcare regulations, organizational structures, healthcare providers, and the provision of healthcare services are just a few examples of the different components that make up healthcare systems. In order to spot potential obstacles and create plans to improve adherence habits, it is crucial to comprehend how healthcare systems affect treatment adherence.

The accessibility and availability of healthcare services is a crucial component of healthcare systems. According to studies, treatment adherence can be significantly impacted by limited access to healthcare services, including excessive wait times, a deficient healthcare infrastructure, and a lack of resources (Osterberg and Blaschke, 2005). Patients can experience difficulties getting timely medical appointments or accessing their prescribed drugs, which would disrupt their adherence to their treatment plan. Treatment adherence can be positively impacted by increasing the accessibility and availability of healthcare services through enhanced healthcare infrastructure, streamlined appointment scheduling processes, and efficient drug supply chains.

The effectiveness of healthcare delivery also has a big impact on how well patients follow their treatments. In a study published in 2012, Gadkari and McHorney stressed the value of collaborative decision-making and communication between patients and healthcare providers in fostering treatment adherence. Effective patient-provider communication helps patients comprehend treatment plans better, resolves their concerns, and forges a cooperative partnership. Additionally, adherence habits are promoted by healthcare providers' knowledge and expertise in managing hypertension, including medication administration and lifestyle counseling. Training programs and ongoing medical education can help healthcare professionals become better at encouraging patients to follow treatment recommendations.

Treatment adherence can also be impacted by healthcare regulations and payment structures. For instance, the availability of health insurance coverage and the reimbursement procedures for prescription drugs and medical services may have an impact on the accessibility and affordability of treatment for patients (Goldman et al., 2018). Patients may be discouraged from following their treatment plans if they have high out-of-pocket expenses or scant insurance coverage. On the other

hand, policies that enable easy access to pharmaceuticals, put into place reimbursement models that support adherence, and offer financial assistance programs can have a good impact on treatment adherence.

Treatment adherence may be improved by using technology and electronic health records (EHRs) in healthcare systems. The promotion of adherence habits has shown promise when using electronic reminders, smartphone applications, and telemedicine platforms (Thakkar et al., 2016). These technological solutions can offer remote monitoring, educational materials, and prescription reminders, boosting patient participation and condition self-management. Integration of EHR systems can also enhance care coordination between medical specialists, minimizing treatment gaps and enhancing adherence.

Additionally, the organizational climate and culture inside healthcare institutions might affect how well patients adhere to their treatments. Treatment adherence habits can be positively influenced by a supportive, patient-centered culture that prioritizes patient engagement and values adherence (De Geest et al., 2018). A culture of adherence within healthcare systems can be fostered by organizational initiatives that support compliance, such as quality improvement initiatives, interdisciplinary care teams, and patient education initiatives.

2.6. Conclusion

In summary, this literature review offers a thorough analysis of the numerous aspects affecting medication adherence in the management of hypertension. The study emphasizes how common hypertension is worldwide and how it affects cardiovascular illnesses and early mortality. It investigates how common hypertension is in low- and middle-income nations, with a specific emphasis on sub-Saharan Africa. The review also discusses the significance of treatment

adherence and lists patient-related, socioeconomic, therapy-related, health system-related, and condition-related aspects that may impact adherence behaviors. There is discussion of methods to improve treatment compliance, such as patient empowerment and education, behavioral interventions, medication management plans, and health system interventions. The paper also discusses how context—including culture, social norms, and healthcare systems—affects how well people adhere to their treatments. Overall, this review highlights the complexity of medication adherence and the necessity for multimodal treatments to enhance adherence habits and maximize the effectiveness of hypertension management.

CHAPTER 3

3.0. Methodology

3.1. Research Methods and Design

Research Methods

This study's research methodology, which uses a qualitative approach, strives to investigate and obtain in-depth understanding of the subject under study (Guba & Lincoln, 1994). Understanding complex phenomena and capturing the individualized feelings, perceptions, and behaviors are two areas where qualitative research excels (Creswell, 2013).

Design

This study aims to identify the obstacles to treatment adherence among hypertension patients and investigate the factors influencing their compliance by using qualitative methodologies. The qualitative method enables the study of the lived experiences of the participants and the complexity surrounding treatment adherence in the management of hypertension by enabling a comprehensive and in-depth understanding of their viewpoints (Patton, 2002). This methodological decision is consistent with the research goal of acquiring a thorough understanding of the phenomenon and offering insightful information to enhance treatment adherence tactics.

3.2. Data Collection Techniques and Tools

The participants will be individually interviewed to gather data for this study. Direct connection with the participants is made possible by the data collecting method of interviews, allowing for an in-depth examination of their experiences, convictions, and actions in relation to treatment adherence in hypertension (Rubin & Rubin, 2011). To guarantee consistency and concentration throughout the interview process, a guide would be created. The instruction manual would have questions on a variety of topics, including demographics, the history of hypertension, medication

adherence, and things that affect treatment adherence. To encourage candid and open responses from the participants, the interview sessions would be held in a quiet and relaxing environment. To ensure that the data is accurately captured, the interviews will be audio-recorded with the participants' permission and afterwards transcribed for analysis (Fontana & Frey, 2005).

3.3. Study Population

Patients utilizing the out-patient department of Boso Health Centre for hypertension treatment will be the population for the study.

3.4. Study Variables

To investigate the elements influencing medication adherence in the management of hypertension, the study would take into account a number of variables. The study's independent variables include aspects of the patient (such as socioeconomic status and knowledge of hypertension), aspects of the healthcare system (such as medication availability and healthcare provider support), aspects of the therapy (such as medication side effects and treatment complexity), aspects of the environment (such as cultural beliefs and social norms), and aspects of interventions to improve treatment adherence (such as patient education and behavioral interventions). We would look at these factors in connection to the treatment adherence dependent variable. Based on patients' self-reported adherence to prescribed drugs, lifestyle changes, and routine follow-up appointments, treatment adherence would be evaluated. The study intends to discover the major factors and linkages that affect treatment adherence in hypertension by looking at these variables. This would provide important insights for creating effective interventions and strategies to raise adherence rates.

3.5. Sampling

Considering that the study population is well defined, and the study is a qualitative study, the researcher would use a non-probability sampling technique. Specifically, the purposive

sampling technique would be used. The researcher would approach and interview consenting hypertensive patients until saturation is achieved. Baker and Edwards, 2012 suggest aiming for a sample size of 30 for qualitative research, thus the researcher would sample 30 patients for the study.

3.6. Pre-Testing

Pretesting of the interview guide will be conducted at the Anum Salvation Army Clinic. The facility also sees hypertension cases on regular basis. Anum is a twin community of Boso and the people are predominantly farmers. Results from the pretesting will not be included in the analysis. The aim of the pretesting is to know the length of time an interview will take, the guide's reliability, an evaluation of respondents' comprehension of the guide, as well as make any changes and corrections before the data collection begins.

3.7. Data Handling

To ensure the organization, security, and confidentiality of the acquired data, data handling procedures will be put into place. First off, every interview would be recorded and given a special identifying code. The verbatim transcriptions of these recordings would then be kept in a safe storage system, such Google Drive, to make data management and accessibility easier. No personally identifiable information would be gathered during the interviews in order to guarantee confidentiality. Participants would be recognized instead by their special codes. The research team would be the only ones with access to the transcripts and any other data gathered, such as field notes or observation logs. Throughout the research process, data processing will abide by ethical standards and regulations to ensure the confidentiality and identity of the participants.

3.8. Data Analysis

To understand and reach the objectives of the study, data would be analyzed using the thematic approach by Atlas Ti. This would help to identify trends, patterns and correlations and the frequency of the words used. This would be done by reading the interview transcripts as many times as possible and coding pertinent information. Codes similar concepts would be categorized and these categories would be given themes for reporting the findings.

3.9. Ethical Consideration

This researcher would seek approval from the Institutional Review Board of the Ensign Global College, an ethical clearance from the District Health Directorate and the Boso Health Center study. Respondents would be informed about the study's purpose and consent sought before any interview. They would be allowed to withdraw if they so choose and would not be forced against their will. Any information regarding the identity of the respondents would not be required in order to ensure anonymity and confidentiality.

3.10. Limitations of Study

It is vital to recognize some limitations even though this study intends to offer insightful information about the obstacles to treatment adherence among hypertension patients. First, the study would be carried out in a specific location, concentrating on patients visiting the Boso Health Center's outpatient department. The results might not thus apply to other demographics or healthcare environments. Second, with only 30 participants, the sample size for this qualitative study is quite small, which can reduce the findings' diversity and representativeness. The study also relies on participant self-reports, which increases the possibility of recollection bias or social desirability bias. Finally, because this was a qualitative study, the researchers' interpretations may have influenced the results. Despite these drawbacks, the study would offer insightful

recommendations for enhancing patient outcomes and useful insights into the context-specific barriers to treatment adherence in hypertension.

CHAPTER 4

4.0 RESULTS

4.1 Introduction

The emphasis in this chapter switches to the main objective of the study project, which is to report and analyze the conclusions reached after a thorough investigation of the experiences of people with hypertension. These results come from a thorough examination of the information gathered through in-depth interviews, giving us important new information about the complex issues surrounding hypertension, self-care, monitoring techniques, and the function of social support. We will make linkages to previous work as we go into the specifics of these findings, highlighting areas of agreement and disagreement. This chapter is a vital link between the participant's experiences and the larger framework of hypertension research. We hope to further acknowledge the difficulties participants faces, the solutions they use, and the resources that affect their journey by delving deeply into their experiences. This chapter's main objective is to shed light on the lived experiences of people with hypertension, opening the door to a thorough conversation that will help guide recommendations for better healthcare strategies and supportive measures.

4.2 Socio-demographic characteristics of respondents

A total of 32 respondents were involved in this study. About half of the respondents (53.1%) were between the ages of 38 and 74 whereas majority of the respondents were females (71.9%). The majority of the respondents (56%) were married and most of the respondents were Christian (96.9%). Most of the respondents had attained basic education status (75.0%). Approximately half of the respondents were not working (53.1%).

Table 1: Socio-demographics

Variables	Frequency (N=32)	Percentage (%)
Age		
38-74	17	53.1
75 and above	15	46.9
Sex		
Male	9	28.1
Female	23	71.9
Marital status		
Single	18	56.3
Married	11	34.9
Divorced	3	9.4
Religion		
Christianity	31	96.9
African Traditional Religion (ATR)	1	3.1
Educational level		
No education	4	12.5
Basic education	24	75.0
Tertiary	4	12.5
Occupation		
Not working	17	53.1
Working	15	46.9

4.3 Description of themes, sub-themes, and codes

In the analysis of this study, several codes were extracted, combined, and yielded three main themes, eleven sub-themes and several codes. The main themes were the Hypertension lived experience, Adherence to medication, and Social support. Sub-themes that emerged from the interview include; Triggering events and diagnosis, Preventive measures and lifestyle changes, Treatment and management of hypertension, Emotional impact and coping strategies, Complications and health impact, Perceived preventive measures, Self-care and monitoring and Sources of information.

Table 2: Coding frame for themes, sub-themes, and codes organization

Global theme	Sub-theme	Codes
Hypertension lived experience		
	• **Triggering events and diagnosis**	
		Nose bleeding Excessive sweating Went into coma Fell ill No triggers
	• **Preventive measures and lifestyle changes**	
		Healthy eating Stop unhealthy eating Physical activity Healthy lifestyle Stop overthinking Avoid anger
	• **Treatment and manageme**	
		Duration on drugs No alternative treatment Source of medication
	• **Emotional impact and coping strategies**	
		Unbothered Not afraid Rely on God
	• **Complication and health impact**	
		Anger Low libido Death
	• **Perceived preventive measures**	
		Hospital attendance Healthy eating Medication
	• **Self-care and monitoring**	
		BP monitoring at home Weight check Examine feet No self-monitoring
	• **Sources of information**	
		Television

	Hospital
	Friends
	Radio

Source: field data, (2023)

4.4 Triggering events and diagnosis

In the context of people with lived experiences of hypertension, the theme of "Triggering Events and Diagnosis" examines the particular incidents, signs, or symptoms that prompted people to seek medical help and eventually resulted in a diagnosis of hypertension. The respondents' answers provided insight into the various ways the problem presented itself and motivated them to take action.

Nose bleeding;

"My nose started bleeding, that is how it was discovered that it was BP" (Respondent 11)

"It started when blood started coming from my nose one day when I woke up." (Respondent 1)

Excessive sweating;

"Before I got to know, my heart will beat fast and I will be sweating to the extent that what I am wearing gets soaked with sweat. When I am going to sleep, I keep about two, or three napkins by me for the sweat. They all get soaked by the next morning. So, I decided to go for a check-up at the hospital, and I was told I had BP. That's when I started taking the BP medication."

(Respondent 16)

"I didn't know I had it. I was doing something and I felt dizzy. I sat down for a while and I was also sweating profusely so I decided to go to the hospital." (Respondent 27)

Went into a coma;

"When it happened, I went into a coma and I was brought here". (Respondent 22)

Fell ill;

"Yes, I didn't even know what was called BP. I was sick and I went to the hospital and I was diagnosed." (Respondent 27)

A respondent communicated that there were no triggers. The respondent first became aware of the condition during a normal hospital visit. They had long-term hypertension, which emphasizes the value of routine health examinations in identifying and treating chronic illnesses.

No triggers;

"Mmmm. When it started, I did not realize, and there was nothing wrong with me. I went to the clinic and I was tested." (Respondent 30)

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The above significant reactions show the importance of physical feelings, symptoms, and anomalies in motivating people to seek medical attention and ultimately be diagnosed with hypertension. The precipitating factors, such as irregular nasal bleeding, heavy sweating, a quick heartbeat, and strange physical feelings, served as crucial indications for additional research and

medical care. The respondents' personal experiences highlight the significance of listening to one's body and getting medical attention right away if any unexpected symptoms appear. This can help with the early detection and treatment of hypertension.

4.5 Preventive measures and lifestyle changes

The "Preventive measures and Lifestyle Changes" theme explores how participants feel about whether hypertension can be stopped as well as the lifestyle changes, they think are required to reduce the risk or treat the condition. The responses provided insight into the respondents' knowledge of how lifestyle variables contribute to hypertension and their attempts to develop healthy habits.

Several major responses from the respondents exemplify this theme:

Healthy eating;

"If you stop thinking and taking some foods which you know are not good for you." (Respondent 27)

"Poor dieting fatty food and late eating, alcohol and salty food are some of the causes I know...Yes it can be prevented." (Respondent 20)

The answers list numerous aspects of their way of life that they feel contribute to hypertension. Their response emphasizes the necessity to abstain from particular food practices and alcohol use, supporting their claim that the disease is preventable.

Stop unhealthy eating;

"Poor diet...Yes it can." (Respondent 4)

These brief responses demonstrate the respondents' conviction that dietary changes can help lower blood pressure. They emphasize the possibility of prevention by making healthier food choices while acknowledging the fact that a bad diet plays a role in the emergence of hypertension

Physical activity;

"No, I haven't. For exercise I do it a lot, I do a lot of walking (laughs)." (Respondent 11)*

Healthy lifestyle;

"Yes it can, you have to take your medications and stop the lifestyle that causes it." (Respondent 11)

The reply here recognizes the link between hypertension and lifestyle choices. To effectively prevent or control hypertension, they stress the significance of both drug adherence and addressing underlying lifestyle variables.

Overthinking;

"Thinking too much...Yes it can." (Respondent 17)

Anger;

"So for instance, if you have anger issues or you have a misunderstanding with someone, you don't have to get angry. You just have to ignore the person….." (Respondent 20)

This response emphasizes how psychological variables, like excessive concern or overthinking and anger issues, can contribute to hypertension. The respondent's conviction in its preventability highlights the importance of treating mental health and stress management as part of a comprehensive strategy for avoiding hypertension.

4.6 Treatment and management of hypertension

The "Treatment and Management" subject is centered on the participants' thoughts and experiences with their treatments and management techniques to control their hypertension. This theme sheds light on how the respondents view their course of treatment, the efficacy of medical interventions, and the difficulties they encounter in sticking to recommended regimens.

Several significant responses from the respondents exemplify this theme:

Duration on drugs;

"I have been on my drugs for 31 years now...I take my medications once a day as prescribed."

(*Respondent 6)*

This response emphasizes how the respondent's treatment journey has been lengthy, spanning more than three decades.

No alternative treatment/source of medication;

No, I don't take any other medicine. (Respondent 12)

"Only that at the hospital, no other treatment...Once a day." (Respondent 15)

This response reveals the respondent's confidence in the medical treatments given by medical personnel. They follow the recommended treatment plan, as evidenced by their once-daily drug schedule, which helps them properly manage their hypertension. All of these comments highlight the importance of medical interventions in treating and controlling hypertension.

4.7 Emotional impact and coping strategies

The topic of "Emotional Impact and Coping Strategies" focuses on the participants' emotional reactions and coping strategies for managing their hypertension. This issue sheds light on the emotional challenges people with chronic conditions encounter and the solutions they use to manage their emotional wellbeing. It also offers insights into the psychological aspects of living with a chronic condition.

Selected responses that align with this theme include:

Unbothered;

"I am not worried or sad...I am not worried about it." (Respondent 8)

Oh, I'm not afraid." (Respondent 11)

"Oh, for death, it is there for everyone. So, if God calls me, I will just go." (Respondent 12)

Not afraid;

"I was scared by then but not anymore." (Respondent 20)

"...I don't have any fears or worries." (Respondent 13)

This response shows that the person is emotionally detached and unconcerned. Their coping mechanism of reducing emotional suffering is highlighted by their capacity to retain a positive emotional attitude and not be unduly concerned about their situation.

Some respondents also expressed how their religious faith helps them emotionally.

Rely on God;

"I'm not scared, I only look up to God." (Respondent 21)

"I take my Bible and read." (Respondent 29)

These replies show the range of coping strategies and emotional reactions that individuals use to deal with the difficulties of having high blood pressure. While some people choose alternative strategies like herbal medicine, others show a resilient attitude and indicate little concern or dread. The theme emphasizes the value of emotional health and the numerous techniques individuals use

to control their emotional reactions in order to keep a stable and upbeat outlook while managing their illness.

4.8 Complications and health impact

The "Complications and Health Impacts" theme is concerned with how individuals perceive and deal with potential health issues associated with hypertension. This subject illuminates the participants' comprehension of managing these potential problems and how hypertension affects their overall health and well-being.

Selected responses that align with this theme include:

Anger;

"Death and anger...No I have not." (Respondent 12)

The respondent's linkage of hypertension with the threat of death and their admission that they haven't had any complications indicate that they are more cognizant of the condition's potential severity. The mention of feelings like fury highlights the emotional toll that realizing such grave repercussions takes.

Low libido;

“Some help but some don’t. The thing is as for some of the medicines, although I can’t mention their names, they do help. Especially, we the males. But if you take it too much, your libido reduces but we don’t know the names. We’ll appreciate it if they change those ones so that can help us

This respondent highlighted on a complication due to the medications being taken. The effectiveness of the medication is appreciated but the complications that come with it."

(Respondent 29)

Death;

"Headache, death, and dizziness...Yes dizziness." (Respondent 15)

This response demonstrates that the respondent is aware of potential complications such as headaches, low libido and even death. The admission of having dizziness implies a personal experience with one of the problems.

4.9 Perceived preventive measures

The "Perceived Preventive Measures" subject explores the methods and practices those participants think can be used to prevent or control hypertension. This theme reveals the participants' comprehension of proactive measures they may take to maintain their health and stop their illness from worsening.

Selected responses that align with this theme include:

Hospital attendance;

"Yes it can...Only hospital." (Respondent 4)

"It can be prevented...Only hospital." (Respondent 17)

This brief response demonstrates the participant's steadfast trust in the potential to prevent hypertension. The reference to only using hospital treatments as a major preventive measure indicates faith in medical interventions.

Healthy eating;

“If you stop thinking and taking some foods which you know are not good for you.” (Respondent 27)

cease smoking;

“I know that. If you take in alcohol, smoke cigarettes you’ll have BP. One gets cured once all these are stopped.” (Respondent 10)

Medication

"It can be prevented...Yes by taking your medications." (Respondent 27)

The participant reiterated the prior response's emphasis on drug adherence. This repetition highlights the importance that participants take on adhering to medical advice.

These replies demonstrate that participants have a great faith in medical interventions and the potential to avoid hypertension. The focus on pharmaceuticals and the involvement of medical personnel shows that healthcare is acknowledged as being important in the prevention and management of the disorder. This subject highlight participants' desire to follow advised preventive measures and cooperate with medical advice in order to advance their health and wellbeing.

4.10 Self-care and monitoring

This section explains how people monitor their blood pressure levels, take care of their prescriptions, and look for information to better manage their health and the difficulties brought on by hypertension. We learn more about the methods people use to actively take part in managing

their hypertension thanks to the experiences and insights offered by respondents. These are the major themes that emerged from their responses:

Methods of self-monitoring and awareness

Participants in this theme offered their perspectives on their self-monitoring routines and methods for maintaining awareness of their hypertension state.

Some of the major responses that align to this theme include:

BP monitoring at home;

"I normally do my blood pressure checkups myself."(Respondent 7)

"The thing is, I own one of the machines so I check regularly. When I realize that it's high then I take the medication. When it stabilizes, I reduce my intake of the medicine. That's what helps me bit by bit." (Respondent 17)

Weight check;

Examine feet;

"I usually do blood pressure tests at home, and I also examine my feet and check my weight as well."(Respondent 1)

This response is a proactive approach to self-care as the participants actively checks their weight and feet in addition to taking their blood pressure at home on a regular basis. This extensive self-monitoring strategy demonstrates a strong commitment to staying informed about their health status.

No self-monitoring;

> *"Unless I go to the hospital, I do not do any examination on myself."(Respondent 4)*
>
> *"I get to know when I visit the hospital."(Respondent 12)*

These participants rely mostly on healthcare facilities to assess their hypertension, which suggests a more passive self-monitoring approach and may indicate difficulty in monitoring their blood pressure between medical appointments.

4.11 Sources of information

Participants in this theme discussed their sources of information on self-care techniques and hypertension.

The major responses which align with this include:

Television;

> "Yes, I sometimes hear it on television." (Respondent 17)

Mass media outlets like radio and television were mentioned by participants like Respondent 5 as information sources. This shows that public health initiatives and awareness programs disseminated through these channels contribute to raising people's awareness of hypertension.

Hospital;

> *"From the doctors or the hospital." (Respondent 8)*

Healthcare practitioners are also another important source of information, as Respondent 8 highlighted. This emphasizes how crucial it is for patients to have open lines of contact with their doctors in order to receive proper advice on how to control their hypertension.

Friends;

"Herbal hospital and the media, sometimes from friends." (Respondent 19)

This response demonstrates the wide variety of information sources participants' access. Herbal hospitals and friends are cited alongside conventional healthcare facilities, demonstrating the impact of alternate sources on participants' understanding.

These replies highlight the wide range of information sources individuals use to learn about hypertension. Participants' knowledge is influenced by the media, medical professionals, alternative healthcare facilities, and personal connections. The abundance of sources could, however, potentially result in differences in the veracity and caliber of the data acquired. To make sure people have access to accurate and trustworthy information for controlling their hypertension, effective public health campaigns, specialized educational initiatives, and clear communication from healthcare practitioners are necessary.

Table 3: Coding frame for themes, sub-themes, and codes organization

Global theme	Sub-theme	Codes
Adherence to medication		
	• **Intake of medication**	
		Regular

		Expensive but necessary
	• **Barriers to medication**	Cost of medication
		Hospital medication shortage
		Side effects of medication
		Forgetfulness

Source: field data, (2023)

4.12 Adherence to medications

Participants in this subject talked about their experiences with using prescribed medications as directed for the treatment of hypertension.

The major responses which align with this include:

Regular intake of medication;

"Yes, I take them as prescribed." (Respondent 20)

"Laughs…I take it very well." (Respondent 27)

"Together with the later response how their dedication to taking their medications as prescribed and adhering to the recommended schedule demonstrates how much priority they place on adequately managing their hypertension." (Respondent 16)

Expensive;

"Yes, but it is expensive." (Respondent 2)

This comment highlights a typical issue that participants deal with: the cost of buying recommended medications. Despite being aware that medication adherence is important, the high cost prevents regular use.

Adherence levels of respondents

Adherence to medication was also measured with the Morisky Adherence Scale . Table 2 depicts the adherence levels of respondents in this study. The majority of the respondents reported moderate adherence levels (78.1%). Among the 32 respondents, 7 (21.9%) reported that they sometimes forgot to take their medications and 4(12.5%) reported that within the past two weeks, there had been days when they forgot to take their medications. Additionally, 2(6.2%) of the respondents revealed that they had stopped taking their medications without informing their doctors. The majority (93.8%) indicated they generally remembered bringing their medication when travelling or leaving home. Most participants (90.6%) reported taking all their medication

the previous day, demonstrating adherence to the prescribed schedule. However, a significant percentage (9.4%) admitted to occasionally not taking their medication as prescribed. This trend continued when participants felt that their symptoms were under control, with 81.3% acknowledging that they sometimes ceased medication usage, highlighting the potential for non-adherence during periods of perceived well-being. While the inconvenience of daily medication was acknowledged by a small number (9.4%), the majority (90.6%) did not find it bothersome. Despite this, a substantial proportion (21.9%) admitted to occasionally facing difficulty in remembering to take their medication.

Table 4: ADHERENCE TO MEDICATION USING THE MORISKY ADHERENCE SCALE

Variable	Frequency	Percentage
Do you sometimes forget to take your medications?		
Yes	7	21.9
No	25	78.1
People sometimes miss taking their medications for reason other than forgetting. Over the past two weeks, were they any days when you did not take your medication?		
Yes	4	12.5
No	28	87.5
Have you ever cut back or stopped your medication without telling your doctor because you felt worse than when you took it?		
Yes	2	6.2
No	30	93.8
When you travel or leave home, do you sometimes forget to bring your medication?		
Yes	2	6.2
No	30	93.8
Did you take all your medication yesterday?		
Yes	29	90.6
No	3	9.4
When feel like your symptoms are under control, do you sometimes stop taking your medication?		
Yes	26	81.3
No	6	18.7

Taking medication every day is a real inconvenience for some people. Do you ever feel hassled about sticking to your treatment plan?		
Yes	3	9.4
No	29	90.6
How often do you have difficulty remembering to take your medication?		
All the time	1	3.1
Never/Rarely	24	75
Sometimes	7	21.9
Adherence levels		
Low adherence	7	21.9
Moderate adherence	25	78.1

Source:field data,(2023)

4.13 Barriers to medication

This theme highlights challenges that prevented individuals from accessing or adhering to their prescribed medications. Some responses were;

Cost of medication;

"It is too expensive, so sometimes I buy, sometimes I don't" (Respondent 13)

Hospital medication shortage;

"Sometimes. Like recently they didn't have it and it is expensive." (Respondent 14)

Side effects of medication;

"The thing is that when you take it continuously, it brings about consequences…Yes. So if there's any help the doctors can provide. They can do more research about the herbal ones to replace the orthodox ones." (Respondent 29)

Forgetfulness;

"Sometimes I forget to take the medication with me when I am travelling. But I continue when I get back home." (Respondent 15)

Table 5: Coding frame for themes, sub-themes, and codes organization

Global theme	Sub-theme	Codes
Social support		
	• Source of social support	
		Children
		Other family members
		Self-reliance and limited external support

Source: field data, (2023)

4.14 SOCIAL SUPPORT

4.14.1 Source of social support

Respondents consistently emphasized the significance of their family's involvement in their journey to manage the condition; this theme emphasizes the pivotal role that immediate family members, particularly children and spouses, play in providing emotional, financial, and practical support to individuals living with hypertension.

The major responses that align with this theme include:

Support from children;

"My children mostly showed concern about my condition."

"In terms of money to go to the hospital and buy drugs, it has mostly come from my children; they have been very instrumental."

"My children provide me with the emotional support."

(Respondent 1)

The first respondent stressed the importance of their children in providing both material support and emotional support. The children's care and help in handling medical bills serve as a reminder of the vital support system that the family offers.

Other family members;

"My family has been very supportive and have shown a lot of concern."

"My children have been very instrumental in providing me with the assistance I need."

"My family has been supporting me emotionally."

(Respondent 5)

This respondent added emotional support to the definition of familial support.

In addition to financial support, the family's emotional support is essential for the individual's overall wellbeing. The key role of immediate family members, especially children, in providing a variety of forms of support—financial, emotional, and practical—is a recurring theme in these comments. This family support system is essential for people who are managing their hypertension

because it enables them to deal with the difficulties of the condition and ensures that they have access to the resources they need for efficient self-care. The frequent mention of family members emphasizes how important this issue is for managing hypertension.

Self-reliance and limited external support;

This theme focuses on a divergent viewpoint where respondents either emphasize their independence in managing their condition or express a lack of significant help outside of their immediate families. Some survey participants said they try to remember their medications and take care of their requirements on their own, relying less on outside assistance that they perceive to be restricted.

"I basically do everything myself ever since this condition started."

"I remind myself to take my drugs."

"I provide all the assistance I need myself."

(Respondent 3)

CHAPTER 5

5.0 DISCUSSION OF FINDINGS

5.1 Introduction

This chapter's goal is to explore the diverse array of experiences and viewpoints the respondents had about hypertension. The aim was to develop a deeper understanding of the lived experiences of people with hypertension by exploring the various strands that emerged from the interviews, revealing the difficulties they encounter, the methods they use to treat the condition, and the available support sources. By relating these findings to prior research, this chapter clarified the larger context of hypertension care and point out any areas where our findings concur with or differ from the body of knowledge.

5.2 Hypertension lived experience

The important themes that were discovered were "Hypertension Lived Experiences," "Self-Care and Monitoring," and "Social Support." The respondents offered insightful information about their personal experiences with hypertension. One recurring element was recognizing the circumstances that led to the diagnosis of hypertension. Many respondents described times when they felt poorly and sought medical care as a result of symptoms including headaches, dizziness, or irregular heartbeat. This is consistent with the notion that hypertension frequently goes unnoticed until it has advanced or causes difficulties (Respondents 1, 2, 6, 11, 15). One respondent's comment, "I get to know when I cannot sleep well at night," highlights the need of heeding such warnings.

Given that certain respondents (Respondents 8, 9, and 14) have had hypertension for an extended period of time, this shows that the illness is chronic and highlights the need for ongoing

management and education. Some respondents (Respondents 2, 11) attributed it to inherited reasons while others (Respondents 22, 24) indicated poor food and lifestyle choices. The acknowledgment of risk factors and causes varied across respondents. This variability highlights the necessity of customized therapies based on unique risk profiles. It is remarkable that many respondents (Respondents 9, 10, and 18) identified the usage of prescription medication as the preferred form of treatment. This is consistent with accepted medical practice, where prescriptions for medicinal interventions are frequently made. However, numerous respondents (Respondents 2, 5, and 22) expressed a strong concern over the expense of medications, highlighting the need for accessible and reasonably priced healthcare.

Regarding the established literature on hypertension, the findings in this theme concur with it and offer fresh perspectives. The concept that hypertension is frequently "silent" until it escalates to a severe level or causes difficulties is supported by the fact that it is commonly asymptomatic, as indicated by some responders (National Heart, Lung, and Blood Institute, 2021). The absence of symptoms makes managing hypertension difficult because it might put off diagnosis and treatment.

The responses frequently return to the topic of risk factors, such as heredity, a bad diet, and lifestyle decisions. The importance of addressing modifiable risk factors through education and lifestyle interventions is emphasized by this agreement with prior study (Mancia et al., 2013). It also emphasizes the need for healthcare professionals to prioritize individual risk assessments in order to direct efficient actions (Chobanian et al., 2003).

Several respondents indicated concern about the expense of medications, which is consistent with conversations concerning the affordability of healthcare (Sullivan et al., 2011). This alignment

emphasizes the practical difficulties people have managing their disease, and it is consistent with the literature stressing the significance of easily available and reasonably priced healthcare, especially for chronic conditions. According to several respondents, hypertension has a negative impact on mental health and can cause anxiety, fear, and depression. This finding is consistent with prior studies on the psychosocial effects of chronic illnesses (Chobanian et al., 2003). This link emphasizes the need of holistic healthcare strategies that take patients' emotional health into account in addition to their physical care.

A nuanced perspective that is consistent with the literature on the complex etiology of hypertension is provided by the diversity in perceptions regarding the causes of hypertension, from inherited factors to lifestyle decisions (Mancia et al., 2013). It highlights the necessity for specialized educational initiatives that recognize the variety of factors causing the condition and that encourage a thorough awareness of hypertension's causes. According to research that stress the significance of support networks in managing chronic disorders (Berkman et al., 2000), social support, especially from family members, plays a key role in controlling chronic conditions. The importance of family members as sources of emotional and occasionally material assistance for people with hypertension is highlighted by this alignment.

5.3. Self-care and monitoring

A sizable portion of respondents said they regularly checked their blood pressure at home. Thanks to this self-monitoring routine, they can determine whether or not their hypertension is under control. These people regularly check their blood pressure at home and perform extra self-

examinations, including weighing themselves and checking their feet. This proactive approach shows that these responders have a strong sense of empowerment and self-awareness. This result is consistent with suggestions made in the literature that stress the necessity of routine blood pressure monitoring for the control of hypertension (Whelton et al., 2017).

It's important to remember that some respondents may not self-monitor their blood pressure and instead rely completely on their healthcare providers to inform them of it. This difference in self-monitoring techniques points to the necessity of specialized education to enable people to actively participate in monitoring their blood pressure readings.

The importance of self-monitoring is in line with suggestions from clinical guidelines, according to some respondents who regularly self-examine themselves or check their blood pressure at home (National Heart, Lung, and Blood Institute, 2004). Self-monitoring assists people in keeping track of their blood pressure readings and can give them the confidence to take a more active role in treating their hypertension.

The difficulties with medicine costs that were raised by a number of respondents are consistent with studies that show problems with medication adherence brought on by financial limitations (Sullivan et al., 2011). This financial strain may make it harder for people to take their prescriptions as directed, which could result in less effective hypertension management. The results highlight the need of accessible and reasonably priced healthcare, particularly for chronic illnesses like hypertension.

The stated information sources, which include medical professionals, the media, and family members, are consistent with the range of information sources that are accessible to people.

However, some respondents' mentions of a lack of information and of limited external assistance draw attention to possible inadequacies in the communication of information about hypertension. To close these knowledge gaps and raise public awareness, this emphasizes the value of focused health education programs (World Health Organization, 2013).

This theme brings out the need of family support, particularly from their children. This is consistent with research that highlights the value of social support in the management of chronic diseases (Berkman et al., 2000). Family members are vital in encouraging people with hypertension to follow their treatment programs because they frequently remind responders to take their pills or offer financial support.

The literature on the psychological effects of chronic diseases is consistent with the reported emotional support from family members (Chobanian et al., 2003). The emotional health of those who have hypertension can be improved by knowing that family members are caring and supportive.

5.3. Social support

The "Social Support" theme emphasizes the important part that friends, family, and the community play in the lives of those who are controlling their hypertension. Social support is essential for maintaining treatment compliance, emotional well-being, and general quality of life. The respondents' replies offer information on their sources of social support, the type of help they receive, and the degree to which it influences how they manage their hypertension.

The majority of respondents named their immediate family as their main source of emotional and financial support, particularly their children. This finding is in line with the body of research that highlights the value of family support in the treatment of chronic illnesses (Bury et al., 2001).

Respondents stated that their children frequently offer financial support for hospital stays and prescription drug costs, remind them to take their medications, and express worry about their health.

This robust network of family support is beneficial for managing hypertension. It makes sure that people have access to the services they need and lessens the emotional strain on them. It also improves adherence to recommended therapies. According to the literature, social support, especially from family members, is linked to greater treatment adherence and better health outcomes (Martire et al., 2004).

It's interesting to note that some respondents said they relied mostly on self-motivation and self-care. They mentioned taking care of their own medical requirements, remembering to take their medications, and independently looking for information. This attitude of independence might result from a lack of outside assistance or restricted access to local resources. Some respondents claimed they get no information about hypertension from any sources, indicating a lack of outside assistance.

This research emphasizes the necessity of thorough health education programs, particularly in impoverished areas. While independence is great, it is possible to overlook possibilities for preventive actions and a more knowledgeable approach to hypertension management if there is no other help.

Many respondents claimed that they did not get enough information regarding hypertension from doctors or other sources. Their inability to make educated decisions about their disease, lifestyle changes, and treatment compliance could be significantly impacted by this knowledge gap.

Ineffective hypertension management has been linked in the literature to a lack of knowledge (Leenen et al., 2006).

In addition, a few respondents acknowledged getting only sporadic assistance from people outside of their immediate families. This supports the idea that broader community-based support networks, including government programs, community organizations, and healthcare facilities, should be expanded to guarantee a thorough and all-encompassing approach to managing hypertension.

The research has long recognized the value of family networks in the management of chronic diseases, and the immediate family plays an important role as sources of both emotional and financial support (Martire et al., 2004). The results support the notion that family involvement-focused therapies can improve the health of people with chronic diseases.

While commendable, the observed self-reliance among some responders emphasizes the necessity for thorough health education and easily accessible information sources. According to the literature, patient education is crucial for managing hypertension (Bosworth et al., 2011). Self-care behaviors can be improved by arming people with information about their health and the services that are available.

Concerns expressed in the literature about gaps in patient education and community-based support are echoed by the reported lack of information from healthcare providers and insufficient assistance from sources other than immediate family members (Leenen et al., 2006). To close these gaps, cooperation between healthcare systems and neighborhood organizations is crucial.

CHAPTER 6

6.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1. Summary

In this study, we looked at how people with hypertension actually lived their lives. Their views on precipitating factors, diagnosis, preventability, lifestyle modifications, self-care and monitoring, and social support were investigated. We learned important things about the difficulties people with hypertension deal with, the methods they use to deal with those difficulties, and the importance of social support through a qualitative analysis of the replies from 30 participants.

This theme's findings showed that crucial points in the individuals' travels toward hypertension were triggering events and the diagnosis procedure. Many people were shocked to discover about their disease, which caused them to think about their lifestyles and health practices. People were inspired to modify their lives and treat the ailment seriously after receiving the diagnosis, which served as a turning point in their journey.

The viewpoints of the participants on self-care and monitoring emphasized the significance of taking preventative action. Even though many people were vigilant about taking their medications as directed and going in for routine checkups, budgetary limitations frequently presented difficulties. The practice of checking blood pressure at home has become widespread and reflects a sense of personal accountability.

The comments made clear the importance of close family, especially young children, as a main source of support. Family members' financial and emotional support was extremely important in managing hypertension. There may be gaps in outside sources of help, as several participants requested additional information and greater community-based support.

6.2. Conclusion

In conclusion, this study offers insightful information on the real-world experiences of people living with hypertension. It emphasizes the value of individual accountability, familial support, and extensive community-based services in the management of hypertension. We can create tailored interventions that enable people to take charge of their health and improve the quality of their lives by understanding their difficulties and methods to overcome them. The research adds to a larger conversation on managing chronic diseases and the function of social support in healthcare.

6.3. Recommendation

Based on the findings of the study, the following has been recommended:

Policy makers

Enhance Patient Education: Create extensive educational initiatives to raise public awareness of hypertension, its risk factors, its preventative measures, and the value of early detection. Both those who are at risk and those who have been given a hypertension diagnosis should be the focus of these initiatives.

Support that is family-centered: Recognize and make use of the important support that close relatives, particularly kids, can provide for people with high blood pressure. Encourage family members to participate in patient education, lifestyle modifications, and medication compliance.

Access to Affordable Medication: Reduce the cost of treating hypertension by looking into ways to make pharmaceuticals more available and accessible, such as government assistance programs, generic alternatives, or insurance coverage for such prescriptions.

Promote Self-Monitoring: Encourage and inform people about the advantages of self-monitoring their blood pressure at home to encourage self-monitoring. Give advice on how to monitor properly and the importance of keeping track of blood pressure levels over time.

Community-Based Support: Create community-based activities and support groups that are dedicated to managing hypertension. These platforms can offer emotional support, allow users to exchange experiences, and spread knowledge about the healthcare options that are accessible.

Health Provider Training: Training for Healthcare Professionals: Prepare healthcare professionals to pay closer attention to patients' emotional needs throughout the diagnosis phase, recognizing the shock and emotional impact of the news, and offering the proper counseling.

Include Cultural Sensitivity: Recognize and appreciate various cultural perspectives on hypertension and their beliefs and customs. Adjust educational resources and initiatives to accommodate cultural disparities, ensuring they appeal to the target audience.

Collaboration with Community groups: Encourage partnerships between community groups and healthcare systems to develop a seamless network of support for people with hypertension. These alliances can increase access to resources and broaden the scope of educational endeavors.

information Dissemination: Use a variety of outlets, such as the mainstream media (television, radio, newspapers), online resources, community health centers, and medical offices, to disseminate information on hypertension.

Regular Monitoring and Evaluation: Constantly evaluate the success of interventions and assistance programs for the control of hypertension. Participant input should be gathered, and techniques should be modified in light of their needs and experiences.

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APPENDICES

Appendix I: Ethical Clearance

ENSIGN GLOBAL
COLLEGE

OUR REF: ENSIGN/IRB/EL/SN-232
YOUR REF:

May ..8.., 2023.

INSTITUTIONAL REVIEW BOARD SECRETARIAT

George Annor
Ensign Global College
Kpong

Dear George,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global College held on Friday, May 5, 2023, your research proposal entitled **"Factors Affecting Adherence to Anti-hypertensive Treatment among Patients Seeking Care at Boso Clinic in the Eastern Region of Ghana."** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

Sincerely

Dr. (Mrs.) Rebecca Acquaah-Arhin
IRB Chairperson

P. O. Box AK 136 | Tema-Akosombo Highway, Kpong, Eastern Region, Ghana |
https://www.ensign.edu.gh | +233 245 762 229 | irb@ensign.edu.gh

Appendix II: Interview Guide

INTERVIEW GUIDE

FACTORS AFFECTING ADHERENCE TO ANTI-HYPERTENSIVE TREATMENT AMONG PATIENTS SEEKING CARE AT BOSO CLINIC IN THE EASTERN REGION OF GHANA.

SECTION 1

1. Could you tell me a little bit about yourself?

   Probe for Age, occupation, marital status, educational level, religion.

SECTION 2

HYPERTENSION LIVED EXPERIENCE

1. I would like us to discuss your hypertension. Can you recount how the illness started?

   How long has it been since you were diagnosed?
2. What do you think causes hypertension?

Probe: poor lifestyles (e.g drinking, smoking); poor diet (fatty foods, salt, sugary foods) contaminated foods (e.g toxic agrochemicals on fruits and vegetables); heredity/family

history; lack of physical exercise; overweight/obesity; pregnancy; witchcraft and/or sorcery; other.

3. What do you think caused your hypertension?

Probe: poor lifestyles (e.g drinking, smoking); poor diet (fatty foods, salt, sugary foods) contaminated foods (e.g toxic agrochemicals on fruits and vegetables); heredity/family history; lack of physical exercise; overweight/obesity; pregnancy; witchcraft and/or sorcery; other.

4. Can hypertension be prevented?

Probe: knowledge of minimising major risk factors: diet; overweight/obesity; smoking; alcohol over-consumption.

5. What kind/kinds of treatment did you seek for your hypertension in the early stages and why?

Probe: Doctors, herbalists, faith healers; shrine priest, Chinese medicine, other.

6. What/who influenced the decision to try treatment(s)?
7. Which treatments were successful or unsuccessful?
8. How long have you been on the hypertensive drugs?
9. Are there other treatments you resort to?
10. How often do you take your medication?
11. How do you feel about your hypertension now?

Probe: Emotions – worry, fear, anxiety, sadness, depression, suicidal ideation.

12. What are some of the complications that could result from hypertension?

Probe: knowledge of complications by asking respondent to list at least 3 complications.

13. Have you experienced any complications of hypertension?

14. Can complications of hypertension be prevented?

Probe: knowledge of maintaining a good blood pressure

15. Have you been diagnosed with any other conditions apart from hypertension?

SECTION 3

SELF-CARE

1. How do you tell when your hypertension is well controlled or not?

Probe: whether respondent draws on subjective or objective knowledge. Explore whether respondent does any of the following at home: (1) Test blood pressure level; (2) Examine feet; (2) Check weight;

2. Are you able to adhere to the recommended medication?

Probe: enabling factors (e.g availability of prescribed medications) and challenging factors (e.g cost of medication).

3. Where do you usually get your hypertension information from?

Probe: friends, family, mass media (newspapers, television, radio, internet), healthcare providers.

Social support

4. Which people show concern for your health and how do they support you on this journey?

   Probe for the relationship with the people listed.

   Probe for kinds of support

   - Reminder to take medications
   - instrumental support (e.g., direct assistance such as transportation)
   - informational support (e.g., sharing knowledge about resources)
   - financial support
   - emotional support (This person showed me that he/she loves and accepts me, this person was there when I needed him/her)

Appendix III: Plagiarism Report

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ORIGINALITY REPORT

7%	6%	2%	4%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

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