AKENTEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT

FACTORS INFLUENCING MANAGEMENT OF NON-COMMUNICABLE DISEASES AMONG PATIENTS UNDER THERAPEUTIC CARE WITHIN HOSPITALS IN THE TECHIMAN MUNICIPALITY

BY

CRISPEN KANDATAM

2025

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(8222030020)

A thesis submitted to the School of Graduate Studies, Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, in partial fulfilment of the requirements for the award of a Master of Philosophy degree in Public Health at the Department of Public Health Education.

NOVEMBER 2025

DECLARATION

Candidate's declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Name: **CRISPEN KANDATAM**

Signature: ……. **Date: …….**

Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development.

Principal Supervisor's Name: **DR. JOANA APENKWA**

Signature: …… **Date: …….**

Co-Supervisor's Name: **REV. DR. DENIS DEKUGMEN YAR**

Signature: …… **Date: …….**

ABSTRACT

Non-communicable diseases (NCDs) such as hypertension and diabetes are on the rise in Ghana, particularly in Techiman Municipality. Despite therapeutic interventions, patients often struggle with adherence, influenced by socio-demographic, social, and health system factors. This study examined the factors influencing the management of non-communicable diseases among patients under therapeutic care within hospitals in the Techiman Municipality, Ghana. A descriptive cross-sectional study was conducted among 267 patients receiving therapeutic care in five selected hospitals. Data were collected through structured questionnaires and analyzed using SPSS version 22.0. Descriptive statistics and binary logistic regression were used to determine associations between demographic, social, and health system factors and NCD management. Ethical clearance was obtained, and informed consent was secured from all participants. Most respondents were female (61.8%) and aged 61–75 years (38.6%). While over 90% found medication instructions easy to follow, only 20.2% adhered to a low-salt diet. Adherence was significantly associated with age, gender, and education. For instance, older patients (61–75 years) were 22 times more likely to adhere to medications [AOR=22.29, p=0.005]. Family support, stigma, and peer influence also significantly affected adherence. Additionally, health system factors such as health education (χ^2=10.5, p=0.001) and accessibility of care (χ^2=13.4, p=0.000) had strong associations with NCD management. Patients who received health education were nearly 4 times more likely to adhere to treatment [AOR=3.7, p=0.004]. Inconclusion, therapeutic management of NCDs in Techiman is shaped by demographic characteristics, social influences, and the strength of the health system. Despite high medication use, lifestyle adherence remains low. To enhance NCD management, the study recommends improving patient education, strengthening family and social support systems, and increasing access to affordable healthcare services tailored to patient demographics and needs.

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Their insights and expertise have been instrumental in shaping the direction of this study. My heartfelt thanks go to my family and friends for their continuous encouragement, patience, and understanding during this academic journey. Their unwavering support has been a source of strength and motivation.

DEDICATION

I dedicate this work to my wife, Patience Bayor and my beautiful daughter, Favor Mwinnongma Kandatam for their unwavering support, encouragement and prayers throughout this academic endeavour.

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LIST OF ACRONYMS

Acronyms	Meaning
CBT	Cognitive-Behavioural Therapy
DASH	Dietary Approaches to Stop Hypertension
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HBM	Health Belief Model
LDL	Low-Density Lipoprotein
LMICs	Low and Middle-Income Countries
NCDs	Non-communicable Diseases
PA	Physical Activity
PI	Principal Investigator
SET	Social Exchange Theory
WHO	World Health Organization

ETHICAL CLEARANCE

GHANA HEALTH SERVICE
ETHICS REVIEW COMMITTEE

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra.
Digital Address: GA-050-3303

Quote this number and date on all correspondence
My Ref No: GHS-ERC015
Your Ref. No:
Date: 11th April 2025

Crispen Kaudatam
AAMUSTED- Mampong Campus
P.O. Box 807
Techiman

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC: 046/03/25**
Study Title	Factors that Influence the Management of Non-Communicable Diseases among Patients under Therapeutic care within Hospitals in the Techiman Municipality
Approval Date	11th April 2025
Expiry Date	10th April 2026
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ghana Health Service Ethics Review Committee (GHS ERC)
- Renewal of ethical approval if the study lasts for more than 12 months.
- Reporting of all serious adverse events related to this study to the GHS ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing GHS ERC if study cannot be implemented or is discontinued and reasons why
- Informing the GHS ERC and your sponsor (where applicable) before any publication of the research findings.
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- The GHS ERC may observe or cause to be observed procedures and records of the study during and after implementation.
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Mr. Kofi Wellington
(GHS ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra.

Tel: [illegible]
Mobile: [illegible]
Email: [illegible]
Website: [illegible]

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Non-communicable diseases (NCDs) are now the leading cause of death globally, accounting for over 41 million deaths each year, including approximately 17.9 million deaths from cardiovascular diseases alone (WHO, 2024a). The shift from infectious diseases to chronic non-communicable conditions has created complex management challenges, especially in low-resource settings where health systems are not fully equipped to deliver long-term, patient-centered care. This global trend aligns with the situation in Ghana, where the rising burden of NCDs continues to challenge healthcare delivery and patient outcomes.

Non-communicable diseases (NCDs) are long-term health conditions that are not contagious but account for a significant proportion of global mortality and morbidity (Bennett *et al.,* 2018). These include cardiovascular diseases, diabetes, cancer, and chronic respiratory conditions, which are largely influenced by behavioural, environmental, and genetic factors (Münzel *et al.,* 2022). Unlike infectious diseases, NCDs require long-term care and self-management strategies, making their control highly dependent on sustained therapeutic care and patient adherence to medical guidance (WHO, 2024a).

In low- and middle-income countries (LMICs) such as Ghana, NCDs are emerging as dominant public health concerns, gradually overtaking infectious diseases in terms of disease burden (Goswami, 2024). According to WHO (2024), approximately 77% of all NCD-related deaths occur in LMICs, with around 85% of premature NCD deaths

occurring before the age of 70. Sub-Saharan Africa is experiencing a double burden of disease where healthcare systems, traditionally focused on communicable diseases, are now strained by the demands of chronic NCD management (Gouda *et al.,* 2019). Ghana mirrors this trend, with hypertension, stroke, and diabetes ranking among the top ten causes of death nationally (Okai, 2024).

The situation in Ghana, especially in regions like the Bono East, is alarming. Reports from the Ghana Health Service and recent surveys show a worrying rise in hypertension and diabetes, which now contribute significantly to the country's disease burden. Hypertension affects about one in five adults, with cases rising by over 11% between 2018 and 2022, while diabetes affects 3–8% of the population and is likely underdiagnosed. Local data, such as from Ga Mashie in Greater Accra, indicate even higher combined rates of hypertension, diabetes, and obesity, highlighting a growing national public health concern (Adjaye-Gbewonyo *et al.,* 2025; GHS, 2022). Contributing factors include urbanization, dietary changes, sedentary lifestyles, tobacco use, and alcohol consumption. In the Techiman Municipality, a key urban hub in the Bono East Region, rapid demographic shifts and increasing access to processed foods and sedentary employment are exacerbating the rise in NCD cases (Abdulai *et al.,* 2022).

Despite efforts to enhance NCD management through national policy and health interventions, several challenges persist at the patient level. These include poor adherence to treatment regimens, low health literacy, socio-cultural beliefs, financial constraints, and limited access to healthcare services and follow-up care (Abdulai *et al.,* 2022; Konkor, 2023). Effective management of NCDs relies not only on early diagnosis and medical intervention but also on patient behavior, therapeutic support, and system-

level responsiveness (Konkor, 2023). The need for individualized and context-specific strategies in therapeutic care is, therefore, vital to tackling the growing burden of NCDs.

Although Ghana has made progress in integrating NCD care into the primary healthcare system, significant gaps remain, particularly in localized data to inform intervention. The Techiman Municipality presents a unique case for investigation due to its mix of urban and peri-urban settings, diverse population, and existing healthcare infrastructure. This study, therefore, assessed the key factors influencing the therapeutic care of patients with NCDs in hospitals within the Techiman Municipality of Ghana.

1.2 Problem Statement

Non-communicable diseases (NCDs) have become a major public health challenge in Ghana, contributing significantly to illness, disability, and premature deaths. According to the Ghana Health Service (GHS), NCDs account for approximately 43% of all deaths nationally, with hypertension, diabetes, cardiovascular diseases, and stroke ranking among the top causes of mortality and hospital admissions (GHS, 2021). Hypertension alone affects nearly one in four Ghanaian adults, yet awareness, treatment, and control rates remain low. Diabetes prevalence is also rising, with estimates between 6–9%, although many cases remain undiagnosed due to limited screening and inadequate health-seeking behaviors.

In recent years, Ghana has experienced rapid urbanization, dietary transitions toward high-fat and high-salt processed foods, reduced physical activity, increasing tobacco use, and higher alcohol consumption—all contributing to the escalating NCD burden. These lifestyle changes are particularly evident in fast-growing municipalities such as

Techiman, where economic activities, sedentary occupations, and increased access to processed foods heighten individuals' vulnerability to NCDs.

Despite the availability of therapeutic interventions—including medications, dietary counseling, and behavioral support—many patients in Ghana struggle with consistent adherence to treatment regimens. Factors such as poor understanding of treatment plans, financial constraints, cultural beliefs, limited family support, and inadequate follow-up care further weaken disease control. In addition, health system challenges such as long waiting times, limited counseling, medication shortages, and insufficient health education negatively impact patients' ability to manage chronic conditions effectively.

In the Techiman Municipality, the rising prevalence of hypertension, stroke, and diabetes places increasing pressure on hospitals and healthcare providers (Gyimah, 2016). Although therapeutic care consisting of medication adherence, lifestyle modifications, and routine follow-up is central to effective NCD management, many patients struggle to comply with these treatment protocols (Gyimah, 2016; Mendoza Reyes, 2021). This non-adherence is driven by a range of factors including financial hardship, limited health literacy, cultural perceptions of illness, and weak patient-provider communication (Mendoza Reyes, 2021). As a result, many patients experience poor disease outcomes, frequent hospitalizations, and increased risk of premature death (Mendoza Reyes, 2021).

Despite the growing burden of NCDs in Techiman, there is little or no localized research examining the factors that hinder effective management of these conditions. National-level data provide a general overview, but they often fail to account for the socio-cultural, economic, and health system dynamics specific to municipalities like Techiman. Without this context-specific evidence, policy and programmatic responses may remain ineffective or misaligned with the needs of patients. Thus, there is an urgent need to

investigate the perceptions, social influences, and systemic factors that shape the therapeutic care experience of patients with NCDs in the Techiman Municipality. This study seeks to fill this gap and contribute to more responsive and effective healthcare interventions for NCD management at the municipal level.

1.3 Aim and Objectives of the Study

This study assessed the factors that influence the management of non-communicable diseases among patients under therapeutic care within Hospitals in the Techiman Municipality.

Specifically, the study sought to:

1.3.1 Specific Objectives

1. To determine the contribution of social factors that influencing the management of non-communicable diseases among patients under therapeutic care.
2. To examine the health system factors that influence the management of non-communicable diseases among patients under therapeutic care.
3. To assess the perceptions of patients receiving therapeutic care on management of non-communicable diseases (NCDs) in the Hospitals.

1.4 Research Questions

1. What are social factors influencing the management of non-communicable diseases among patients under therapeutic care within hospitals in the Techiman Municipality?
2. What are health system factors influencing the management of non-communicable diseases among patients under therapeutic care in the Techiman Municipality?

3. What are the perceptions of patients receiving therapeutic care on management of non-communicable diseases (NCDs) within hospitals in the Techiman Municipality?

1.5 Justification of the Study

Non-communicable diseases (NCDs) have emerged as a significant public health concern in Ghana, contributing to an increasing share of hospital admissions and mortality. Despite the implementation of therapeutic care strategies, many patients continue to experience poor health outcomes due to challenges in adherence and the lack of patient-centered care (Boakye *et al.,* 2023). Understanding the determinants that influence how patients manage their conditions is essential to addressing the persistent burden of NCDs, especially in fast-growing municipalities like Techiman.

The Techiman Municipality has witnessed rapid urbanization and lifestyle transitions, contributing to a surge in NCD cases such as hypertension, diabetes, and stroke (Barimah *et al.,* 2022). However, existing literature and interventions have largely focused on national-level data, offering limited insight into local socio-cultural and systemic dynamics that affect therapeutic care in the municipality. Without understanding how patients perceive their care, the role of social factors, and the capacity of the health system, it becomes difficult to design context-specific interventions to improve patient outcomes.

This study is justified by the urgent need for evidence-based strategies to enhance NCD management in Ghana. By examining the perceptions, social influences, and health system factors shaping therapeutic care in Techiman, this research provides valuable data to inform clinical practice, guide policy development, and support patient education. The

findings will help bridge the knowledge gap and promote more effective and inclusive healthcare delivery for individuals living with NCDs in similar contexts.

1.6 Significance of the Study

This study would provide a deeper understanding of the multiple factors that influence the management of non-communicable diseases (NCDs) among patients undergoing therapeutic care in the Techiman Municipality. The findings would offer important insights for healthcare professionals, policymakers, and public health practitioners in designing interventions that enhance patient adherence, satisfaction, and outcomes.

Moreover, the study would contribute to Ghana's broader efforts to reduce the burden of NCDs by identifying context-specific gaps in therapeutic care. By addressing the barriers and facilitators of NCD management, the research aligns with national health strategies and supports Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all at all ages.

1.7 Scope of the Study

This study focuses on identifying the factors that influence the management of non-communicable diseases among patients receiving therapeutic care within selected hospitals in the Techiman Municipality. It examines patient perceptions, social influences, and health system components that impact adherence to treatment and overall disease management.

The research is limited to public and private hospitals within the municipality, where data were gathered from patients diagnosed with NCDs. The study does not cover NCD prevention strategies or patients receiving care outside hospital settings. Techiman was

selected due to its rising NCD burden, urban-rural mix, and its relevance as a regional healthcare hub.

1.8 Thesis Organization

The study is divided into six main chapters. The first chapter addresses the background of the study, the problem statement, objectives, research questions, justification, significance of the study, scope and organization. The second chapter thoroughly examined relevant literature related to this research topic. Chapter three focuses on presenting the study area and the methodology employed to conduct the research. Moving on to chapter four, the study data is presented. Chapter five discussed the findings of the study. Lastly, in chapter six, the summary of the results is presented, conclusions based on the main findings are drawn, and recommendations are offered based on the study's outcomes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides an in-depth examination of the existing literature related to the factors influencing the management of non-communicable diseases (NCDs) among patients undergoing therapeutic care. The review is structured into three main sections: a theoretical review, a conceptual review, and an empirical review. In addition, the study develops a conceptual framework to guide the research. The theoretical foundation of this study is anchored on two significant models: The Health Belief Model (HBM) and the Social Exchange Theory (SET). The conceptual review delves into the concepts of NCDs management and therapeutic care as well as review of critical factors influencing NCD management. The empirical review examines studies on the management of NCDs, providing insights into the prevalence of NCDs, risk factors and patient adherence to therapeutic care. To guide the study, a conceptual framework is designed, integrating the key variables identified from the theoretical and conceptual reviews.

2.2 Theoretical Review

The study is anchored on the Health Belief Model and the Social Exchange Theory.

2.2.1 Health Belief Model

The Health Belief Model (HBM), developed in the 1950s by scholars such as Rosenstock and Leventhal, offers a framework for understanding how individual perceptions influence health-related behaviours (Ragin *et al.,* 2020; Rynhoud, 2021). It suggests that people's decisions to adopt therapeutic interventions for managing non-communicable

diseases (NCDs) are shaped by how they perceive the threat of a disease and the expected benefits or obstacles to taking action (Anuar *et al.,* 2020).

Perceived susceptibility reflects an individual's belief about the likelihood of developing health complications. For example, individuals who acknowledge their vulnerability to the severe effects of untreated NCDs are more inclined to seek preventive care or therapeutic interventions. Similarly, perceived severity involves evaluating how serious a condition is. When patients recognize NCDs as life-threatening or significantly impairing their quality of life, they are more motivated to act (Mykhailovska *et al.,* 2018).

Perceived benefits relate to the individual's belief in the effectiveness of recommended health actions. When patients believe that lifestyle changes or medical treatments can reduce symptoms or prevent complications, they are more likely to adhere to such interventions (Stonerock & Blumenthal, 2017). However, these decisions are also influenced by perceived barriers obstacles such as financial costs, time constraints, or lack of resources which may hinder behavioural change. Addressing these barriers is critical to the success of health programmes (Nagelhout *et al.,* 2017).

The model also emphasizes the role of cues to action, which are external or internal prompts that trigger health behaviours. These may include medical advice, media campaigns, or personal experiences such as witnessing a family member struggle with an NCD. Cues to action help raise awareness and motivate individuals to take proactive steps towards their health (Rynhoud, 2021).

Lastly, self-efficacy confidence in one's ability to perform a health-related action significantly impacts whether a person adopts and maintains lifestyle modifications. When individuals believe they can succeed in making necessary changes, they are more likely to stay committed to therapeutic practices (Rynhoud, 2021). Strengthening self-efficacy through education, support, and skill-building is essential for improving adherence to interventions and ensuring better health outcomes for NCD patients.

2.2.2 Social Exchange Theory

Social Exchange Theory (SET), developed by scholars like George Homans, explains human behaviour as a decision-making process based on perceived costs and rewards (Enayat *et al.,* 2022; Rynhoud, 2021). In the context of non-communicable disease (NCD) management, patients weigh the time, effort, and inconvenience of lifestyle and therapeutic changes such as diet, exercise, and medication against potential benefits like improved health and quality of life (Natalucci *et al.,* 2023). This cost-reward evaluation significantly influences patients' willingness to adopt and sustain therapeutic care.

SET also highlights the role of social relationships in decision-making. Support from family, friends, and healthcare professionals serves as a social reward, reinforcing adherence to therapeutic interventions (Natalucci *et al.,* 2023). Positive interactions with healthcare providers, such as guidance and empathy, can foster trust and encourage patients to reciprocate through compliance (Enayat *et al.,* 2022).

The theory emphasizes individual autonomy, suggesting that patients are more likely to adopt health behaviours that align with their personal values. Tailoring care to patient preferences enhances perceived rewards. Lastly, SET posits that ongoing commitment to

health requires continuous reinforcement. Sustained therapeutic engagement is driven by long-term benefits, ongoing support, and patient-provider relationships that continually affirm the value of healthy behaviours (Hamrin *et al.*, 2010).

2.3 Conceptual Review

The conceptual review looked at the concept of NCDs management, therapeutic interventions as well as the various therapeutic interventions for managing NCDs.

2.3.1 Concept of Non-Communicable Diseases

Non-communicable diseases (NCDs) are long-term health conditions arising from genetic, behavioural, environmental, and physiological factors (Budreviciute *et al.*, 2020). Major NCDs include cardiovascular diseases (CVDs), diabetes, cancers, and chronic respiratory illnesses. These conditions require continuous care and place a significant strain on healthcare systems, especially in low-resource settings (Budreviciute *et al.*, 2020). In Ghana, Boakye et al. (2023) identified CVDs and diabetes as leading contributors to the country's NCD burden.

CVDs, such as hypertension, coronary artery disease, stroke, and heart failure, are often fatal and costly to manage. Many of these diseases progress silently, with risk factors like high blood pressure and cholesterol often going unnoticed until serious complications occur. Most CVD-related deaths happen in low- and middle-income countries, where healthcare systems are ill-equipped for prevention and early treatment (WHO, 2021).

Diabetes, another major NCD, is a chronic condition marked by high blood sugar levels due to insufficient insulin production or use. If uncontrolled, it can cause severe damage

to organs like the heart, kidneys, eyes, and nerves. It includes Type 1, Type 2, and gestational diabetes each requiring unique management approaches to prevent complications and improve health outcomes.

2.3.2 Therapeutic Interventions

Therapeutic interventions for managing non-communicable diseases (NCDs), such as cardiovascular diseases, diabetes, and respiratory conditions, are critical for reducing complications and improving patients' quality of life (Budreviciute *et al.,* 2020). These interventions typically involve a combination of medical treatment, lifestyle modifications, and, in some cases, surgical procedures. They are designed to control the progression of the disease, manage symptoms, and prevent secondary health complications. The management of NCDs often requires a multidisciplinary approach that includes healthcare professionals, patients, and caregivers working collaboratively to ensure optimal outcomes (Ngangue *et al.*, 2020). Therapeutic interventions for non-communicable diseases (NCDs) can be categorized into several key areas, each targeting different aspects of disease management. These categories include pharmacological interventions, lifestyle modification interventions, and behavioural and psychological support.

2.3.3 Pharmacological Interventions

Pharmacological interventions are essential in managing non-communicable diseases (NCDs), particularly conditions such as cardiovascular diseases, diabetes, and cancer. These interventions aim to alleviate symptoms, prevent complications, and enhance patient outcomes by using targeted medications (Tziraki *et al.,* 2020; Balogun-Katung *et al.*, 2021). In cardiovascular care, drugs like antihypertensives, statins, and anticoagulants are widely used. Antihypertensives help reduce blood pressure by

relaxing blood vessels or slowing the heart rate (Laar *et al.,* 2019). Statins lower LDL cholesterol, minimizing plaque build-up in arteries and reducing the risk of coronary artery disease (Atibila *et al.,* 2021). Anticoagulants such as aspirin and warfarin prevent blood clots, which can trigger heart attacks or strokes (WHO, 2024a). These medications are particularly crucial for individuals at high risk of cardiovascular events, supporting long-term disease control and promoting overall cardiovascular health(Joseph *et al.,* 2022).

2.3.4 Lifestyle Modification Practices

Lifestyle modification practices are crucial in managing and preventing non-communicable diseases (NCDs) such as hypertension, diabetes, and other heart diseases. These non-pharmacological interventions such as adopting healthier diets, increasing physical activity, and reducing harmful habits are effective in complementing medical treatments and promoting overall cardiovascular health (Dhungana *et al.,* 2022). Research highlights that combining antihypertensive medication with lifestyle changes, such as stress management and exercise, improves blood pressure control and reduces complications (Yaqoob *et al.,* 2022).

Key strategies include weight management, the Dietary Approaches to Stop Hypertension (DASH) diet, and sodium reduction. Excess body weight increases cardiovascular risk by worsening blood pressure and insulin resistance (Noraishah *et al.,* 2019). Adhering to a low-sodium, heart-healthy diet like DASH has been shown to significantly lower blood pressure (Blumenthal *et al.,* 2021). Regular physical activity further supports blood vessel health and reduces arterial pressure (Adjei, 2018).

Additionally, reducing alcohol intake is essential, as excessive consumption is linked to elevated blood pressure and related complications (Blumenthal *et al.,* 2021b). Overall, integrating these lifestyle modifications into daily routines is a cost-effective and sustainable approach to improving long-term health outcomes for individuals living with NCDs.

2.3.5 Behavioural and Psychological Support

Effective management of non-communicable diseases (NCDs) extends beyond physical treatment and requires strong psychological and behavioural support. Due to the chronic nature of conditions like diabetes and cardiovascular diseases, many patients experience emotional challenges such as anxiety, depression, and stress, which can affect their ability to adhere to treatment plans (Painuli *et al.,* 2025). Counselling offers a supportive environment where patients can express their fears and frustrations, helping them develop healthy coping mechanisms and emotional resilience.

Therapeutic methods such as cognitive-behavioural therapy (CBT) have proven valuable in helping patients manage negative thoughts and adopt proactive health behaviours. For example, CBT can support individuals in overcoming feelings of hopelessness that may interfere with medication adherence or lifestyle modifications (Mendoza Reyes, 2021). Behavioural interventions like motivational interviewing are also effective, encouraging patients to identify their own reasons for making positive changes.

Additionally, self-management training empowers patients to set realistic goals, solve problems, and build routines around healthy behaviours. This is particularly useful for conditions requiring consistent lifestyle changes, such as reducing salt intake or maintaining physical activity (Darukaradhya *et al.,* 2025). By addressing emotional

needs and promoting behavioural skills, psychological support significantly enhances treatment adherence and improves long-term outcomes in the management of NCDs.

2.3.6 Demographic Factors and Management of NCDs under Therapeutic Interventions

Socio-demographic factors such as gender, age, education level, and marital status significantly influence the management of non-communicable diseases (NCDs) under therapeutic interventions (Sannidhi *et al.,* 2025). Gender plays a key role, with studies suggesting that women may be more proactive in adopting health-promoting behaviours like healthy eating and regular exercise, partly due to societal and cultural expectations. Hormonal fluctuations in women also affect health outcomes, especially in blood pressure regulation, which has implications for therapeutic care (Mendoza Reyes, 2021).

Age influences how individuals adopt lifestyle changes. Younger people are generally more receptive to new behaviours and health technologies, while older adults may be motivated by concerns about aging-related health risks. Education is another important factor; individuals with higher education levels tend to have better health literacy, which improves their understanding and adoption of therapeutic interventions for managing NCDs (Darukaradhya *et al.,* 2025).

Marital status also plays a role. Married individuals may benefit from increased social support, which enhances adherence to treatment and lifestyle changes. Studies from Ethiopia and Ghana have shown that factors such as age, education, income, and co-morbidities further influence the extent to which individuals adhere to recommended

health behaviours. Together, these demographic variables shape how effectively patients engage with therapeutic interventions for NCD management (Sannidhi *et al.,* 2025).

2.3.7 Social Factors and Lifestyle Modification Practices

Social factors have a profound impact on the adoption and maintenance of lifestyle modification practices. The social factors considered were family support, social stigma, peer influence and social norm. When families come together to encourage and participate in healthier behaviours, it creates a nurturing environment that fosters positive change (Apedani, 2019). Engaging in activities like regular exercise or preparing nutritious meals together strengthens family bonds and increases the likelihood of sustaining these healthy habits over time (Laar *et al.,* 2021). On the contrary, the absence of family support can make it challenging for individuals to maintain therapeutic interventions, as they may face obstacles and lack motivation without a supportive network.

A study highlighted by Apedani (2019) discussed the impact of family support on NCDs management, noting both positive and negative aspects. It emphasized that family dynamics, including the involvement of family members in patient care and their emotional and financial support, play significant roles in the management of the disease. In general, family support in NCDs management includes assistance in adhering to medication regimes, encouragement to maintain a healthy lifestyle (such as a balanced diet and regular exercise), and emotional support (Angelo & Geltore, 2020a; Buda *et al.,* 2017). The presence of a supportive family environment can enhance a patient's motivation to make necessary lifestyle changes and adhere to treatment plans.

Social stigma is another powerful social factor that can hinder the adoption of therapeutic intervention on NCDs management (Yaqoob *et al.,* 2022). Individuals struggling with weight management, mental health issues, or substance abuse may face fear of judgment or discrimination from others, which can discourage them from seeking help or making positive changes. Breaking free from negative social perceptions and embracing healthier behaviours may require immense resilience and support from others.

Social norms play a crucial role in shaping therapeutic cares on NCDs management (Mideksa *et al.,* 2021). Joining support groups or online communities with individuals sharing similar health goals can offer a sense of belonging and shared experiences (Adjei, 2018). Being part of such supportive networks can increase the likelihood of success during lifestyle changes, as individuals find encouragement, empathy, and practical guidance. Cultural norms also play a role in shaping perceptions of health and illness. Some cultures may stigmatize conditions like hypertension, viewing them as a sign of weakness or lack of discipline. In such instances, individuals might be hesitant to openly acknowledge and address their hypertensive condition, potentially impeding efforts to manage it effectively (Di-Federico *et al.,* 2023). Therefore, public health initiatives and healthcare interventions should be culturally sensitive, taking into account the diverse beliefs and practices that influence how individuals navigate their health journeys.

2.3.8 Health System Factors

Health system factors significantly influence the adoption and effectiveness of therapeutic care for non-communicable diseases (NCDs). Central to this is the role of health education, which equips patients with the knowledge and motivation to adopt and sustain healthy behaviours (Darukaradhya *et al.,* 2025). Clear, accurate guidance from

health professionals enables individuals to understand the benefits of lifestyle changes, particularly in managing conditions like hypertension. Educational interventions emphasizing diet, physical activity, and sodium reduction are crucial in promoting therapeutic care adherence.

In addition to education, counselling and behavioural support enhance patients' capacity to manage NCDs by addressing psychological barriers such as stress and anxiety. Personalized counselling builds self-efficacy and helps patients develop coping strategies essential for long-term behavioural change (Natalucci *et al.,* 2023). Access to healthcare facilities also plays a vital role proximity encourages service utilization, while timely and regular follow-up improves outcomes.

Moreover, affordability directly affects access to NCD management. Financial barriers, including the cost of consultations, diagnostics, and medications, often discourage patients from seeking care. Thus, interventions such as subsidized services, insurance schemes, and financial aid are vital. A responsive, accessible, and well-resourced health system, therefore, is fundamental to effective therapeutic care and the overall management of NCDs (Natalucci *et al.,* 2023).

2.4 Empirical Review

2.4.1 Demographic Factors and NCDs of Patients under therapeutic care

Demographic factors such as age, gender, education, occupation, and location play a critical role in the prevalence and management of non-communicable diseases (NCDs). Several studies have highlighted how these variables influence lifestyle habits, health outcomes, and therapeutic adherence among patients.

Lalrawngbawla et al. (2024) studied rural adults in India and found that tobacco use, alcohol consumption, poor diet, physical inactivity, and obesity were highly prevalent, with occupational status significantly associated with these risk factors. Similarly, Robbins et al. (2021) documented an increase in NCD-related emergency admissions in the UK over two decades, with older individuals forming the majority of admitted cases, indicating age as a major factor in disease burden.

Patel et al. (2024) examined risk factors among urban dwellers in India, finding that advanced age, low education, and occupation type were significantly linked with high NCD risk. Obesity, smoking, and alcohol use emerged as strong predictors. In Malawi, Olds et al. (2023) revealed that older adults were more affected by conditions like hypertension and heart failure, while younger individuals mostly suffered from asthma, epilepsy, or mental health issues. NCD patients had longer hospital stays and higher service utilization.

In Ghana, Appiah-Kubi et al. (2021) reported gender disparities in NCD risk behaviors, with men more likely to engage in harmful alcohol use and women more likely to be physically inactive. Older adults also had higher rates of salt consumption and hypertension. Zaman et al. (2016) noted higher NCD risk factors in urban Bangladesh, including hypertension and diabetes, especially among older individuals.

Smachew et al. (2022) found that only 24.2% of adults with NCDs in Ethiopia practiced adequate lifestyle modifications. Factors such as age over 65, longer disease duration, higher socioeconomic status, and co-morbidities were associated with better practices. Similarly, Mideksa et al. (2021) identified low adherence (26.9%) to lifestyle changes

among Ethiopian patients, with adherence more likely among older adults, those with formal education, and patients aware of healthy living practices.

Collectively, these studies emphasize that demographic characteristics deeply influence the management and outcomes of NCDs. Understanding how age, gender, education, and economic status intersect with disease risk and care practices is essential for developing targeted interventions to improve therapeutic adherence and health outcomes.

2.4.2 Social Factors influencing the Management of NCDs of Patients under therapeutic cares

Social factors significantly influence the management of non-communicable diseases (NCDs), especially regarding patients' adherence to therapeutic care and adoption of healthy behaviours. Neyazi et al. (2023), through a comprehensive scoping review of 122 studies, identified effective strategies implemented by countries with low premature NCD mortality rates. The most frequently employed measures were public health interventions targeting smoking cessation and unhealthy diets, suggesting that social behaviors are central to controlling NCD risks.

Bijumone and Chitra (2024) conducted a mixed-method study among university students in Kerala, India, revealing that the majority had limited knowledge of NCDs and poor dietary and exercise habits. Only a small fraction reported daily fruit and vegetable intake. Participants identified lack of supportive environments and resources as key barriers to healthy living, indicating the role of social infrastructure in shaping behavior.

In Nepal, Shrestha et al. (2024) found high rates of unhealthy behaviors including tobacco u se, excessive alcohol consumption, high salt intake, and physical inactivity in a cross-sectional survey. These behaviors were linked to elevated metabolic risks such as hypertension and hyperglycemia, emphasizing how social habits directly contribute to NCD prevalence.

Gunasheela and Vijayalakshmi (2022) evaluated risk behaviours in middle-aged adults and found significant levels of tobacco and alcohol use, unhealthy diets, and limited exercise. These findings reinforce the connection between poor lifestyle choices and NCD risk. Boakye et al. (2023) reported a 26.7% NCD prevalence among Ghanaian patients, with sedentary lifestyles, alcohol use, and family history identified as major risk factors. Females and older individuals were especially vulnerable.

In Ghana, Atibila et al. (2022) applied the health belief model to investigate why hypertensive patients fail to adhere to medication. Over 63% of participants were non-adherent, with social perceptions and beliefs influencing treatment compliance. Similarly, Dai et al. (2022) noted that urban residency, aging, and obesity were associated with higher rates of hypertension among older adults. Although fruit and vegetable intake had a limited impact, it was inversely associated with NCD prevalence. Collectively, these studies highlight that social factors ranging from health literacy, social norms, and lifestyle behaviors to environmental support systems play a vital role in how individuals manage chronic diseases. Addressing these social determinants is essential for improving therapeutic outcomes and reducing the burden of NCDs globally.

2.4.3 Health System Factors and Management NCDs

Health system factors play a critical role in the management of non-communicable diseases (NCDs), influencing patients' adherence to care and overall health outcomes. Akseer et al. (2020) explored NCD risk factors among adolescents and emphasized how early interventions and preventive policies can reduce disease progression into adulthood. Mental health disorders were found to be the most common NCDs affecting adolescents, underscoring the need for targeted preventive strategies within health systems.

Reyes (2021) reviewed literature on barriers to therapeutic adherence in patients with diabetes, hypertension, and obesity, noting that both patient-level and system-level obstacles hinder effective disease management. These include poor communication from healthcare providers and the lack of appropriate tools to assess adherence across different demographic groups.

Zhang et al. (2024) assessed healthcare facility infrastructure in China and found that factors such as service quality, pricing, and privacy significantly influenced patients' healthcare decisions. These factors collectively accounted for over 80% of medical decision-making among patients with NCDs. Teferi et al. (2017) examined physical activity (PA) counselling practices among Ethiopian healthcare providers, revealing low engagement in PA prescription despite evidence of its benefits in NCD prevention and treatment.

Aung et al. (2024) conducted an intervention study in Thailand that demonstrated the positive impact of health coaching on NCD patients. Participants showed improved

health literacy, better health behavior modification, and reduced blood sugar levels after a three-month coaching program. These findings highlight the importance of structured support systems, education, and health worker engagement in promoting effective NCD management. Overall, these studies emphasize that a strong, responsive, and patient-centered health system is crucial for improving NCD outcomes.

2.4.4 Social Factors Influencing the Management of Non-Communicable Diseases Under Therapeutic Care

Social factors play a pivotal role in the management of non-communicable diseases (NCDs) among patients receiving therapeutic care. Family support has been identified as a key determinant of successful disease management, as it provides emotional encouragement, financial assistance, and practical help in following prescribed treatment regimens (Kvarnström *et al.*, 2021; Tinuoye, 2024). Studies have shown that patients with strong family backing are more likely to adhere to medication schedules, attend medical appointments, and maintain recommended lifestyle modifications such as dietary changes and regular physical activity (Mehrabizadeh *et al.*, 2024; Pedretti *et al.*, 2023). Conversely, lack of family involvement often correlates with poor treatment adherence and higher risk of disease progression.

Stigma associated with certain NCDs, such as diabetes or hypertension, can create barriers to seeking and maintaining care. Social stigmatization may cause patients to conceal their condition, avoid clinical visits, or disengage from lifestyle interventions for fear of being judged or discriminated against (Mehrabizadeh *et al.*, 2024). Similarly, peer influence can be a double-edged sword in disease management. Positive peer support, such as encouragement to engage in healthy activities or share experiences, fosters better

coping strategies and adherence to therapeutic plans. On the other hand, negative peer influence such as promoting unhealthy diets, alcohol consumption, or sedentary lifestyles can undermine therapeutic progress and exacerbate disease outcomes (Farrokhi *et al.,* 2024; Huston, 2022).

Societal norms and cultural beliefs also shape patients' perceptions and behaviours toward NCD management. In communities where health-seeking behaviours are normalized and healthy living is valued, patients may feel more empowered to follow therapeutic guidelines (Farrokhi *et al.,* 2024; Mehrabizadeh *et al.,* 2024). However, in societies where chronic diseases are misunderstood or viewed fatalistically, individuals may be less motivated to engage in long-term management practices. Research highlights that addressing these social dynamics through community awareness campaigns, peer support programs, and family-based interventions can significantly improve NCD management outcomes. Therefore, understanding the contribution of these social factors is critical for developing holistic therapeutic strategies within hospital settings.

2.4.5 Patients' Perceptions of Therapeutic Care for Non-Communicable Diseases

Studies have shown that how patients view their treatment and interaction with healthcare providers greatly influences their commitment to therapy and health outcomes. According to Reyes (2021), patients' perceptions are shaped by factors such as clarity of diagnosis, communication with health workers, and availability of medication. Inadequate understanding of disease conditions, poor provider-patient communication, and lack of psychosocial support often contribute to negative perceptions and poor adherence to therapy, particularly for chronic NCDs such as hypertension, diabetes, and obesity.

In Ghana, Boakye et al. (2023) examined patients' experiences in healthcare facilities and found that while some individuals appreciated the availability of medications, many expressed concerns about long waiting times, limited counseling on medication use, and inadequate follow-up. These issues contributed to feelings of neglect and dissatisfaction. Similar findings were reported by Atibila et al. (2022), who identified that patients' perceptions of therapeutic care were influenced by the perceived severity of their condition, trust in healthcare professionals, and the level of family support. When patients felt supported and well-informed, they were more likely to follow treatment instructions and report better health outcomes.

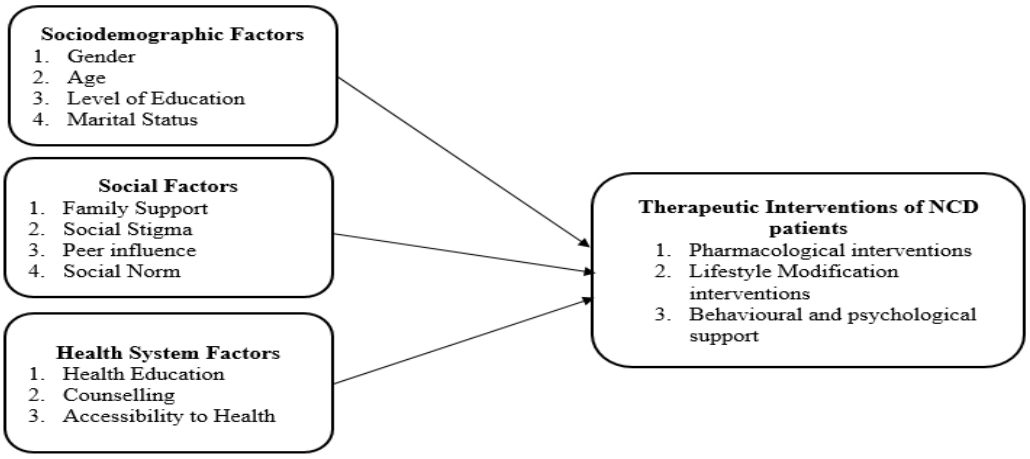
Globally, Tolley et al. (2023) observed that in India, only about half of adult patients with NCDs adhered to their medication routines, largely due to concerns over drug side effects, cost of treatment, and poor communication from medical staff. Patients who perceived their care as personalized and respectful showed higher levels of adherence. Aung et al. (2024) further noted that health coaching significantly improved patients' understanding and satisfaction with their care, especially when patients were actively involved in treatment planning and decision-making.

Generally, existing literature highlights the critical role of patient perception in therapeutic care outcomes for NCDs. Positive experiences characterized by clear communication, empathy, consistent follow-ups, and inclusive care can improve adherence and trust in health systems. However, when patients feel disregarded or poorly informed, it often leads to treatment dropout and worsening of their condition. As such, assessing and addressing patients' perspectives is key to strengthening hospital-based therapeutic care in places like the Techiman Municipality.

2.5 Conceptual Framework

The study is guided by the conceptual model indicated in Figure 3.1. The model shows how socio-demographic, social, and health system factors influence therapeutic care for managing NCDs. Key demographic elements such as gender, age, education, and marital status significantly affect patient adherence. Gender can shape attitudes toward lifestyle changes, while older adults may face physical or cognitive barriers. Education enhances health literacy, enabling better understanding and adherence to treatment. Marital status influences support systems, with married individuals often managing NCDs more effectively due to increased social support. These factors collectively impact how patients respond to and manage therapeutic interventions.

Health system factors like access to health education, counselling, and healthcare facilities are vital for effective NCD management. Education improves patient understanding and treatment adherence, while counselling offers emotional support. Easy access to healthcare services enables regular follow-ups and medication availability. In areas with limited facilities, patients often face challenges in maintaining consistent care, resulting in poor health outcomes.



Source: Author's Own Construct

Figure 2.1: Conceptual Framework

2.6 Gap in the Literature

Despite the substantial body of research examining the prevalence, risk factors, and management of non-communicable diseases (NCDs) globally and within Ghana, existing studies have predominantly concentrated on biomedical and lifestyle-related determinants, with limited attention to patients' perceptions of therapeutic care (Osborne *et al.,* 2022; Owusu *et al.,* 2023). Much of the available evidence focuses on medication adherence, prevalence trends, or isolated lifestyle behaviours such as diet and physical activity (Dowou *et al.,* 2024). However, few studies explore how patients personally interpret therapeutic guidance, perceive their medications, or understand treatment instructions factors that significantly influence adherence and overall disease control. This lack of emphasis on patient-centred perspectives leaves important gaps regarding how individuals under therapeutic care engage with health information and make decisions about long-term NCD management.

Evidence on social influences particularly family support, social stigma, peer influence, and social norms is also limited in the Ghanaian context. While the literature acknowledges that these factors shape chronic disease behaviours, most research tends to treat social determinants superficially or focuses only on family involvement without exploring how different social experiences either promote or hinder adherence to therapeutic interventions. Moreover, the interplay between demographic characteristics and social dynamics remains underexplored. Existing studies seldom analyse how age, gender, marital status, or educational attainment modify the impact of social environments on treatment compliance. Consequently, there is insufficient empirical understanding of how social contexts uniquely shape NCD management among patients undergoing therapeutic care in mixed urban–peri-urban municipalities such as Techiman.

Furthermore, although health system-related factors such as access to care, counselling quality, and health education are recognized as essential components of NCD management, most Ghanaian studies have not comprehensively examined how these factors jointly influence therapeutic outcomes. Research often focuses on system-level barriers like long waiting times or affordability but neglects personalized counselling, communication quality, continuity of care, and the availability of tailored behavioural support. Importantly, no known study in the Techiman Municipality has assessed how demographic, social, and health system factors interact to shape the therapeutic experience of NCD patients. This creates a critical gap in localized evidence needed to inform targeted interventions. The present study therefore addresses these gaps by providing a holistic, context-specific analysis of patient perceptions, social influences, and health system factors affecting NCD management within hospitals in the Techiman Municipality.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the methodological procedures employed in conducting the study. It provides a comprehensive description of the study design, study area, study population, inclusion and exclusion criteria, sample size determination, sampling techniques, data collection tools and techniques, data management, statistical analysis, and ethical review and clearance. These procedures were systematically designed to ensure the reliability, validity, and ethical soundness of the study.

3.2 Study Design

This study adopted a descriptive cross-sectional design to examine the factors that influence the management of non-communicable diseases (NCDs) among patients receiving therapeutic care within selected hospitals in the Techiman Municipality. The study was conducted over an eleven-month period, from August 2024 to July 2025, to capture a diverse range of participants and minimize potential bias associated with the sampling technique.

3.2.1 Research Philosophy

This study is grounded in a pragmatic research philosophy, which recognizes that no single methodological approach is sufficient for understanding complex health-related issues such as the management of non-communicable diseases (NCDs). Pragmatism emphasizes the use of methods that best address the research problem rather than strict adherence to any philosophical tradition. In the context of this study, pragmatism supports the use of both quantitative and qualitative elements embedded within a structured survey design to capture patients' perceptions, health system factors, and social influences that shape therapeutic experiences. This approach

allows for flexibility, practical inquiry, and the generation of actionable findings relevant to healthcare practice in the Techiman Municipality. Pragmatism aligns with aspects of both positivism and interpretivism. From a positivist perspective, the study acknowledges that patient perceptions and behavioural responses can be measured objectively through structured questionnaires, producing quantifiable data suitable for statistical analysis. Positivism supports the assumption that patterns in medication adherence, understanding of therapeutic instructions, and satisfaction with health services can be observed, measured, and used to draw generalizable conclusions. However, the study also recognizes the interpretivist notion that human experiences are subjective and shaped by social, cultural, and psychological contexts. Elements of interpretivism inform the understanding that patients' attitudes toward diet, family support, and lifestyle modification cannot be fully captured by numeric values alone; they require thoughtful interpretation based on participants' perspectives.

Additionally, the study is informed by empiricism, which emphasizes knowledge derived from observation and experience. By collecting primary data directly from NCD patients, the study relies on empirical evidence to explore how demographic, social, and health system factors influence therapeutic outcomes. Empiricism reinforces the credibility of the findings, ensuring they are grounded in real-world patient experiences within the healthcare settings of the Techiman Municipality.

3.3 Study Area

This study was conducted in the Techiman Municipality, located in the Bono East Region of Ghana. Geographically, the municipality lies between latitudes 7°35′N and 8°00′N and longitudes 1°49′W and 1°30′W. It shares boundaries with Techiman North, Wenchi, and Nkoranza Municipalities also in the Bono East Region and Offinso North District in the Ashanti Region. The municipality covers a total land area of approximately 649.07

square kilometers and has a population density of 227.7 persons per square kilometer, according to the Techiman Municipal Assembly (2022).

Techiman serves as the municipal capital and is a strategic transportation and commercial hub. It connects major highways from the Northern, Upper East, and Upper West Regions, as well as trunk roads to Sunyani, Kumasi, Wa, and Tamale (GSS, 2021). This makes it a vibrant center for wholesale and retail trade, transportation, catering services, and mobile telecommunications, contributing significantly to the municipality's socio-economic activities.

As of the latest estimates, the Techiman Municipality has a total population of approximately 243,335, with 189,316 residing in urban centers and 54,019 in rural communities (GSS, 2021). This urban-rural distribution has implications for healthcare access and infrastructure planning. The physical geography is characterized by low-lying, gently undulating terrain, with notable rivers such as the Tano, Fia, Subin, Kyini, and Brewa, which provide water for irrigation and domestic use. The Tano River, in particular, supports piped water distribution from a dam at Tanoso.

The municipality was selected for this study due to its growing urban population, increasing prevalence of non-communicable diseases (NCDs), and the presence of multiple public and private hospitals providing therapeutic care services. These features make Techiman Municipality an appropriate setting for examining factors that influence the management of NCDs in a mixed urban-rural healthcare environment.

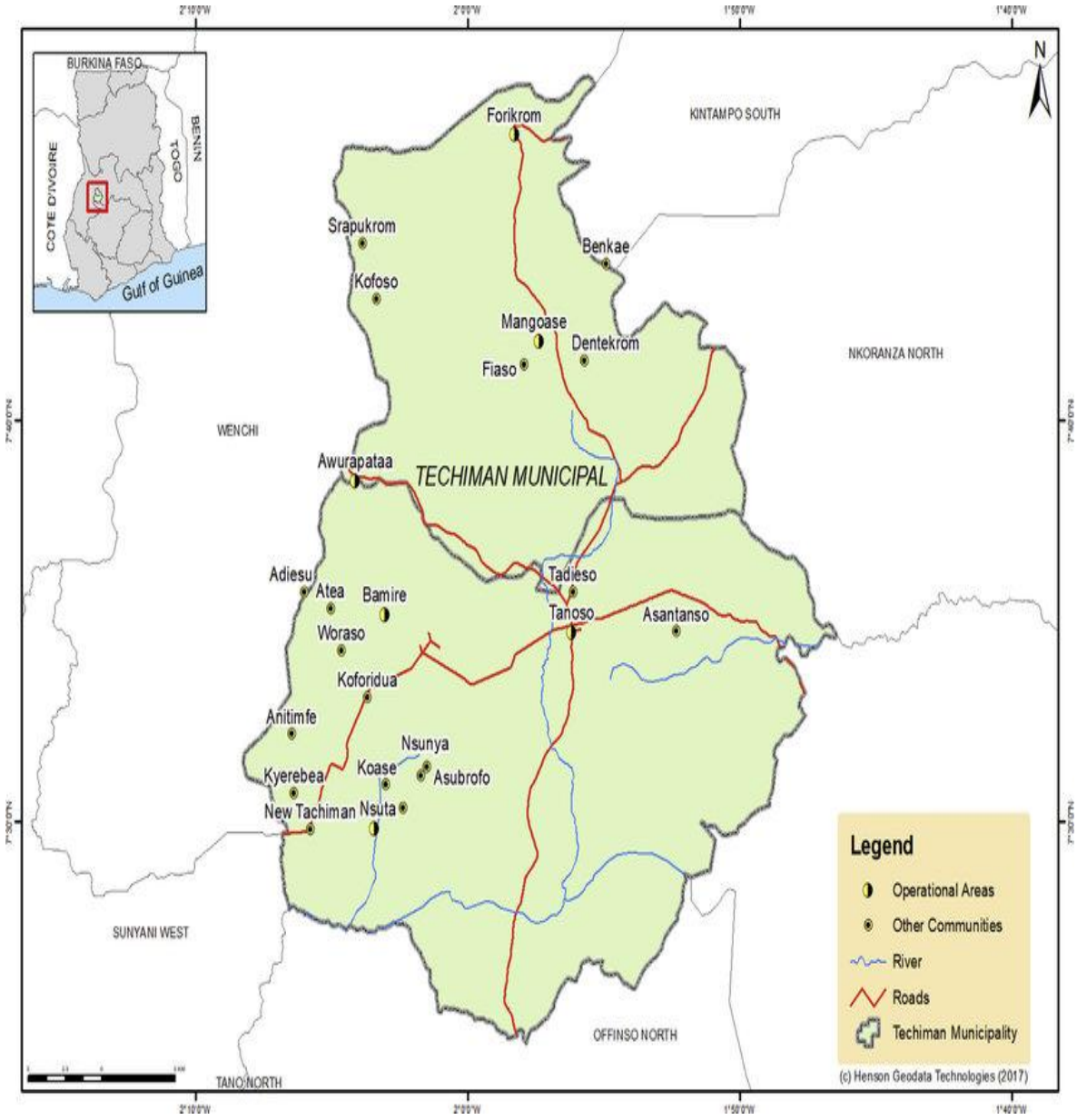


Figure 3.1: Map of Techiman Municipal

3.4 Study Population

The study population comprised patients receiving therapeutic care for non-communicable diseases (NCDs) in major hospitals within the Techiman Municipality. These hospitals include Holy Family Hospital, Ahmadiyya Muslim Hospital, Mount Olive Hospital, Valley View Hospital, and Opoku Ameyaw Hospital. These facilities are among the most prominent healthcare providers in the municipality and play a central

role in managing NCDs such as hypertension, diabetes, cardiovascular diseases, and obesity.

The study focused specifically on individuals who had been diagnosed with cardiovascular diseases (including hypertension, and stroke) or diabetes and had been actively receiving therapeutic care for a period not exceeding two years. This criterion ensured that participants had sufficient experience with NCD treatment and health system interactions, while also minimizing recall bias. **Table 3.1** presents the estimated population of NCD patients receiving therapeutic care for up to two years across the selected hospitals.

Table 3.1: Population for the Study; Sample frame

Hospital	Population of NCD Patients (under at most 2 years therapeutic intervention)
Holy Family Hospital	231
Ahmadiyya Muslim Hospital	198
Mount Olive Hospital	117
Valley View Hospital	95
Opoku Ameyaw Hospital	162
Total	**803**

Source: Health Centres (2024)

3.4.1 Inclusion Criteria

Participants included in this study were adults aged 18 years and above who had been medically diagnosed with one or more non-communicable diseases (NCDs), such as hypertension, diabetes, cardiovascular diseases (including stroke and heart disease), or obesity. Eligible individuals were those who were actively undergoing therapeutic care

for their condition, which could include medication use, dietary modifications, and other lifestyle interventions as recommended by healthcare professionals. To ensure relevance to the study area, only patients receiving treatment at one of the selected hospitals within the Techiman Municipality namely Holy Family Hospital, Ahmadiyya Muslim Hospital, Mount Olive Hospital, Valley View Hospital, or Opoku Ameyaw Hospital were included. This criterion ensured that the sample reflected the healthcare context of the municipality.

3.4.2 Exclusion Criteria

The study excluded individuals with acute medical conditions that required immediate or emergency intervention, as their experiences may not accurately reflect the long-term management of NCDs. Also excluded were patients with severe mental health disorders that could impair their capacity to comprehend the study purpose or provide informed consent, such as those experiencing psychosis or severe depression. Additionally, patients who were unable to participate due to significant physical, cognitive, or communication impairments—such as advanced dementia or language barriers were not included in the study to ensure accurate data collection and ethical engagement.

3.5 Sample Size

The sample size was estimated using Yamane's formula (Yamane, 1967):

$$n = \frac{N}{1 + N\,(e)2}$$

Where:

Where n is the sample size

N = population size

e = margin of error (set at 0.05 for a 95% confidence level)

Based on preliminary hospital records, approximately 800 patients were actively receiving therapeutic care for NCDs in the selected facilities at the time of the study. Using the formula, a sample size of 245 was calculated. However, 10% of the calculated sample size was added to capture possible losses, making the estimated sample size of 270. Nonetheless, a total of 267 was used for the analysis.

3.6 Sampling Techniques

A multi-stage sampling technique was employed. In the first stage, proportionate stratified sampling was used to determine the number of patients selected from each hospital based on the estimated patient load. Finally, simple random sampling was used to select eligible participants from outpatient and chronic care departments within each hospital to ensure every patient had an equal chance of being included in the study.

3.7 Data Collection Tool(s)

A structured questionnaire was developed and sectioned into five: Socio-demographic characteristics, Perceptions of therapeutic care and treatment compliance, social support and health-seeking behaviour, health system-related factors (access, communication, affordability) and an open-ended question to allow respondents to express personal views and experiences. Most items used closed-ended Likert-scale responses, while others employed dichotomous (yes/no) and multiple-choice formats to facilitate quantitative analysis. Data were collected using a structured, interviewer-administered questionnaire designed to assess patient perceptions, social factors, and health system influences on NCD management.

3.8 Validity and Reliability

In ensuring content and face validity, the questionnaire was reviewed by experts in public health, epidemiology, and chronic disease management. Feedback from the experts was used to revise ambiguous or overlapping items to improve clarity and relevance.

A pilot study was conducted with 30 patients from a hospital outside the study sample but within the Bono East Region. The pilot test allowed for the identification and correction of inconsistencies in the tool. Reliability testing using Cronbach's alpha yielded a value of 0.81, indicating good internal consistency for the scale items.

3.9 Data Collection Procedure

Written informed consent was obtained from all participants after explaining the study's objectives and ensuring confidentiality. Trained research assistants, fluent in English and local dialects (Twi and Bono), visited the selected hospitals and administered the questionnaire during outpatient visits or therapeutic care review appointments. Data collection occurred during convenient times that did not interfere with patient care.

For participants with low literacy levels, the questions were read aloud, and their responses were recorded accurately. All completed questionnaires were checked daily for completeness and consistency. Corrections and clarifications were made on the spot, when necessary, in consultation with the research team. Data collection took place over a period of four weeks.

3.10 Data Management and Statistical Analysis

3.10.1 Data Management

The principal investigator (PI) ensured that all questionnaires were checked for completeness and consistency at the end of each data collection session. The validated data were entered into Microsoft Excel (version 2016) for initial organization, data cleaning, and error checking. Any incomplete, duplicate, or inconsistent responses were reviewed, and necessary corrections were made to enhance data integrity. Once the dataset was cleaned and validated, it was exported into IBM SPSS version 22.0 for statistical analysis. To protect participant confidentiality, the dataset was password-protected, and access was restricted to only the research team. No personal identifiers were included in the final dataset, and all data were stored securely on encrypted storage devices.

3.10.2 Statistical Analysis

The data analysis involved both descriptive and inferential statistical approaches. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the socio-demographic characteristics of the respondents and their perceptions of non-communicable disease (NCD) management.

Chi-square tests were employed to explore associations between categorical variables such as gender, education level, and perceptions of therapeutic care. Furthermore, binary logistic regression analysis was conducted to identify and quantify the influence of social and health system factors on the management of NCDs, controlling for potential confounding variables such as age, income, and healthcare access. A p-value less than

0.05 was considered statistically significant, and all statistical tests were performed at a 95% confidence level.

In summary, descriptive statistics were used for the objective 1 and three whiles chi-square test and binary logistic regression were used for the objective 3.

3.11 Ethical Review and Clearance

Ethical clearance for this study was obtained from the Ghana Health Service Ethical Review Committee, with the ethical approval number GHS-ERC:046/03/25. In addition, authorization to conduct the research was granted by the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED) to ensure compliance with institutional research standards. Administrative permission was also sought from the Techiman Municipal Health Directorate and the management of the selected hospitals where data collection took place.

Before participation, all respondents were informed about the purpose, procedures, and potential implications of the study. They were assured that participation was voluntary and that they had the right to withdraw from the study at any point without any adverse consequences. Written informed consent was obtained from all participants. Confidentiality and anonymity were strictly maintained throughout the study by removing personal identifiers from the data collection tools and securely storing all data on password-protected devices accessible only to the research team.

3.12 Study Limitation

This study primarily relied on self-reported data obtained through structured questionnaires administered to patients undergoing therapeutic care for non-

communicable diseases (NCDs) in selected hospitals within the Techiman Municipality. This approach may introduce recall bias or social desirability bias, where respondents provide answers, they perceive as favorable or acceptable rather than accurate. Such biases can potentially affect the reliability of some responses. To mitigate this, respondents were assured of confidentiality and anonymity to promote honest and objective participation.

Another limitation is the geographical scope of the study, which was confined to hospitals within the Techiman Municipality. Although the findings offer valuable insights into the factors influencing NCD management in this context, they may not be generalizable to other municipalities, districts, or healthcare settings in Ghana. Variations in infrastructure, staffing, health-seeking behavior, and resource availability may limit the applicability of these findings elsewhere.

Additionally, the use of a cross-sectional design and non-probability sampling techniques restricts the ability to establish causality and may affect the representativeness of the sample. Despite these limitations, the study contributes meaningfully to the understanding of patient perceptions, social influences, and systemic factors affecting NCD management, and provides useful evidence for improving chronic disease care in similar settings.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the findings of the study, structured according to the specific objectives. The results are organized under the following thematic areas: demographic characteristics of respondents, perceptions of patients receiving therapeutic interventions for non-communicable diseases (NCDs), social factors influencing therapeutic interventions, and health system-related factors affecting the management of NCDs among patients receiving therapeutic care in hospitals within the Techiman Municipality.

4.2 Demographic Characteristics of Participants

In **Table 4.1**, majority (61.8%) of participants were female, 38.6% were aged between 61 to 75 years, 45.3% had pre-tertiary education and majority (50.9%) were married.

Table 4.1: Sociodemographic Characteristics of Respondents

Demographic Characteristics	Frequency (N= 267)	Percentage %
Gender		
Male	102	38.2
Female	165	61.8
Age range in years		
20-49	74	27.7
50-60	90	33.7
61-75	103	38.6
Educational level		
No formal education	34	12.7
Pre-tertiary education	121	45.3
Tertiary education	112	41.9
Marital status		
Single/divorce	77	28.8
Married	136	50.9
Widowed/widower	54	20.2

(Data Source: Field Survey, 2025)

4.3 Perceptions of Patients Receiving Therapeutic Interventions on the Management of Non-Communicable Diseases (NCDs)

In **Table 4.2**, the majority (50.6%) of respondents agreed that the medications prescribed are the most effective treatment for their condition ($p < 0.001$). Most participants (60.3%) agreed that they fully understand the purpose of each medication, while 50.3% strongly agreed that they adhere strictly to their prescriptions ($p < 0.001$). A greater proportion (60.3%) strongly agreed that their medications are safe, and most (90.3%) strongly agreed that the instructions for their medication are easy to follow ($p < 0.001$). Additionally, 59.9% strongly agreed that they feel comfortable asking their healthcare provider questions, and the majority (69.7%) strongly agreed that their medications are regularly reviewed to ensure appropriateness ($p < 0.001$).

Table 4.2: Perceptions of Therapeutic Interventions for NCD Management

Variables	Responses					P-value
	Strongly Agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	
My prescribed Medications are the most effective treatment	26 (9.7)	135 (**50.6**)	53 (19.9)	53 (19.9)	0 (0.00)	**0.000**
I fully understand the purpose of each medication	27 (10.1)	161 (**60.3**)	0 (0.00)	53 (19.9)	26 (9.7)	**0.000**
I adhere strictly to my prescriptions for medications	134 (**50.3**)	107 (40.1)	0 (0.00)	26 (9.7)	0 (0.00)	**0.000**
I feel confident that my medications are safe for me.	161 (**60.3**)	106 (39.7)	0 (0.00)	0 (0.00)	0 (0.00)	**0.001**
The instructions for my medication are easy to follow	241 (**90.3**)	0 (0.00)	0 (0.00)	26 (9.7)	0 (0.00)	**0.000**
I'm comfortable asking healthcare provider questions	160 (**59.9**)	81 (30.3)	0 (0.00)	26 (9.7)	0 (0.00)	**0.000**
My healthcare provider regularly reviews my medications	186 (**69.7**)	54 (20.2)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

As shown in **Table 4.3**, the majority (50.2%) of respondents agreed that they are actively working towards maintaining a healthy weight ($p < 0.001$). Most participants (59.9%) agreed that they avoid foods high in saturated fats, and another 59.9% agreed that they limit their consumption of sugary beverages and snacks ($p < 0.001$). However, only 20.2% agreed to consistently following a diet low in salt to manage hypertension, while 30.0% strongly disagreed ($p < 0.001$). A majority (50.6%) agreed that they prefer fresh or unprocessed foods to control sodium intake, and 60.3% strongly agreed that they engage in regular physical exercise ($p < 0.001$). Similarly, 60.3% agreed that they limit their alcohol intake in accordance with recommended guidelines ($p < 0.001$).

Table 4.3: Adoption of Lifestyle Modification Interventions

Variables	Responses					P-value
	Strongly Agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	
Actively working towards maintaining a healthy weight	106 (39.7)	134 (**50.2**)	0 (0.00)	27 (10.1)	0 (0.00)	**0.000**
I avoid foods high in saturated fats	107 (40.1)	160 (**59.9**)	0 (0.00)	0 (0.00)	0 (0.00)	**0.001**
I limit my consumption of sugary beverages and snacks	54 (19.9)	160 (**59.9**)	53 (19.9)	0 (0.00)	0 (0.00)	**0.000**
I consistently follow a diet low in salt	53 (19.9)	54 (20.2)	54 (20.2)	26 (9.7)	80 (**30.0**)	**0.000**
I prefer unprocessed foods to control my sodium intake	79 (29.6)	135 (**50.6**)	26 (9.7)	27 (10.1)	0 (0.00)	**0.000**
I engage in physical exercise for at least 30 minutes daily	161 (**60.3**)	53 (19.9)	27 (10.1)	26 (9.7)	0 (0.00)	**0.000**
I limit my alcohol intake according to recommendation	53 (19.9)	161 (**60.3**)	53 (19.9)	0 (0.00)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

As shown in **Table 4.4**, most respondents (39.7%) agreed that the psychological support they receive has helped them manage their health ($p < 0.001$). The majority (49.8%) strongly agreed that behavioural interventiobns have positively impacted their daily routines, while 30.0% agreed that behavioural support increased their confidence in managing their health ($p < 0.001$). A higher proportion (59.6%) strongly agreed that coping strategies learned in therapy are effective, and 47.9% agreed they are comfortable discussing emotions with a counsellor ($p < 0.001$). Most participants (58.8%) agreed that the frequency of their psychological support sessions is sufficient, and 46.8% agreed that their mental health has significantly improved due to ongoing behavioural support ($p < 0.001$).

Table 4.4: Influence of Behavioural and Psychological Support on NCD Management

Variables	Responses					P-value
	Strongly Agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	
Psychological support has helped me manage my health	54 (20.2)	106 (**39.7**)	27 (10.1)	80 (30.0)	0 (0.00)	**0.000**
Behavioural interventions have positively impacted my daily routines	133 (**49.8**)	107 (40.1)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**
Confident in managing my health after receiving behavioural support	53 (19.9)	80 (**30.0**)	80 (30.0)	27 (10.1)	27 (10.1)	**0.000**
The coping strategies I've learned in therapy have been effective in managing my mental health	159 (**59.6**)	81 (30.3)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**
comfortable discussing my emotions and concerns with my therapist	57 (21.3)	128 (**47.9**)	36 (13.5)	46 (17.2)	0 (0.00)	**0.000**
The frequency of my psychological support sessions is sufficient to meet my needs	54 (20.2)	157 (**58.8**)	0 (0.00)	36 (13.5)	20 (7.5)	**0.000**
My mental health has improved due to the ongoing behavioral support I receive	103 (38.6)	125 (**46.8**)	19 (7.1)	20 (7.5)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.5 explores the association between demographic characteristics and patients' trust in pharmacological interventions for managing non-communicable diseases (NCDs). Age and education level showed significant associations. Patients aged 20–49 years were 54% less likely to trust their medications compared to those aged 50 and above [AOR=0.46 (0.225–0.926), p=0.030]. Additionally, patients with no formal education were over 3 times more likely to trust their medications compared to those with tertiary education [AOR=3.48 (1.308–9.240), p=0.012].

Table 4.5: Association Between Demographic Characteristics and Trust in Receiving Therapeutic Interventions for NCD Management

Demographic Characteristics	I trust my medications are the best treatment		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	61 (59.8)	41 (40.2)	0.017 (0.896)	1.58 (0.889, 2.795) 0.120
Female	100 (60.6)	65 (39.4)		**Ref:**
Age range in years				
20-49	56 (75.7)	18 (24.3)	**17.089 (0.000)**	0.46 (0.225, 0.926) **0.030**
50-60	40 (44.4)	50 (55.6)		1.56 (0.820, 2.967) 0.175
61-75	65 (63.1)	38 (36.9)		**Ref:**
Educational level				
No formal education	15 (44.1)	19 (55.9)	**11.187 (0.004)**	3.48 (1.308, 9.240) **0.012**
Pre-tertiary education	66 (54.5)	55 (45.5)		1.76 (0.899, 3.454) 0.099
Tertiary education	80 (71.4)	32 (28.6)		**Ref:**
Marital status				
Single/divorce	52 (67.5)	25 (32.5)	3.324 (0.190)	0.94 (0.423, 2.095) 0.883
Married	81 (59.6)	55 (40.4)		0.77 (0.387, 1.539) 0.462
Widowed/widower	28 (51.9)	26 (48.1)		**Ref:**

(Data Source: Field Data, 2025)

Table 4.6 explores the association between demographic factors and adherence to prescribed medications in the management of NCDs. A significant association was observed between age and medication adherence (χ^2=44.45, p=0.000). Patients aged 61–75 years were over 22 times more likely to adhere to their prescribed medications compared to those aged 20–49 years [AOR=22.29 (2.5–199.0), p=0.005].

Table 4.6: Association Between Demographic Characteristics and Adherence to Prescribed Medications in NCD Management

Demographic Characteristics	I take my medications as prescribed		X^2 (P-value)	AOR (95% CI) P-value
	Yes, I strictly (%)	No, not strictly (%)		
Gender				
Male	100 (98.0)	2 (2.0)	**11.358 (0.001)**	**Ref:**
Female	141 (85.5)	24 (14.5)		0.31 (0.058, 1.692) 0.177
Age range in years				
20-49	74 (100.0)	0 (0.0)	**44.450 (0.000)**	**Ref:**
50-60	66 (73.3)	24 (26.7)		NA
61-75	101 (98.1)	2 (1.9)		22.29 (2.5, 199.0) **0.005**
Educational level				
No formal education	25 (73.5)	9 (26.5)	**25.473 (0.000)**	**Ref:**
Pre-tertiary education	104 (86.0)	17 (14.0)		NA
Tertiary education	112 (100.0)	0 (0.0)		NA
Marital status				
Single/divorce	77 (100.0)	0 (0.0)	**27.746 (0.000)**	**Ref:**
Married	110 (80.9)	26 (19.1)		NA
Widowed/widower	54 (100.0)	0 (0.0)		NA

(Data Source: Field Data, 2025)

Table 4.7 presents the association between demographic characteristics and dietary sugar reduction in the management of non-communicable diseases. Age and marital status showed statistically significant associations with sugar reduction behavior. Participants aged 61–75 years were about 89 times more likely to avoid excess sugar compared to those aged 50–60 years [AOR=88.8 (11.77 – 670.6), p=0.000]. Additionally, widowed/widower patients were 97% less likely to avoid excess sugar compared to single/divorced individuals [AOR=0.03 (0.004 – 0.191), p=0.000].

Table 4. 7: Association Between Demographic Characteristics and Dietary Sugar Reduction in NCD Management

Demographic Characteristics	I avoid excess sugar in drinks and snacks		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	83 (81.4)	19 (18.6)	0.155 (0.694)	**Ref:**
Female	131 (79.4)	34 (20.6)		2.54 (0.619, 10.44) 0.196
Age range in years				
20-49	74 (100.0)	0 (0.0)	**115.8 (0.000)**	**Ref:**
50-60	39 (43.3)	51 (56.7)		NA
61-75	101 (98.1)	2 (1.9)		88.8 (11.77, 670.6) **0.000**
Educational level				
No formal education	24 (70.6)	10 (29.4)	**48.41 (0.000)**	**Ref:**
Pre-tertiary education	78 (64.5)	43 (35.5)		NA
Tertiary education	122 (100.0)	0 (0.0)		NA
Marital status				
Single/divorce	77 (100.0)	0 (0.0)	**46.25 (0.000)**	**Ref:**
Married	109 (80.1)	27 (19.9)		NA
Widowed/widower	28 (51.9)	26 (48.1)		0.03 (0.004, 0.191) **0.000**

(Data Source: Field Data, 2025)

Table 4.8 presents the association between demographic characteristics and adherence to a low-salt diet for hypertension management. A significant association was found between gender and adherence (χ^2=48.6, p=0.000); females were 96% less likely to follow a low-salt diet compared to males [AOR=0.04 (0.017–0.104), p=0.000]. Age also showed a significant relationship (χ^2=63.4, p=0.000); individuals aged 50–60 were 95% less likely to adhere compared to those aged 20–49 [AOR=0.05 (0.019–0.128), p=0.000]. Educational level was associated with adherence (χ^2=18.64, p=0.000); participants with pre-tertiary education were 99% less likely to follow the diet compared to those with no formal education [AOR=0.01 (0.003–0.071), p=0.000], while tertiary-educated participants were 86% less likely [AOR=0.14 (0.049–0.383), p=0.000]. Marital status was also significant (χ^2=3.499, p=0.042); married individuals were nearly five times more likely to adhere to the diet [AOR=4.83 (1.57–14.90), p=0.006], and widowed participants were over three times more likely compared to singles/divorced [AOR=3.37 (1.34–8.48), p=0.010].

Table 4.8: Association Between Demographic Characteristics and Adherence to a Low-Salt Diet for Hypertension Management

Demographic Characteristics	I follow a low-salt diet for my hypertension		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	68 (66.7)	34 (33.3)	**48.6 (0.000)**	**Ref:**
Female	39 (23.6)	126 (76.4)		0.04 (0.017, 0.104) **0.000**
Age range in years				
20-49	58 (78.4)	16 (21.6)	**63.4 (0.000)**	**Ref:**
50-60	26 (28.9)	64 (71.1)		0.05 (0.019, 0.128) **0.000**
61-75	23 (22.3)	80 (77.7)		2.11 (0.80, 5.577) 0.131
Educational level				
No formal education	25 (73.5)	9 (26.5)	**18.64 (0.000)**	**Ref:**
Pre-tertiary education	40 (33.1)	81 (66.9)		0.01 (0.003, 0.071) **0.000**
Tertiary education	42 (37.5)	70 (62.5)		0.14 (0.049, 0.383) **0.000**
Marital status				
Single/divorce	26 (33.8)	51 (66.2)	**3.499 (0.042)**	**Ref:**
Married	54 (39.7)	82 (60.3)		4.83 (1.57, 14.90) **0.006**
Widowed/widower	27 (50.0)	27 (50.0)		3.37 (1.34, 8.48) **0.010**

(Data Source: Field Data, 2025)

4.4 Social Factors Influencing Therapeutic Interventions of NCDs

Table 4.9 shows that 30.3% of respondents strongly agreed that they seek family support to reduce health complications, although an equal proportion (30.3%) disagreed ($p < 0.001$). Nearly half (49.8%) strongly agreed that their family's attitude significantly impacts their motivation to stay healthy, and 60.7% agreed that family encouragement influences adherence to therapeutic interventions ($p < 0.001$). Furthermore, 40.4% agreed they feel motivated to exercise regularly due to family support, while 50.2% strongly agreed that their family actively helps them manage their health conditions ($p < 0.001$).

Table 4.9: Influence of Family Support on Adherence to Therapeutic Interventions

Variables	Responses					P-value
	Strongly Agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	
I seek support from family to help me reduce my health complications	81 (30.3)	79 (29.6)	0 (0.00)	81 (30.3)	26 (9.7)	**0.000**
My family's attitude towards health significantly impacts my motivation to stay healthy	133 (49.8)	81 (30.3)	27 (10.1)	0 (0.00)	26 (9.7)	**0.000**
My family's encouragement significantly influences my adherence to therapeutic interventions	52 (19.5)	162 (60.7)	27 (10.1)	0 (0.00)	26 (9.7)	**0.000**
I feel motivated to exercise regularly because of support from my family.	106 (38.7)	108 (40.4)	27 (10.1)	0 (0.00)	26 (9.7)	**0.000**
My family actively helps me in managing my health to control my sickness.	134 (50.2)	107 (40.1)	0 (0.00)	0 (0.00)	26 (9.7)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.10 reveals that social stigma negatively influences therapeutic adherence among respondents. While 20.2% of participants agreed or strongly agreed that they feel embarrassed discussing their sickness with others, a greater proportion disagreed (39.7%) or strongly disagreed (30.0%) ($p < 0.001$). Additionally, 69.7% either disagreed or strongly disagreed that stigma prevents them from joining support groups ($p < 0.001$). Nearly half (49.8%) strongly disagreed that they avoid taking medication in public, suggesting limited influence of stigma on this behavior ($p < 0.001$). Moreover, 59.9% disagreed or strongly disagreed that fear of judgment hinders them from following medical advice ($p < 0.001$).

Table 4.10: Effects of Social Stigma on Therapeutic Adherence

Variables	Responses					P-value
	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	
I sometimes feel embarrassed to discuss my sickness with friends or colleagues	27 (10.1)	27 (10.1)	27 (10.1)	106 (39.7)	80 (30.00	**0.000**
Social stigma prevents me from joining support groups or activities for hypertensive patients.	0 (0.00)	27 (10.1)	54 (20.2)	80 (30.0)	106 (39. 7)	**0.000**
I avoid taking my blood pressure medication in public to prevent drawing attention.	27 (10.1)	27 (10.1)	27 (10.1)	53 (19.9)	133 (49.8)	**0.000**
Concerns about being judged by others sometimes discourage me from following my doctor's advices	27 (10.1)	27 (10.1)	53 (19.9)	81 (30.3)	79 (29.6)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.11 indicates mixed responses regarding the role of peer influence in therapeutic practices. While 40.1% of participants strongly disagreed that they seek support from friends to reduce health complications, a notable 30.3% strongly agreed ($p < 0.001$). Responses were split regarding being influenced by friends' eating and exercise habits, with 39.8% agreeing or strongly agreeing and 60.3% disagreeing or strongly disagreeing ($p < 0.001$). Social challenges also emerged, as 30.3% found it difficult to maintain a healthy lifestyle around peers who do not, while 49.9% disagreed or strongly disagreed ($p < 0.001$). Regarding friends' positive health attitudes, responses were divided, with 40.1% agreeing or strongly agreeing and 30.3% strongly disagreeing ($p = 0.014$). Notably, 70.4% reported being more likely to adhere to their health management plan when peers do the same ($p < 0.001$).

Table 4.11: Peer Influence on Therapeutic Practices and Health Behaviour

Variables	Responses					P-value
	Strongly Agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	
I seek support from friends to help me reduce my health complications	81 (30.3)	26 (9.7)	26 (9.7)	27 (10.1)	107 (40.1)	**0.000**
I am influenced by my friends' eating and exercise habits in managing my sickness	53 (19.9)	53 (19.9)	0 (0.00)	108 (40.4)	53 (19.9)	**0.000**
I find it difficult to maintain a healthy lifestyle when socializing with peers who do not.	27 (10.1)	54 (20.2)	53 (19.9)	80 (30.0)	53 (19.9)	**0.000**
My friends' attitudes towards health positively impact my own health behaviors.	53 (19.9)	54 (20.2)	79 (29.6)	0 (0.00)	81 (30.3)	**0.014**
I am more likely to follow my health management plan when I have peers who do the same	107 (40.1)	81 (30.3)	26 (9.7)	27 (10.1)	26 (9.7)	**0.000**

(Data Source: Field Survey, 2025)

As shown in **Table 4.12**, responses were varied regarding the impact of social norms on compliance with therapeutic interventions. About 29.6% of participants strongly agreed that societal expectations make it difficult to follow their health management plan, while 30.0% disagreed or strongly disagreed ($p < 0.001$). Additionally, 40.0% agreed or strongly agreed that there is a general lack of awareness about the importance of therapeutic changes, whereas 50.2% disagreed or strongly disagreed ($p < 0.001$). A total of 30.3% felt societal pressure to engage in unhealthy behaviors, while 59.9% rejected this notion ($p < 0.001$). Interestingly, 49.9% indicated that public health messages in their community positively influenced their choices related to therapeutic interventions, though 19.9% strongly disagreed ($p = 0.010$).

Table 4.12: Influence of Social Norms on Therapeutic Intervention Compliance

Variables	Responses					P-value
	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	
Societal expectations exercise makes it challenging to adhere to my health management plan.	79 (29.6)	0 (0.00)	108 (40.1)	53 (19.9)	27 (10.1)	**0.000**
There is a general lack of awareness about the importance of therapeutic changes in managing the sickness	53 (19.9)	27 (10.1)	53 (19.9)	80 (30.0)	54 (20.2)	**0.000**
I feel societal pressure to engage in behaviors that are not conducive to managing my sickness	27 (10.1)	54 (20.2)	26 (9.7)	133 (49.8)	27 (10.1)	**0.000**
Public health messages in my community positively influence my choices related to therapeutic interventions.	80 (30.0)	53 (19.9)	81 (30.3)	0 (0.00)	53 (19.9)	**0.010**

(Data Source: Field Survey, 2025)

Table 4.13 presents the association between demographic characteristics and the utilization of family support in managing non-communicable diseases (NCDs) among patients. A significant association was observed between age and family support utilization (χ^2=15.45, p=0.000). Patients aged 61–75 years were 4 times more likely to seek family support compared to those aged 20–49 years [AOR=4.06 (1.743–9.440), p=0.001]. Educational level was also significantly associated with family support use (χ^2=8.94, p=0.011); patients with pre-tertiary education were 91% less likely to seek family support compared to those with no formal education [AOR=0.09 (0.028–0.266), p=0.000], and those with tertiary education were 65% less likely [AOR=0.35 (0.149–0.802), p=0.013]. Marital status showed a strong association (χ^2=69.58, p=0.000); married patients were 99% less likely to seek family support [AOR=0.01 (0.001–0.074), p=0.000], while widowed/widower patients were over twice as likely to seek support compared to single/divorced individuals [AOR=2.25 (1.107–4.574), p=0.025].

Table 4. 13: Association Between Demographic Variables and Utilization of Family Support in NCD Management

Demographic Characteristics	I seek family support for my health		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	58 (56.9)	44 (43.1)	0.65 (0.422)	**Ref:**
Female	102 (61.8)	63 (38.2)		1.46 (0.752, 2.835) 0.264
Age range in years				
20-49	56 (75.7)	18 (24.3)	**15.45 (0.000)**	**Ref:**
50-60	41 (45.6)	49 (54.4)		0.98 (0.415, 2.291) 0.955
61-75	63 (61.2)	40 (38.8)		4.06 (1.743, 9.440) **0.001**
Educational level				
No formal education	25 (73.5)	9 (26.5)	**8.94 (0.011)**	**Ref:**
Pre-tertiary education	61 (50.4)	60 (49.6)		0.09 (0.028, 0.266) **0.000**
Tertiary education	74 (66.1)	38 (33.9)		0.35 (0.149, 0.802) **0.013**
Marital status				
Single/divorce	76 (98.7)	1 (1.3)	**69.58 (0.000)**	**Ref:**
Married	56 (41.2)	80 (58.8)		0.01 (0.001, 0.074) **0.000**
Widowed/widower	28 (51.9)	26 (48.1)		2.25 (1.107, 4.574) **0.025**

(Data Source: Field Data, 2025)

Table 4.14 explores the relationship between demographic characteristics and the influence of family support on treatment adherence among patients with non-communicable diseases. A significant association was observed between gender and treatment adherence (χ^2=7.64, p=0.006), with females being over 3 times more likely to report that family support boosts their adherence compared to males [AOR=3.43 (1.456–8.068), p=0.005]. Age also showed a strong association (χ^2=28.16, p=0.000); patients aged 50–60 and 61–75 were 8 times [AOR=8.02 (2.483–25.90), p=0.001] and 16 times [AOR=16.08 (4.86–53.20), p=0.000] more likely, respectively, to report adherence influenced by family support compared to those aged 20–49. Furthermore, marital status was significantly associated with treatment adherence (χ^2=20.41, p=0.000); married individuals and widowed/widowers were 19 times [AOR=19.2 (8.97–102.19), p=0.000] and 6 times [AOR=5.96 (3.39–26.172), p=0.002] more likely, respectively, to report that family support boosts their adherence compared to singles/divorced.

Table 4.14: Association Between Demographic Characteristics and the Influence of Family Support on Treatment Adherence

Demographic Characteristics	Family support boosts my treatment adherence		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	73 (71.6)	29 (28.4)	**7.64 (0.006)**	**Ref:**
Female	141 (85.5)	24 (14.5)		3.43 (1.456, 8.068) **0.005**
Age range in years				
20-49	49 (66.2)	25 (33.8)	**28.16 (0.000)**	**Ref:**
50-60	66 (73.3)	24 (26.7)		8.02 (2.483, 25.90) **0.001**
61-75	99 (96.1)	4 (3.9)		16.08 (4.86, 53.20) **0.000**
Educational level				
No formal education	25 (73.5)	9 (26.5)	2.68 (0.263)	**Ref:**
Pre-tertiary education	102 (84.3)	19 (15.7)		3.53 (0.851, 14.68) 0.082
Tertiary education	87 (77.7)	25 (22.3)		1.16 (0.374, 3.60) 0.798
Marital status				
Single/divorce	51 (66.2)	26 (33.8)	**20.41 (0.000)**	**Ref:**
Married	110 (80.9)	26 (19.1)		19.2 (8.97, 102.19) **0.000**
Widowed/widower	53 (98.1)	1 (1.9)		5.96 (3.39, 26.172) **0.002**

(Data Source: Field Data, 2025)

Table 4.15 examines the relationship between demographic factors and avoidance of treatment due to fear of judgment in NCD management. A significant association was found between gender and avoidance of treatment (χ^2=6.89, p=0.009). Female participants were 90% less likely to avoid treatment due to fear of judgment compared to males [AOR=0.10 (0.024 – 0.453), p=0.003]. Age was also significantly associated (χ^2=127.5, p=0.000); individuals aged 50–60 years were 99% less likely to avoid treatment compared to those aged 20–49 years [AOR=0.01 (0.002 – 0.058), p=0.000]. Furthermore, participants with tertiary education were 96% less likely to avoid treatment due to perceived judgment than those with no formal education [AOR=0.04 (0.006 – 0.290), p=0.001]. Lastly, married participants were 99% less likely to avoid treatment compared to those who were single or divorced [AOR=0.01 (0.001 – 0.233), p=0.003].

Table 4.15: Association Between Demographic Factors and Avoidance of Treatment Due to Perceived Judgment in NCD Management

Demographic	I sometimes avoid treatment due to fear of judgment		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	29 (28.4)	73 (71.6)	**6.89 (0.009)**	**Ref:**
Female	25 (15.2)	140 (84.8)		0.10 (0.024, 0.453) **0.003**
Age range in years				
20-49	48 (64.9)	26 (35.1)	**127.5 (0.000)**	**Ref:**
50-60	0 (0.0)	90 (100.0)		0.01 (0.002, 0.058) **0.000**
61-75	6 (5.8)	97 (94.2)		NA
Educational level				
No formal education	15 (44.1)	19 (55.9)	**17.95 (0.000)**	**Ref:**
Pre-tertiary education	14 (11.6)	107 (88.4)		NA
Tertiary education	25 (22.3)	87 (77.7)		0.04 (0.006, 0.290) **0.001**
Marital status				
Single/divorce	26 (33.8)	51 (66.2)	**20.06 (0.000)**	**Ref:**
Married	27 (19.9)	109 (80.1)		0.01 (0.001, 0.233) **0.003**
Widowed/widower	1 (1.9)	53 (98.1)		0.12 (0.007, 1.557) 0.101

(Data Source: Field Data, 2025)

4.5 Health System-Related Factors Affecting the Management of NCDs

Table 4.16 indicates that majority (89.9%) of participants, 70.0% strongly agree, 19.9% agreed being aware of the recommendations for adhering to therapeutic changes ($p < 0.001$). Similarly, 100% of respondents agreed or strongly agreed that the health education they receive has significantly improved their knowledge on managing their condition ($p < 0.001$). All respondents also agreed that they are well-informed about the lifestyle changes necessary to manage their sickness (70.0% strongly agree; 30.0% agree). Educational materials from healthcare facilities were considered clear and helpful by 79.8% of participants ($p < 0.001$). Additionally, 89.9% agreed or strongly agreed that health system support has helped them make dietary changes to manage their illness ($p < 0.001$).

Table 4.16: Impact of Health Education on Therapeutic Change Adherence

Variables	Responses					P-value
	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	
I am aware of the recommendations to adhere to therapeutic changes	187 (70.0)	53 (19.9)	0 (0.00)	27 (10.1)	0 (0.00)	**0.000**
The health education I receive has significantly increased my knowledge about managing my sickness.	188 (70.4)	79 (29.6)	0 (0.00)	0 (0.00)	0 (0.00)	**0.000**
I feel well-informed about the lifestyle changes needed to control my sickness	178 (70.0)	80 (30.0)	0 (0.00)	0 (0.00)	0 (0.00)	**0.000**
The educational materials provided by healthcare facilities are clear and helpful.	132 (49.5)	81 (30.3)	54 (20.2)	0 (0.00)	0 (0.00)	**0.000**
The support from the health system has made it easier for me to make dietary changes to manage my sickness.	160 (59.9)	80 (30.0)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.17, shows that most respondents affirmed (89.9%), 30.0% strongly agree; 59.9% agreed regular counselling sessions have motivated them to adopt healthier lifestyles ($p < 0.001$). Similarly, 89.9% also agreed that advice given during counselling sessions is relevant and practical. When asked about the personalization of counselling, 60% (19.9% strongly agree; 40.1% agree) acknowledged receiving tailored suggestions from their healthcare providers ($p < 0.001$). Regarding confidence in controlling their condition, 80.2% expressed confidence due to the comprehensive care received. Lastly, 89.9% indicated that counselling also addresses their mental well-being ($p < 0.001$).

Table 4.17: Effectiveness of Counselling Services in Health Management

Variables	Responses					P-value
	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	
Regular counseling sessions have motivated me to adopt healthier lifestyle	80 (30.0)	160 (59.9)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**
I find the advice given during counseling sessions relevant and practical for managing my sickness.	160 (59.9)	80 (30.0)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**
My healthcare provider offers personalized suggestions during counseling that address my specific needs.	53 (19.9)	107 (40.1)	54 (20.2)	53 (19.9)	0 (0.00)	**0.000**
I feel confident in my ability to control my sickness due to the comprehensive care I receive.	53 (19.9)	161 (60.3)	26 (9.7)	27 (10.1)	0 (0.00)	**0.000**
The counseling I receive also addresses my mental well-being in relation to health management	79 (29.6)	161 (60.3)	27 (10.1)	0 (0.00)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.18 shows that accessibility to health facilities significantly enhances therapeutic adherence. Most respondents (80.1%) agreed that easy access supports health management, while 90.3% could readily consult their healthcare providers. Additionally, 90.2% reported that nearby services positively influenced healthy living. All participants agreed that scheduling check-ups was convenient. These findings were statistically significant ($p < 0.001$).

Table 4.18: Accessibility of Health Facilities and Its Impact on Therapeutic Adherence

Variables	Responses					P-value
	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	
Easy access to healthcare facilities has been crucial in my health management	53 (19.9)	161 (60.2)	53 (19.9)	0 (0.00)	0 (0.00)	**0.000**
I can readily access my healthcare provider for advice on therapeutic changes.	106 (39.7)	135 (50.6)	26 (9.7)	0 (0.00)	0 (0.00)	**0.000**
The proximity of healthcare services has influenced my ability to maintain a healthy lifestyle.	160 (59.9)	81 (30.3)	0 (0.00)	26 (9.7)	0 (0.00)	**0.000**
Scheduling appointments for regular check-ups and consultations is convenient and flexible	186 (69.7)	81 (30.3)	0 (0.00)	0 (0.00)	0 (0.00)	**0.000**

(Data Source: Field Survey, 2025)

Table 4.19 explores the association between demographic characteristics and the perceived impact of proximity to healthcare on health habits. A significant relationship was observed between age and perception of proximity's impact. Older respondents (aged 61–75 years) were over 22 times more likely to report improved health habits due to healthcare proximity compared to those aged below 61 years [AOR=22.29 (2.50–199.0), p=0.005].

Table 4.19: Association Between Demographic Characteristics and the Perceived Impact of Proximity to Healthcare on Health Habits

Demographic	Proximity to care improves my health habits		X^2 (P-value)	AOR (95% CI) P-value
	Yes (%)	No (%)		
Gender				
Male	100 (98.0)	2 (2.0)	**11.36 (0.001)**	**Ref:**
Female	141 (85.5)	24 (14.5)		0.31 (0.058, 1.692) 0.177
Age range in years				
20-49	74 (100.0)	0 (0.0)	**44.45 (0.000)**	**Ref:**
50-60	66 (73.3)	24 (26.7)		NA
61-75	101 (98.1)	2 (1.9)		22.29 (2.50, 199.0) **0.005**
Educational level				
No formal education	25 (73.5)	9 (26.5)	**25.47 (0.000)**	**Ref:**
Pre-tertiary education	104 (86.0)	17 (14.0)		NA
Tertiary education	112 (100.0)	0 (0.0)		NA
Marital status				
Single/divorce	77 (100.0)	0 (0.0)	**27.75 (0.000)**	**Ref:**
Married	110 (80.9)	26 (19.1)		NA
Widowed/widower	54 (100.0)	0 (0.0)		NA

(Data Source: Field Data, 2025)

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter discusses the key findings of the study, which explored the factors that influence the management of non-communicable diseases (NCDs) among patients under therapeutic care within hospitals in the Techiman Municipality. The discussion is structured around the study's specific objectives, focusing on patients' perceptions of therapeutic care for NCDs, the influence of social factors, and the role of health system factors in NCD management. This chapter critically examines the study's findings in relation to existing literature and relevant theoretical perspectives on chronic disease management and health systems performance. By comparing the results of this study with previous research, the discussion highlights the broader implications for policy, practice, and patient-centered care in the management of NCDs within the Ghanaian healthcare context.

5.2 Perceptions of Patients Receiving Therapeutic Care for Non-Communicable Diseases

The current study revealed a generally positive perception of therapeutic interventions, with most patients expressing trust in their medications. Specifically, 50.6% of participants agreed that the medications prescribed were the most effective for their conditions, while a significant majority (60.3%) strongly agreed that their medications were safe and that the instructions were easy to follow. This is in line with earlier findings by several studies, that noted that medication safety and clarity of instructions improve patient adherence and confidence in treatment (Brown *et al.,* 2016; Merks *et al.,* 2021). Similarly, adherence was found to be high in the present study, with 50.3% of participants

strongly agreeing that they strictly follow their prescriptions, in agreement with studies that reported that patients who understand their medication regimens are more likely to comply with long-term therapeutic plans (Kvarnström *et al.*, 2021; Lustberg *et al.*, 2023), a notion affirmed by the current data showing that 60.3% of respondents fully understood the purpose of each medication.

The similarities between this study and previous research are due to a shared focus on patient education, clear medication instructions, and safety, all of which build trust and improve adherence. Minor differences may arise from variations in communication, cultural beliefs, or health literacy. The study reinforces the importance of patient-centered communication and simple, clear instructions to enhance treatment outcomes. It suggests that improving medication literacy and strengthening patient-provider relationships are essential strategies for promoting adherence and better health outcomes across diverse populations.

In addition to pharmacological adherence, patients demonstrated positive lifestyle practices related to NCD management. Over half of the respondents reported engaging in healthy behaviors, such as avoiding foods high in saturated fats (59.9%) and sugary snacks and beverages (59.9%). These findings mirror the conclusions of several studies, that found that dietary choices significantly influence the management of hypertension and diabetes in Ghana (Ellahi *et al.*, 2023; Kodom, 2024). Physical activity was also emphasized, with 60.3% of participants strongly agreeing that they regularly exercise and limit their alcohol intake in line with recommended guidelines (Lardier *et al.*, 2021). However, salt reduction appeared less consistent, with only 20.2% adhering to a low-salt diet and 30.0% strongly disagreeing with this practice. This disparity reflects findings

from other studies in Ghana, who reported challenges in salt intake reduction among Ghanaians despite health education (Menyanu *et al.,* 2021; Peprah *et al.,* 2023). Therefore, while patients show high compliance in certain lifestyle domains, continued education and counselling on salt-related risks are necessary for holistic disease management (Patil *et al.,* 2021).

Psychological and behavioral support emerged as another critical dimension in patient perceptions of therapeutic care. A substantial proportion of participants (49.8%) strongly agreed that behavioral interventions positively influenced their daily routines, while 59.6% strongly agreed that coping strategies learned during therapy were effective. This aligns with global evidence that psychosocial support improves self-management and emotional well-being in patients with chronic diseases (Jiakponna *et al.,* 2024; Kim *et al.,* 2021; Mikula *et al.,* 2021). Furthermore, the comfort in discussing emotions with a counsellor (47.9%) and satisfaction with the frequency of psychological support sessions (58.8%) underscore the importance of integrating mental health into NCD care. This is in line with WHO guidelines recommending the inclusion of behavioral and psychological components in chronic disease care frameworks (WHO, 2024b). Overall, these findings suggest that therapeutic care in the Techiman Municipality hospitals is not only perceived positively by patients but also aligns with global best practices in NCD management, combining pharmacological, lifestyle, and psychosocial interventions.

The current study discovered that socio-demographic characteristics such as age, education level, marital status, and gender significantly influenced patients' perceptions and adherence to therapeutic interventions. Younger patients (20–49 years) were 54% less likely to trust their medications than older patients aged 50 years and above [AOR = 0.46 (0.225–0.926), p = 0.030]. This is consistent with existing literature, which suggests

that older adults often have more experience with long-term medication use and are more likely to develop trust in pharmacological treatments due to prolonged exposure and greater health consciousness (Kvarnström *et al.,* 2021; Zhou *et al.,* 2024). Moreover, adherence to prescribed medications was strongly associated with age. Patients aged 61–75 years were over 22 times more likely to adhere to their medications than younger patients [AOR = 22.29 (2.5–199.0), p = 0.005], underscoring the importance of tailored health communication strategies for younger populations who may be more skeptical of biomedical interventions (Kvarnström *et al.,* 2021).

Educational level also played a crucial role in shaping perceptions and practices related to NCD management. Interestingly, patients with no formal education were significantly more likely to trust their medications compared to those with tertiary education [AOR = 3.48 (1.308–9.240), p = 0.012]. Similarly, in dietary practices, individuals with no formal education adhered more strictly to a low-salt diet than their more educated counterparts. Participants with pre-tertiary and tertiary education were 99% [AOR = 0.01 (0.003–0.071), p = 0.000] and 86% [AOR = 0.14 (0.049–0.383), p = 0.000] less likely, respectively, to adhere to low-salt dietary guidelines compared to those with no formal education. These findings disagree with the assumption that higher education always correlates with better health practices and may reflect the complex interplay of trust, cultural beliefs, and health literacy in determining patient behaviors (Smith III *et al.,* 2023; Wiedermann *et al.,* 2025). The lower adherence among educated individuals could be attributed to greater exposure to conflicting health information or a sense of autonomy in treatment choices, calling for more nuanced patient education approaches (Lu *et al.,* 2024).

Gender and marital status were also found to significantly influence adherence to dietary recommendations. Females were 96% less likely to adhere to a low-salt diet compared to males [AOR = 0.04 (0.017–0.104), p = 0.000], highlighting the need for gender-sensitive health interventions. Married and widowed participants were more likely to follow dietary guidelines than their single or divorced counterparts [AOR = 4.83 (1.57–14.90), p = 0.006; AOR = 3.37 (1.34–8.48), p = 0.010 respectively]. These results suggest that social support, particularly from spouses, may positively influence health behaviors. Moreover, older individuals aged 61–75 were nearly 89 times more likely to avoid excessive sugar than those aged 50–60 years [AOR = 88.8 (11.77–670.6), p = 0.000], affirming that age and possibly health status or disease progression influence dietary commitment. These findings emphasize the need for culturally and demographically tailored interventions that consider age, gender, education, and marital status to enhance adherence and trust in therapeutic care for NCDs (WHO, 2020).

5.3 Social Factors Influencing Therapeutic Interventions of NCDs

This study discovered that family support plays a significant role in improving therapeutic adherence and health outcomes. A majority of participants either agreed or strongly agreed that family encouragement positively influenced their adherence to therapeutic practices and helped them remain motivated to exercise regularly and manage their condition. These findings are in line with previous research which has shown that social support from family can reduce psychological distress and improve self-care behaviors in patients with chronic illnesses (El-Radad *et al.,* 2023; Kane *et al.,* 2021). The emotional and instrumental support from family members appears to serve as a critical buffer against the stressors of disease management, thereby enhancing patients' ability to stick to medical advice and adopt healthier lifestyles. However, the finding that

30.3% of respondents disagreed with the notion of seeking family support suggests that not all patients benefit equally, possibly due to strained family relationships or differing cultural expectations about health management responsibility.

Stigma emerged as a nuanced but less dominant social factor influencing therapeutic adherence. A large proportion of respondents disagreed or strongly disagreed that stigma affected their willingness to discuss their illness, join support groups, or take medication in public. This contrasts with earlier studies in Ghana which identified stigma as a major barrier to treatment adherence, especially for conditions perceived to carry social shame (Appiah *et al.,* 2023; Ouner *et al.,* 2025). In this study, however, it appears that stigma was less of a deterrent, possibly due to increasing public awareness and normalization of NCDs such as hypertension and diabetes. Nonetheless, the 20.2% of participants who did report feelings of embarrassment point to the persistence of subtle forms of stigma, which could still influence behaviors in vulnerable groups. Addressing such latent stigma through continuous community education and the promotion of supportive group therapy structures could further improve health outcomes.

Peer influence and social norms yielded mixed results. While 70.4% of participants indicated they were more likely to adhere to therapeutic plans when their peers did the same, others showed resistance to peer-based behaviors, particularly when such behaviors promoted unhealthy lifestyles. These findings align with theories of social learning and normative influence, which assert that individuals' health behaviors are shaped by the attitudes and actions of those within their immediate social networks (Jahan & Sciences, 2023; Yang & Wu, 2021). Notably, the influence of societal expectations and peer behaviors appeared less impactful than familial support,

suggesting that family remains the most trusted unit in influencing NCD management in this setting. The fact that nearly half of respondents indicated public health messages positively influenced their therapeutic choices also underscores the importance of culturally tailored health communication. Interventions aimed at improving NCD outcomes must therefore adopt a multifaceted approach that integrates family engagement, counters social stigma, leverages peer modeling, and promotes positive societal norms to foster sustained behavior change.

The findings of this study demonstrate that social factors, particularly family support, significantly influence the management of non-communicable diseases (NCDs) among patients receiving therapeutic care in hospitals within the Techiman Municipality. Age was a key determinant in the utilization of family support, with patients aged 61–75 years being four times more likely to seek support from family members compared to those aged 20–49 years [AOR = 4.06 (1.743–9.440), p = 0.001]. This aligns with previous studies that suggest older adults often rely more on family networks for emotional and logistical support in managing chronic illnesses (Bhat *et al.*, 2023; Semlali *et al.*, 2022). Educational status was also significantly associated with family support usage. Surprisingly, individuals with higher educational levels particularly those with pre-tertiary and tertiary education were significantly less likely to seek family support compared to those with no formal education [AOR = 0.09 (0.028–0.266), p = 0.000; AOR = 0.35 (0.149–0.802), p = 0.013 respectively]. This could be attributed to greater self-efficacy and autonomy in health decision-making among the more educated, or perhaps a reduced perception of the need for familial involvement (Bhat *et al.*, 2023).

Marital status also played a notable role in shaping social dynamics related to therapeutic adherence. Contrary to expectations, married individuals were 99% less likely to seek family support [AOR = 0.01 (0.001–0.074), p = 0.000], whereas widowed individuals were over two times more likely to do so [AOR = 2.25 (1.107–4.574), p = 0.025]. However, when examining the influence of family support on treatment adherence, both married and widowed participants were significantly more likely to report that family support boosted their adherence [AOR = 19.2 (8.97–102.19), p = 0.000; AOR = 5.96 (3.39–26.172), p = 0.002 respectively]. This suggests that while married individuals may not overtly seek support, the implicit presence and encouragement of a spouse may enhance adherence to treatment. Furthermore, female patients were over three times more likely to report that family support improved their adherence to treatment compared to males [AOR = 3.43 (1.456–8.068), p = 0.005]. This supports the gender-based caregiving dynamic noted in the literature, where women tend to be more socially connected and receptive to support in health-related matters (Bedrov & Gable, 2023).

Avoidance of treatment due to fear of social judgment was another critical theme influenced by demographic variables. Males were significantly more likely to avoid treatment due to fear of being judged, while females were 90% less likely to exhibit such avoidance behavior [AOR = 0.10 (0.024–0.453), p = 0.003]. This could reflect societal norms where men may perceive seeking treatment as a sign of vulnerability, thus avoiding care due to stigma or pride (Mursa *et al.,* 2022). Age again showed a strong inverse relationship with treatment avoidance older patients (50–60 years) were 99% less likely to avoid care due to fear of judgment compared to those aged 20–49 years [AOR = 0.01 (0.002–0.058), p = 0.000]. Furthermore, tertiary-educated participants were 96% less likely to avoid treatment due to perceived judgment compared to those with no

formal education [AOR = 0.04 (0.006–0.290), p = 0.001], highlighting the potential role of health literacy in combating stigma. Married participants were also far less likely to avoid treatment [AOR = 0.01 (0.001–0.233), p = 0.003], suggesting that the emotional and moral support inherent in stable relationships may buffer against fear-driven avoidance. These findings highlight the need for healthcare systems to integrate family-centered care approaches and psychosocial support strategies to reduce stigma and promote adherence in NCD management (WHO, 2020).

5.4 Health System Factors Influencing the Management of Non-Communicable Diseases (NCDs)

This study revealed that health system-related factors play a pivotal role in influencing the effective management of non-communicable diseases (NCDs) among patients under therapeutic care. A striking majority (89.9%) of respondents affirmed awareness of the recommended therapeutic changes, indicating the successful dissemination of clinical guidelines within the health system. Furthermore, all respondents strongly agreed that health education had significantly enhanced their understanding of how to manage their conditions, which highlights the impact of structured patient education programs. This finding aligns with previous studies emphasizing the essential role of health literacy and education in improving chronic disease outcomes (Fitzpatrick, 2023; Riemann *et al.,* 2021). Educational materials provided were also found to be clear and useful by 79.8% of participants, corroborating the assertion that user-friendly educational content supports patient engagement and behavior change (Fitzpatrick, 2023). Additionally, 89.9% reported that the health system had facilitated dietary changes, reinforcing the importance of supportive environments in promoting adherence to therapeutic plans.

Counselling emerged as another critical pillar in the health system's approach to managing NCDs. Nearly 90% of respondents acknowledged the motivating role of regular counselling sessions in adopting healthier lifestyles. The practical relevance of the advice provided was similarly affirmed, indicating the competency of healthcare professionals in delivering actionable guidance. These findings are consistent with studies from Ghana and Kenya, where effective counselling was associated with improved disease self-management and psychosocial well-being (Amankwah-Poku *et al.,* 2021; Kinyanjui *et al.,* 2025). Moreover, 60% of respondents reported receiving personalized counselling, an approach that enhances patient-centered care and has been shown to yield better adherence outcomes (Amankwah-Poku *et al.,* 2021). Confidence in managing one's condition was expressed by 80.2% of participants, suggesting that the comprehensive nature of care including both physical and psychological components has a reinforcing effect on self-efficacy. Furthermore, the finding that 89.9% received mental health support during counselling sessions highlights the holistic orientation of care being provided and supports the integration of mental health into chronic disease management frameworks (WHO, 2024b).

Accessibility to healthcare facilities was also identified as a significant enabler of therapeutic adherence. A large majority of respondents (80.1%) agreed that easy access to health services facilitated their ability to manage their conditions effectively. Additionally, 90.3% of participants reported ease in consulting healthcare providers, while 90.2% indicated that proximity to health services influenced their lifestyle positively. These findings underscore the role of geographic and logistical accessibility in promoting continuity of care, timely interventions, and patient satisfaction (Batool *et al.,* 2023; Tolu-Akinnawo *et al.,* 2024). The fact that all participants found scheduling

appointments convenient suggests that service organization is well-structured, minimizing delays and reinforcing patient trust in the system. Collectively, these findings demonstrate that effective health education, counselling, personalized care, and accessible health infrastructure are essential health system factors that contribute to the successful management of NCDs. Policy efforts should focus on strengthening these systems to enhance long-term health outcomes for individuals living with chronic diseases in Ghana and similar low-resource settings.

This study revealed that health system-related factors significantly influence the management of non-communicable diseases (NCDs) among patients receiving therapeutic care. Among the key findings, proximity to healthcare facilities emerged as a critical determinant of effective NCD management. Specifically, respondents aged 61–75 years were over 22 times more likely to report that the proximity of healthcare facilities positively influenced their health behaviors and habits compared to younger respondents below age 61 [AOR=22.29 (2.50–199.0), p=0.005]. This result is consistent with previous literature, which found that geographical accessibility to health services greatly affects patient adherence to care plans, frequency of medical visits, and early detection of disease complications (Amankwah-Poku *et al.,* 2021; Tolu-Akinnawo *et al.*, 2024). For older adults, closer proximity to healthcare facilities often translates into fewer transportation barriers, reduced costs, and better continuity of care, which are crucial for long-term disease management (Fitzpatrick, 2023).

Moreover, this finding aligns with Andersen's Behavioral Model of Health Services Use, which posits that enabling factors such as proximity are instrumental in facilitating health service utilization (Tolu-Akinnawo *et al.,* 2024). In the context of NCD management,

frequent and timely interactions with healthcare providers are necessary for monitoring conditions, adjusting medications, and providing lifestyle counseling. As such, health systems must prioritize infrastructure development and spatial planning to ensure equitable physical access to health services, particularly for vulnerable populations such as the elderly. Improving proximity to care, along with strengthening other health system components such as staffing, equipment availability, and patient-provider communication, can contribute to more effective NCD management outcomes (WHO, 2024b).

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

This chapter presents a summary of the key findings from the study, which explored the factors influencing the management of non-communicable diseases (NCDs) among patients receiving therapeutic care within hospitals in the Techiman Municipality. The study specifically assessed patient perceptions, social influences, and health system-related factors that affect the effective management of NCDs. In addition, this chapter outlines the limitations encountered during the research process and provides evidence-based recommendations aimed at improving therapeutic care and the overall management of NCDs in healthcare settings across the municipality. The chapter concludes with strategic suggestions for policy, practice, and future research.

6.2 Summary of the Key Findings

The majority of participants (61.8%) were female, 38.6% were aged 61–75 years, 45.3% had pre-tertiary education, and over half (50.9%) were married. A large proportion of respondents positively perceived pharmacological and lifestyle interventions. Over half (50.6%) agreed that prescribed medications were effective, and 60.3% affirmed understanding the purpose of each medication. Adherence levels were high, with 50.3% strongly agreeing to strict compliance with prescriptions, while 90.3% found medication instructions easy to follow. A majority (69.7%) strongly agreed that their medications were regularly reviewed for appropriateness. Non-pharmacological practices were also embraced: 60.3% reported regular exercise, and 59.9% limited sugar intake and fatty foods. However, adherence to a low-salt diet was weak, with only 20.2% agreeing to follow it consistently. Psychological support was also impactful 59.6% strongly agreed

that coping strategies from therapy were effective, and 46.8% affirmed mental health improvement due to behavioral support.

Demographically, younger participants (20–49 years) were significantly less likely to trust medications compared to older counterparts (AOR=0.46, p=0.030), while those with no formal education had higher trust in pharmacological interventions than the tertiary-educated (AOR=3.48, p=0.012). Adherence to medications was significantly higher among older adults aged 61–75 (AOR=22.29, p=0.005). For dietary sugar reduction, older age (61–75 years) increased likelihood of adherence (AOR=88.8, p=0.000), while widowed individuals were significantly less likely to comply (AOR=0.03, p=0.000). Adherence to low-salt diets showed strong associations with gender, age, education, and marital status: females, those aged 50–60, pre-tertiary and tertiary-educated individuals were all less likely to follow salt-reduction guidelines ($p<0.001$), while married and widowed individuals were significantly more adherent (AOR=4.83 and 3.37 respectively).

Family support emerged as a pivotal factor: 60.7% agreed that family encouragement promoted adherence, and 50.2% strongly agreed that their family actively helped manage their health. Meanwhile, 49.8% strongly agreed that their family's attitude positively influenced their motivation. Though stigma was present for some (20.2%), most respondents disagreed that it hindered treatment or participation in support groups. Peer influence showed mixed responses 40.1% strongly disagreed with seeking peer support, while 30.3% strongly agreed. Social norms were perceived to impact behavior moderately; 49.9% agreed public health messages positively influenced their therapeutic decisions.

Demographic associations indicated that patients aged 61–75 were four times more likely to seek family support than those aged 20–49 (AOR=4.06, p=0.001). However, individuals with pre-tertiary and tertiary education were significantly less likely to seek family support compared to those without formal education. Married individuals were 99% less likely to rely on family support than singles/divorced, while widowed individuals were more than twice as likely to do so (AOR=2.25, p=0.025). Treatment adherence was significantly influenced by gender and age: females were more than three times more likely than males to report family support positively affecting their adherence (AOR=3.43, p=0.005), and older patients (50–60 and 61–75 years) were 8 and 16 times more likely, respectively, to report enhanced adherence due to family support. Additionally, females, older individuals (50–60), and married respondents were significantly less likely to avoid treatment due to fear of judgment.

Most respondents acknowledged the health system's positive contribution. Nearly 90% were aware of therapeutic recommendations, and all participants affirmed that health education improved their knowledge. A majority (79.8%) found educational materials helpful, and 89.9% agreed that health system support encouraged dietary changes. Counselling services were widely valued: 89.9% reported motivation to adopt healthier lifestyles, with 60% receiving personalized advice. About 80.2% gained confidence in managing their condition due to holistic care. Accessibility to healthcare was also influential over 90% could easily consult healthcare providers, and all agreed on the convenience of scheduling appointments. Older age significantly influenced perception of healthcare proximity participants aged 61–75 were 22 times more likely to report improved health habits due to nearby facilities (AOR=22.29, p=0.005).

6.4 Conclusion

The study revealed that patients under therapeutic care for non-communicable diseases (NCDs) in hospitals within the Techiman Municipality generally had positive perceptions about their treatment. Majority demonstrated trust in the effectiveness and safety of their medications, adhered to prescriptions, and reported clear understanding of medication instructions. Most respondents also acknowledged receiving adequate behavioural and psychological support, including guidance on healthy lifestyles and emotional well-being. However, gaps were noted in adherence to dietary interventions such as low-salt intake, particularly among younger, female, and educated patients, highlighting the need for more targeted nutritional counseling. These findings imply a need for strengthened, targeted dietary counselling and tailored health communication strategies to improve adherence to nutritional interventions, particularly among younger, female, and educated NCD patients.

Social factors, especially family support, significantly influenced adherence to NCD management strategies. Patients who received encouragement from family members were more likely to comply with medication, engage in physical activity, and maintain healthy routines. While social stigma and peer influence had varying impacts, most participants indicated that supportive social environments enhanced their motivation and health outcomes, particularly among older and married individuals. These findings imply that strengthening family involvement and supportive social networks could significantly enhance adherence to NCD management, especially among older and married patients.

Health system-related factors also played a vital role in influencing the management of NCDs. High levels of patient satisfaction were reported in relation to health education,

counselling services, accessibility to care, and personalized support. Participants noted that frequent, relevant, and tailored advice from healthcare professionals improved their knowledge, motivation, and adherence to treatment plans. Accessibility of facilities and proximity to healthcare centers further encouraged healthy lifestyle adoption. These findings suggest that strengthening health education, improving access, and enhancing the quality of counselling can significantly improve therapeutic outcomes in managing NCDs. These findings imply that enhancing health education, improving access to care, and strengthening counselling services can significantly boost patient adherence and improve therapeutic outcomes in NCD management.

6.5 Recommendations

6.5.1 Policy Makers

- ✓ GHS should institutionalize behavioural and psychological counselling services in all health facilities managing NCDs, as findings showed that such support significantly improves self-management and adherence among patients.
- ✓ GHS should tailor health communication strategies based on age, gender, and education to improve trust and adherence. Younger, educated, and female patients demonstrated lower adherence in some aspects, highlighting the need for targeted interventions.
- ✓ Given the positive impact of psychological counselling observed in the study, the MoH should revise NCD policies to incorporate mental health as a core component of therapeutic care in all regional and district-level hospitals.
- ✓ The Ministry should launch culturally relevant salt-reduction campaigns and regulations, as only 20.2% of patients adhered to low-salt diets despite general compliance in other lifestyle areas.

6.5.3 Practice

- TMHD should initiate community-based health programs that involve family members in patient education and lifestyle counselling, as family support was shown to significantly enhance adherence and motivation.
- TMHD should ensure that the closer proximity and convenience of healthcare services are maintained or enhanced, especially for older adults, as this significantly impacts adherence and health-seeking behaviour.

6.5.4 Future Research

- Further qualitative research should investigate cultural, economic, or perceptual barriers to salt-reduction practices, especially among younger and female populations.
- Future studies should explore how educational level affects interpretation of health information and decision-making, particularly why more educated individuals showed lower adherence to some NCD management practices.

REFERENCES

Abdulai, M. A., Marable, J. K., Wadus, A., Asante, K. P. J. J. o. m., & comorbidity. (2022). A qualitative analysis of factors influencing health-seeking behavior of people living with HIV, hypertension and diabetes in an urban area of Ghana. *12*, 26335565221092664.

Adjaye-Gbewonyo, K., Kretchy, I. A., Baatiema, L., Grijalva-Eternod, C. S., Sanuade, O. A., Amon, S.,…Mensah, S. K. J. B. p. h. (2025). Non-communicable diseases, psychosocial wellbeing, and quality of life in Ga Mashie, Accra, Ghana: analysis from a community-based cross-sectional study. *25*(1), 1059.

Amankwah-Poku, M., Akpalu, J., Sefa-Dedeh, A., & Amoah, A. G. J. L. M. (2021). Psychosocial barriers to well-being and quality of life among type 2 diabetes patients in Ghana. *2*(2), e33.

Anuar, H., Shah, S., Gafor, H., Mahmood, M., Ghazi, H. F. J. M. J. o. M., & Sciences, H. (2020). Usage of Health Belief Model (HBM) in health behavior: A systematic review. *16*(11), 2636-9346.

Appiah, M. A., Arthur, J. A., Gborgblorvor, D., Asampong, E., Kye-Duodu, G., Kamau, E. M., & Dako-Gyeke, P. J. B. P. H. (2023). Barriers to tuberculosis treatment adherence in high-burden tuberculosis settings in Ashanti region, Ghana: a qualitative study from patient's perspective. *23*(1), 1317.

Barimah, A. J., Yeboah, F. O., Commey, R. D., Alorvi, S., Asare-Kyei, B., Nketiah, Y.,…Research, I. (2022). Trends in Non-Communicable Disease Mortality at the Bono Regional Hospital, Sunyani-Ghana. *10*(3), 1636-1649.

Batool, A., Lopez, A. J. J. o. R. C., & Development. (2023). Healthcare Access and Regional Connectivity: Bridging the Gap. *2*(2), 260-271.

Bedrov, A., & Gable, S. L. J. P. T. o. t. R. S. B. (2023). Thriving together: the benefits of women's social ties for physical, psychological and relationship health. *378*(1868), 20210441.

Bennett, J. E., Stevens, G. A., Mathers, C. D., Bonita, R., Rehm, J., Kruk, M. E.,…Chalkidou, K. J. T. l. (2018). NCD Countdown 2030: worldwide trends in non-communicable disease mortality and progress towards Sustainable Development Goal target 3.4. *392*(10152), 1072-1088.

Bhat, K. S., Hall, A. K., Kuo, T., & Kumar, N. J. P. o. t. A. o. H.-C. I. (2023). " We are half-doctors": Family Caregivers as Boundary Actors in Chronic Disease Management. *7*(CSCW1), 1-29.

Boakye, H., Atabila, A., Hinneh, T., Ackah, M., Ojo-Benys, F., & Bello, A. I. J. P. O. (2023). The prevalence and determinants of non-communicable diseases among Ghanaian adults: A survey at a secondary healthcare level. *18*(2), e0281310.

Brown, M. T., Bussell, J., Dutta, S., Davis, K., Strong, S., & Mathew, S. J. T. A. j. o. t. m. s. (2016). Medication adherence: truth and consequences. *351*(4), 387-399.

Budreviciute, A., Damiati, S., Sabir, D. K., Onder, K., Schuller-Goetzburg, P., Plakys, G.,…Kodzius, R. J. F. i. p. h. (2020). Management and prevention strategies for non-communicable diseases (NCDs) and their risk factors. *8*, 574111.

Darukaradhya, T. B., Krishnamurthy, J. J. P. M. R., & Reviews. (2025). Modifying non-communicable disease behaviours through effective health communication and behaviour change: a systematic review. *2*(1), 24-39.

Dhungana, R. R., Pedisic, Z., & de Courten, M. J. B. P. C. (2022). Implementation of non-pharmacological interventions for the treatment of hypertension in primary care: a narrative review of effectiveness, cost-effectiveness, barriers, and facilitators. *23*(1), 298.

Dowou, R. K., Amu, H., Bain, L. E., Saah, F. I., Arthur, L. E., & Tarkang, E. E. J. J. o. G. H. S. (2024). Management of chronic non-communicable diseases: qualitative study of the practices and challenges in the Volta Region, Ghana. *6*(1).

El-Radad, H. M., Sayed Ahmed, H. A., & Eldahshan, N. A. J. D. i. (2023). The relationship between self-care activities, social support, and glycemic control in primary healthcare patients with type 2 diabetes. *14*(1), 65-75.

Ellahi, B., Dikmen, D., Seyhan-Erdoğan, B., Karabulut, O. F., Aitken, A., Agbozo, F., & Zotor, F. B. J. I. J. o. D. i. D. C. (2023). Prevalence, risk factors, and self-awareness for hypertension and diabetes: rural–urban and male–female dimensions from a cross-sectional study in Ghana. *43*(5), 694-708.

Enayat, T., Ardebili, M. M., Kivi, R. R., Amjadi, B., Jamali, Y. J. P. A. S. M., & Applications, i. (2022). A computational approach to Homans social exchange theory. *597*, 127263.

Farrokhi, M., Taheri, F., Bayat, Z., Damiri, M., Farrokhi, M., Ghadirzadeh, E.,…Lahijan, L. Z. (2024). Role of lifestyle medicine in the prevention and treatment of diseases.

Fitzpatrick, P. J. J. F. i. D. H. (2023). Improving health literacy using the power of digital communications to achieve better health outcomes for patients and practitioners. *5*, 1264780.

GHS. (2022). President Nana Addo Dankwa Akufo-Addo has launched an international Non-Communicable Diseases (NCDs) Compact 2022-2030 to accelerate progress.

Goswami, N. J. I. J. o. M. R. (2024). A dual burden dilemma: Navigating the global impact of communicable and non-communicable diseases and the way forward. *12*(3), 65-77.

Gouda, H. N., Charlson, F., Sorsdahl, K., Ahmadzada, S., Ferrari, A. J., Erskine, H.,…Aminde, L. N. J. T. L. g. h. (2019). Burden of non-communicable diseases in sub-Saharan Africa, 1990–2017: results from the Global Burden of Disease Study 2017. *7*(10), e1375-e1387.

GSS. (2021). Population and housing census, 2020.

Gyimah, E. (2016). *Challenges Of Nurses in Managing Type II Diabetes Mellitus at the Holy Family Hospital, Techiman B/A* University Of Ghana].

Hamrin, V., McCarthy, E. M., Tyson, V. J. J. o. C., & Nursing, A. P. (2010). Pediatric psychotropic medication initiation and adherence: A literature review based on social exchange theory. *23*(3), 151-172.

Huston, P. J. F. i. p. (2022). A sedentary and unhealthy lifestyle fuels chronic disease progression by changing interstitial cell behaviour: a network analysis. *13*, 904107.

Jahan, S. J. P. E., Health, & Sciences, S. (2023). Social Networks and Their Influence on Health Behaviors: A Social Science Approach. *2*(2), 12-19.

Jiakponna, E. C., Agbomola, J. O., Ipede, O., Karakitie, L., Ogunsina, A. J., Adebayo, K. T.,…Archive, R. (2024). Psychosocial factors in chronic disease management: Implications for health psychology. *12*(02), 117-128.

Joseph, J. J., Deedwania, P., Acharya, T., Aguilar, D., Bhatt, D. L., Chyun, D. A.,…Circulation, C. o. H. J. (2022). Comprehensive management of cardiovascular risk factors for adults with type 2 diabetes: a scientific statement from the American Heart Association. *145*(9), e722-e759.

Kane, J. M., McEvoy, J. P., Correll, C. U., & Llorca, P.-M. J. C. d. (2021). Controversies surrounding the use of long-acting injectable antipsychotic medications for the treatment of patients with schizophrenia. *35*(11), 1189-1205.

Kim, M. T., Radhakrishnan, K., Heitkemper, E. M., Choi, E., & Burgermaster, M. J. A. J. o. T. R. (2021). Psychosocial phenotyping as a personalization strategy for chronic disease self-management interventions. *13*(3), 1617.

Kinyanjui, G. M., Gathuci, R. W. J. J. o. P., & Sciences, B. (2025). Psychological Factors Influencing Self-Management Challenges in Type 2 Diabetes among Adult Patients at Lamu Hospital, Kenya. *4*(1), 1-12.

Kodom, M. A. (2024). Perceived predisposition factors of diabetes and hypertension in the Shai-osudoku district of Ghana. *10*(1), 50-64.

Konkor, I. (2023). *Understanding the connections between neighborhood environments and the burden of infectious and non-communicable diseases in Ghana* University of Toronto (Canada)].

Kvarnström, K., Westerholm, A., Airaksinen, M., & Liira, H. J. P. (2021). Factors contributing to medication adherence in patients with a chronic condition: a scoping review of qualitative research. *13*(7), 1100.

Lardier, D. T., Coakley, K. E., Holladay, K. R., Amorim, F. T., & Zuhl, M. N. J. F. i. P. (2021). Exercise as a useful intervention to reduce alcohol consumption and improve physical fitness in individuals with alcohol use disorder: A systematic review and meta-analysis. *12*, 675285.

Lu, H., Alhaskawi, A., Dong, Y., Zou, X., Zhou, H., Ezzi, S. H. A.,…Financing. (2024). Patient autonomy in medical education: navigating ethical challenges in the age of artificial intelligence. *61*, 00469580241266364.

Lustberg, M. B., Kuderer, N. M., Desai, A., Bergerot, C., & Lyman, G. H. J. N. R. C. O. (2023). Mitigating long-term and delayed adverse events associated with cancer treatment: implications for survivorship. *20*(8), 527-542.

Mehrabizadeh, M., Zaremohzzabieh, Z., Zarean, M., Ahrari, S., & Ahmadi, A.-R. J. B. W. s. H. (2024). Narratives of resilience: Understanding Iranian breast cancer survivors through health belief model and stress-coping theory for enhanced interventions. *24*(1), 552.

Mendoza Reyes, R. J. M. y. é. (2021). Therapeutic adherence in patients with chronic non-communicable diseases: diabetes, hypertension and obesity. *32*(4), 897-945.

Menyanu, E., Corso, B., Minicuci, N., Rocco, I., Zandberg, L., Baumgartner, J.,…Schutte, A. E. J. N. (2021). Salt-reduction strategies may compromise salt iodization programs: Learnings from South Africa and Ghana. *84*, 111065.

Merks, P., Cameron, J., Bilmin, K., Świeczkowski, D., Chmielewska-Ignatowicz, T., Harężlak, T.,…Vaillancourt, R. J. F. i. p. (2021). Medication adherence and the role of pictograms in medication counselling of chronic patients: a review. *12*, 582200.

Mikula, P., Timkova, V., Fedicova, M., Szilasiova, J., Nagyova, I. J. M. s., & disorders, r. (2021). Self-management, self-esteem and their associations with psychological well-being in people with multiple sclerosis. *53*, 103069.

Münzel, T., Hahad, O., Sørensen, M., Lelieveld, J., Duerr, G. D., Nieuwenhuijsen, M., & Daiber, A. J. C. r. (2022). Environmental risk factors and cardiovascular diseases: a comprehensive expert review. *118*(14), 2880-2902.

Mursa, R., Patterson, C., & Halcomb, E. J. J. o. A. N. (2022). Men's help-seeking and engagement with general practice: An integrative review. *78*(7), 1938-1953.

Mykhailovska, N., Grytsay, A., Miniailenko, L., & Stetsyuk, I. (2018). The risk factors and screening of main chronic noncommunicable diseases.

Nagelhout, G. E., Hogeling, L., Spruijt, R., Postma, N., De Vries, H. J. I. j. o. e. r., & health, p. (2017). Barriers and facilitators for health behavior change among adults from multi-problem households: a qualitative study. *14*(10), 1229.

Natalucci, V., Marmondi, F., Biraghi, M., & Bonato, M. J. N. (2023). The effectiveness of wearable devices in non-communicable diseases to manage physical activity and nutrition: where we are? , *15*(4), 913.

Ngangue, P. A., Forgues, C., Nguyen, T., Sasseville, M., Gallagher, F., Loignon, C.,…Fortin, M. J. H. E. (2020). Patients, caregivers and health-care professionals' experience with an interdisciplinary intervention for people with multimorbidity in primary care: A qualitative study. *23*(2), 318-327.

Okai, E. D. (2024). *The Prevalence of Cardiovascular Diseases Risk Factor and Their Associations with Lifestyle Patterns among the Adult Population in Accra, Ghana* Lithuanian University of Health Sciences (Lithuania)].

Osborne, R. H., Elmer, S., Hawkins, M., Cheng, C. C., Batterham, R. W., Dias, S.,…Nadarajah, R. G. J. B. G. H. (2022). Health literacy development is central to the prevention and control of non-communicable diseases. *7*(12), e010362.

Ouner, J. J., Thompson, R. G., Dey, N. E., Alhassan, R. K., & Gyamerah, A. O. J. B. p. h. (2025). Correlates of internalized stigma and antiretroviral therapy adherence among people living with HIV in the Volta region of Ghana. *25*(1), 342.

Owusu, M. F., Adu, J., Dortey, B. A., Gyamfi, S., & Martin-Yeboah, E. J. P. G. P. H. (2023). Exploring health promotion efforts for non-communicable disease prevention and control in Ghana. *3*(9), e0002408.

Painuli, R., Gupta, A. K., Kumar, C., Phatake, R. S. J. S. M., & Discovery, D. (2025). Assessing the Value of Allopathic Medicine in Non-Communicable Disease Management: Costs, Benefits, and Side Effects. 303-326.

Patil, M., Mukherjee, B., Ching, S. M., Patil, V., Dutta, S., Patel, D.,…Hedaoo, R. (2021). Knowledge, Perceptions and Practices of Salt Intake Among Hypertensive Patients Attending Out Patient Department in a Hospital in Pune.

Pedretti, R. F., Hansen, D., Ambrosetti, M., Back, M., Berger, T., Ferreira, M. C.,…de Pablo Y Zarzosa, C. J. E. j. o. p. c. (2023). How to optimize the adherence to a guideline-directed medical therapy in the secondary prevention of cardiovascular diseases: a clinical consensus statement from the European Association of Preventive Cardiology. *30*(2), 149-166.

Peprah, E., Amegbor, P., Laar, A., Akasoe, B., & Commodore-Mensah, Y. J. N. (2023). Reducing Dietary Sodium Intake among Young Adults in Ghana: A Call to Action. *15*(16), 3562.

Ragin, D. F., Hussein, Y. M., Fichera, A., & Awai, J. J. H. o. R. M. i. H. P. (2020). Applying Theories in Health Psychology. 3-19.

Riemann, L., Lubasch, J. S., Heep, A., Ansmann, L. J. I. j. o. e. r., & health, p. (2021). The role of health literacy in health behavior, health service use, health outcomes, and empowerment in pediatric patients with chronic disease: a systematic review. *18*(23), 12464.

Rynhoud, L. (2021). *Predictors of medication adherence in people hospitalised with tuberculosis: Utility of the Health Belief Model*

Sannidhi, D., Abeles, R., Andrew, W., Bonnet, J. P., Vitale, K., Niranjan, V.,…Alexander, L. J. N. (2025). Lifestyle Medicine for Obesity in the Era of Highly Effective Anti-Obesity Treatment. *17*(14), 2382.

Semlali, I., Merminod, G., Weber, O., Terrier, A., Decosterd, I., Rubli Truchard, E.,…Health, P. (2022). Friendship in later life: how friends are significant resources in older persons' communication about Chronic Pain. *19*(9), 5551.

Smith III, G. H., Hampton, C., Tripp, H. L., Brandon, W. P. J. P., & Sciences, t. L. (2023). Acculturation, Hispanic ethnicity, and trust: Verifying and explaining racial/ethnic differences in trust in health providers in North Carolina Medicaid. *42*(1), 120-145.

Stonerock, G. L., & Blumenthal, J. A. J. P. i. c. d. (2017). Role of counseling to promote adherence in healthy lifestyle medicine: strategies to improve exercise adherence and enhance physical activity. *59*(5), 455-462.

Tinuoye, J. E. C. J. O. I. O. K. O. A. K. (2024). Psychosocial factors in chronic disease management: implications for health psychology. *12*(2), 117-128.

Tolu-Akinnawo, O., Ezekwueme, F., & Awoyemi, T. J. C. (2024). Telemedicine in cardiology: enhancing access to care and improving patient outcomes. *16*(6).

WHO. (2020). Adherence to long-term therapies: evidence for action by World Health Organization

WHO. (2021). World report on hearing. World Health Organization.

WHO. (2024a). Noncommunicable diseases. *World Health Organization*.

WHO. (2024b). WHO Guideline on Self-Care Interventions for Health and Well-Being.

Wiedermann, C. J., Barbieri, V., Lombardo, S., Gärtner, T., Rina, P., Eisendle, K.,…Health, P. (2025). Health information use and trust: The role of health literacy and patient activation in a multilingual European region. *22*(4), 570.

Yang, Q., & Wu, S. J. H. c. (2021). How social media exposure to health information influences Chinese people's health protective behavior during air pollution: a theory of planned behavior perspective. *36*(3), 324-333.

Zhou, X., Du, F., Peng, W., Bai, L., Peng, L., & Hou, X. J. C. I. i. A. (2024). Building medication profiles in the elderly: a qualitative study based on medication information literacy in a long-term care facility. 779-793.

APPENDICES

APPENDIX I: QUESTIONNAIRE

AKENTEN APPIAH MINKAH UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT (AAMUSTED)-MAMPONG

Dear Respondent,

I am a student of AAMUSTED, conducting a study on "**FACTORS THAT INFLUENCE THE MANAGEMENT OF NON-COMMUNICABLE DISEASES (NCDs) AMONG PATIENTS UNDER THERAPEUTIC CARE WITHIN HOSPITALS IN THE TECHIMAN MUNICIPALITY**". I would be very glad if you could take a little of your time to COMPLETE the questionnaire. Please note that your participation in this study is voluntary and all information gathered will be treated with utmost confidentiality and would be solely used for educational purposes. Your support and contribution would be very much appreciated. Thank you.

N.B Please tick **[√]** where applicable and specify where necessary**.**

Part I: Sociodemographic Factors (Table 4.1)

1. Gender: Male [ ] Female [ ]
2. Age: ……..
3. Education Level:

   No School [ ] Basic School [ ]

   SSS/SHS [ ] Tertiary [ ]
4. Marital Status

   Single [ ] Married [ ]

   Widowed [ ] Divorced [ ]

PART II: - THERAPEUTIC INTERVENTIONS OF NCDs

Please indicate the extent of your agreement or disagreement with each statement by **ticking [√]** a number from 1 to 5.

Key:	1 = Strongly disagree	2 = Disagree	3 = Not Sure	4 = Agree	5 = Strongly agree

	PHARMACOLOGICAL INTERVENTIONS (Table 4.2)					
5	**I trust that the medications prescribed for me are the most effective treatment available for my condition.**	1	2	3	4	5
6	I fully understand the purpose of each medication I am currently taking	1	2	3	4	5
7	I **adhere strictly to my prescriptions for medications**	1	2	3	4	5
8	I feel confident that my medications are safe for me.					
9	The instructions for my medication are easy to follow					
10	I feel confortable asking my healthcare provider questions about my medications					
11	My healthcare provider regularly reviews my medications to ensure they are still appropriate for me.					
	LIFESTYLE MODIFICATION INTERVENTIONS (Table 4.3)					
12	I am actively working towards maintaining a healthy weight	1	2	3	4	5
13	I **avoid foods high in saturated fats**	1	2	3	4	5
14	**I limit my consumption of sugary beverages and snacks**					
15	I **consistently follow a diet low in salt to help manage my hypertension**					
16	I **prefer fresh or unprocessed foods to control my sodium intake.**					
17	I engage in physical exercise (like walking, jogging, cycling) for at least 30 minutes most days of the week.					

18	I limit my alcohol intake according to recommended guidelines					
	BEHAVIOURAL AND PSYCHOLOGICAL SUPPORT (Table 4.4)					
19	I feel **that the psychological support I receive has helped me manage my health**	1	2	3	4	5
20	The behavioural interventions provided have positively impacted my daily routines	1	2	3	4	5
21	I feel more confident in managing my health after receiving behavioural support	1	2	3	4	5
22	The coping strategies I've learned in therapy have been effective in managing my mental health	1	2	3	4	5
23	I am comfortable discussing my emotions and concerns with my counsellor or therapist.	1	2	3	4	5
24	The **frequency of my psychological support sessions is sufficient to meet my needs**	1	2	3	4	5
25	I feel that my mental health has significantly improved due to the ongoing behavioral support I receive.	1	2	3	4	5

PART III: SOCIAL FACTORS TO THERAPEUTIC INTERVENTIONS

Please to what extent do you agree that these factors influence therapeutic interventions of patients with NCDs? The rating scale consists of five (5) degrees, '1' to '5'. Please indicate for each item by circling the number that comes closest to reflecting your opinion on the indicators.

Key:	1 = Strongly disagree	2 = Disagree	3 = Not Sure	4 = Agree	5 = Strongly agree

S/NO	ITEM	RATING (1-5)				
	FAMILY SUPPORT (Table 4.5)					
26	**I seek support from family to help me reduce my health complications**	1	2	3	4	5
27	My family's attitude towards health significantly impacts my motivation to stay healthy	1	2	3	4	5
28	**My family's encouragement significantly influences my adherence to therapeutic interventions**	1	2	3	4	5
29	I feel motivated to exercise regularly because of support from my family.	1	2	3	4	5
30	**My family actively helps me in managing my health to control my sickness.**	1	2	3	4	5
	SOCIAL STIGMA (Table 4.6)					
31	**I sometimes feel embarrassed to discuss my sickness with friends or colleagues**	1	2	3	4	5
32	**Social stigma prevents me from joining support groups** or activities for hypertensive patients.	1	2	3	4	5
33	I avoid taking my blood pressure medication in public to prevent drawing attention.	1	2	3	4	5
34	**Concerns about being judged by others sometimes discourage me from following my doctor's advices**	1	2	3	4	5
	PEER INFLUENCE (Table 4.7)					
35	I seek support from friends to help me reduce my health complications					

36	I am influenced by my friends' eating and exercise habits in managing my sickness					
37	I find it difficult to maintain a healthy lifestyle when socializing with peers who do not.					
38	My friends' attitudes towards health positively impact my own health behaviors.					
39	I am more likely to follow my health management plan when I have peers who do the same					
	SOCIAL NORM (Table 4.8)					
40	Societal expectations exercise makes it challenging to adhere to my health management plan.					
41	There is a general lack of awareness about the importance of therapeutic changes in managing the sickness					
42	I feel societal pressure to engage in behaviors that are not conducive to managing my sickness					
43	Public health messages in my community positively influence my choices related to therapeutic interventions.					

PART III: HEALTH SYSTEM FACTORS TO THERAPEUTIC INTERVENTIONS

Please to what extent do you agree that these factors influence therapeutic interventions of patients with NCDs? The rating scale consists of five (5) degrees, '1' to '5'. Please indicate for each item by circling the number that comes closest to reflecting your opinion on the indicators.

Key:	1 = Strongly disagree	2 = Disagree	3 = Not Sure	4 = Agree	5 = Strongly agree

S/NO	ITEM	RATING (1-5)				
	HEALTH EDUCATION (Table 4.9)					
44	**I am aware of the recommendations to adhere to therapeutic changes**	1	2	3	4	5
45	The **health education I receive has significantly increased my knowledge about managing my sickness**.	1	2	3	4	5
46	I feel **well-informed about the lifestyle changes** needed to control my sickness	1	2	3	4	5
47	The educational materials provided by healthcare facilities are clear and helpful.	1	2	3	4	5
48	The support from the health system has made it easier for me to make dietary changes to manage my sickness.	1	2	3	4	5
	COUNSELLING (Table 4.10)					
49	Regular **counseling sessions have motivated me to adopt healthier lifestyle**	1	2	3	4	5
50	I find the advice given during counseling sessions relevant and practical for managing my sickness.	1	2	3	4	5
51	My healthcare provider offers personalized suggestions during counseling that address my specific needs.	1	2	3	4	5
52	I feel confident in my ability to control my sickness due to the comprehensive care I receive.	1	2	3	4	5
53	The **counseling I receive also addresses my mental well-being in relation to health management**	1	2	3	4	5

	ACCESSIBILITY TO HEALTH FACILITIES (Table 4.11)					
54	**Easy access to healthcare facilities** has been crucial in my health management	1	2	3	4	5
55	I can readily access my healthcare provider for advice on therapeutic changes.	1	2	3	4	5
56	The **proximity of healthcare services has influenced my ability to maintain a healthy lifestyle**.	1	2	3	4	5
57	Scheduling appointments for regular check-ups and consultations is convenient and flexible	1	2	3	4	5

APPENDIX II

OUR CORE VALUES

PEOPLE-CENTERED
PROFESSIONALISM
TEAM WORK
INNOVATION
DISCIPLINE
INTEGRITY

My Ref: *GHS/TMHD/071124-1*
Your Ref:

GHANA HEALTH SERVICE
Your Health · Our Concern

MUNICIPAL HEALTH DIRECTORATE
GHANA HEALTH SERVICE
POST OFFICE 109
TECHIMAN-B/E
GHANA

7TH NOVEMBER, 2024

LETTER OF SUPPORT

MR. Crispen Kandatam, an MPhil Student at the Akenten Appiah — Menka University (AAMUSTED), intends to conduct a study titled " **Factors That Influence the Management of Non-Communicable Disease (NCDs) Among Patients Under Therapeutic Care Within Hospital In The Techiman Municipality"**.

The Municipal Health Directorate has given approval for the study on condition that ethical approval is obtained from your outfit.

Kindly provide him with the necessary support needed for the study.
Thank you.

DR. KWABENA FOSUHENE KUSI
MUNICIPAL DIRECTOR OF HEALTH SERVICE
TECHIMAN.