

**ENSIGN GLOBAL UNIVERSITY, KPONG
EASTERN REGION, GHANA**

**FACULTY OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH**

**KNOWLEDGE, ATTITUDES, AND PRACTICES RELATED TO DIABETES
PREVENTION AND CONTROL AMONG ADULTS AT SELECTED COMMUNITIES IN
SOMANYA IN THE EASTERN REGION OF GHANA**

BY

GRACE GADZEKPO

(257100351)

MAY, 2026

**ENSIGN GLOBAL UNIVERSITY, KPONG
EASTERN REGION, GHANA**

**KNOWLEDGE, ATTITUDES, AND PRACTICES RELATED TO DIABETES
PREVENTION AND CONTROL AMONG ADULTS AT SELECTED COMMUNITIES IN
SOMANYA IN THE EASTERN REGION OF GHANA**

BY

GRACE GADZEKPO

(257100351)

**A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, FACULTY
OF PUBLIC HEALTH, ENSIGN GLOBAL COLLEGE IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE
MASTER OF PUBLIC HEALTH DEGREE**

MAY, 2026

DECLARATION

I, Grace Gadzekpo, hereby certify that, except for references to other people's work, which I have duly cited, this project submitted to the Department of Community Health, Ensign Global University, Kpong is the result of my own investigation, and has not been presented for any other degree elsewhere.

GRACE GADZEKPO

(ID – 257100351)

(STUDENT)


.....

Signature

04/05/2026

.....

Date

(Certified by)

DR. EDWARD SUTHERLAND

(Supervisor)


.....

Signature

5/5/2026

.....

Date

(Certified by)

PROF. STEPHEN MANORTEY

(Head of Academic Program)


.....

Signature

5/5/2026

.....

Date

DEDICATION

I dedicate this work to my family and friends for their encouragement. I also dedicate it to the adults in Somanya, whose contributions and cooperation were invaluable to this study and whose health and well-being remain at the heart of this research.

ACKNOWLEDGEMENT

Firstly, I give thanks to the Almighty God for the strength throughout this academic journey.

I would like to sincerely thank my supervisor, Dr. Edward Sutherland, for his guidance, patience, and insightful feedback throughout the course of this research. His support has been instrumental in shaping this work.

I am also grateful to the lecturers and staff of Ensign Global University for their dedication and support.

Special thanks go to my family for their constant encouragement, understanding, and sacrifices.

I also appreciate the participants from Somanya who generously gave their time and information for this study.

DEFINITION OF TERMS

Diabetes Mellitus: A chronic metabolic disease characterised by elevated blood glucose levels resulting from defects in insulin production, insulin action, or both.

Knowledge (of Diabetes): The level of awareness and understanding individuals have regarding diabetes, including its causes, risk factors, symptoms, complications, and prevention methods.

Attitude (towards Diabetes): The beliefs, perceptions, and feelings individuals hold about diabetes, including perceived susceptibility, severity, benefits, and barriers to prevention and management.

Practice (Diabetes Prevention and Management): The actual behaviours individuals engage in to prevent or manage diabetes, such as healthy eating, physical activity, and blood glucose screening.

Perceived Susceptibility: An individual's belief about their likelihood of developing diabetes.

Perceived Severity: An individual's belief about the seriousness of diabetes and its potential complications.

Perceived Benefits: The belief that specific actions (e.g., exercise, diet, screening) will reduce the risk or severity of diabetes.

Perceived Barriers: Perceived obstacles that prevent individuals from adopting preventive behaviours (e.g., cost, fear, access).

Self-Efficacy: An individual's confidence in their ability to successfully perform behaviours

LIST OF ABBREVIATIONS

Abbreviation	Meaning
ADA	American Diabetes Association
BMI	Body Mass Index
DHS	Demographic and Health Survey
DM	Diabetes Mellitus
GHS	Ghana Health Service
HBM	Health Belief Model
IDF	International Diabetes Federation
KAP	Knowledge, Attitudes, and Practices
LMKM	Lower ManyaKrobo Municipality
LMICs	Low- and Middle-Income Countries
MOH	Ministry of Health
NCDs	Non-Communicable Diseases
NGO	Non-Governmental Organization
STATA	Statistical Software for Data Analysis
WHO	World Health Organization

Abstract

Background: Diabetes mellitus has emerged as a pressing public health challenge, particularly in low- and middle-income countries undergoing rapid urbanisation and lifestyle transitions. In Ghana, the increasing burden of diabetes is worsened by limited public awareness, poor preventive behaviours, and inadequate health education, especially in peri-urban settings like Somanya in the Eastern Region.

Aim: This study sought to assess the knowledge, attitudes, and practices (KAP) related to diabetes prevention and control among adults at selected communities in Somanya.

Methodology: The study adopted a quantitative, cross-sectional design. A structured, interviewer-administered questionnaire was used to collect data from a sample of 422 adult residents between 9th February to 9th March, 2026. The questionnaire captured socio-demographic details, diabetes-related knowledge, attitudes, and current preventive practices. The tool was pre-tested for clarity and cultural relevance, and trained data collectors fluent in local dialects facilitated its administration. Descriptive statistics and multivariate logistic regression were used to analyse the data and identify factors associated with good preventive practices.

Results: The study included 402 respondents. Overall, 51.7% of participants demonstrated good knowledge of diabetes, with high awareness of key risk factors such as excessive sugar intake (85.82%), obesity (83.08%), and physical inactivity (80.05%). However, misconceptions were observed, with 32.9% believing that diabetes is curable.

A majority of respondents (60.7%) exhibited negative attitudes towards diabetes management, including misconceptions about treatment, such as the belief that insulin is harmful (75.87%) and that long-term use of medication causes organ damage.

Regarding practices, 59.7% of respondents demonstrated good preventive practices, with high engagement in physical activity (75.12%) and avoidance of sugary foods (71.14%). However, routine screening was low, with only 34.83% reporting regular blood glucose checks.

Multivariable logistic regression analysis showed that good knowledge (AOR = 2.61, 95% CI: 1.56–4.36, $p < 0.001$) and positive attitudes (AOR = 1.88, 95% CI: 1.08–3.28, $p = 0.027$) were significant predictors of good practice. Education level, residence, and income were also significantly associated with diabetes-related practices.

Conclusion: Although knowledge of diabetes was relatively good, important misconceptions and negative attitudes toward treatment persist. Preventive practices were generally favourable; however, routine blood glucose screening remained low. Improving both awareness and attitudes is essential to enhance effective diabetes prevention and management.

CONTENTS

DECLARATION.....	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
DEFINITION OF TERMS	v
LIST OF ABBREVIATIONS	vii
Abstract	viii
LIST OF TABLES	xii
LIST OF FIGURES	xiii
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	4
1.3 Rationale of the Study	5
1.4 General Objective	6
1.5 Specific Objectives	7
1.6 Research Questions	7
1.7 Conceptual Framework	7
1.8 Profile of the Study Area	9
CHAPTER TWO	12
LITERATURE REVIEW	12
2.1 Introduction to the Literature Review	12
2.2 Knowledge of Diabetes Prevention and Management	12
2.3 Attitudes toward Diabetes Prevention and Management	15
2.4 Practices Related to Diabetes Prevention and Management	17
2.5 Factors Influencing Diabetes Prevention and Management Practices	20
2.6 Summary of the Literature	22
CHAPTER THREE	24
METHODOLOGY	24
3.1 Introduction	24
3.2 Study Design	24

3.3 Study Population.....	24
3.4 Inclusion and Exclusion Criteria.....	24
3.5 Sample Size Determination.....	25
3.6 Sampling Technique.....	26
3.7 Data Collection Tools and Procedures	27
3.8 Pre-testing	28
3.8 Data Analysis	28
3.9 Ethical Considerations	30
CHAPTER FOUR.....	31
RESULTS.....	31
4.1 Demographic Characteristics	31
4.2 Level of Knowledge of Diabetes Prevention and Management among Adults in Somanya	32
4.3 Attitudes towards Diabetes among Adults in Somanya.....	35
4.4 Practices Adopted by Adults in Somanya for Preventing and Managing Diabetes	38
4.5 Factors Associated with Physical Activity among Respondents.....	40
4.6 Logistic regression analysis of Factors Associated with Physical activity	41
4.7 Factors Associated with Blood Glucose Screening Among Respondents	42
4.8 Logistic regression analysis of Factors Associated with Blood Glucose Screening.....	43
CHAPTER FIVE	46
5.0 DISCUSSION	46
5.1 Knowledge of Diabetes among Adults	46
5.2 Attitudes towards Diabetes among Adults	48
5.3 Practices Related to Diabetes Prevention and Management.....	50
5.4 Factors Associated with Diabetes Prevention and Management Practices	53
CHAPTER SIX.....	56
CONCLUSION AND RECOMMENDATIONS	56
6.1 Conclusion	56
6.2 Recommendations.....	57

LIST OF TABLES

Table 4.1 Socio-Demographic Characteristics of Respondents	31
Table 4.2 Knowledge of Diabetes among Respondents.....	33
Table 4.3 Attitudes towards Diabetes among Respondents	36
Table 4.4 Diabetes-Related Practices among Respondents	38
Table 4.5 Factors Associated with Physical Activity among Respondents	40
Table 4.6 Logistic regression analysis of Factors Associated with Physical Activity	42
Table 4.7 Association between Socio-Demographic Factors and Blood Glucose Screening Practices among Respondents.....	43
Table 4.8 Logistic regression analysis of Factors Associated with Blood Glucose Screening	44

LIST OF FIGURES

Figure 4.1 Conceptual Framework Based on the Health Belief Model (Irwin et al., 1950s).	9
Figure 4.2 Knowledge Category Distribution.....	35
Figure 4.3 Attitude Category Distribution.....	38

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Diabetes mellitus is a chronic, metabolic disease characterised by elevated levels of blood glucose (or blood sugar), which over time leads to serious damage to the heart, blood vessels, eyes, kidneys, and nerves. The two most common types are Type 1, often diagnosed in childhood, and Type 2, which is largely lifestyle-related and more prevalent among adults. A third type, gestational diabetes, occurs during pregnancy and usually resolves after childbirth. While diabetes is manageable through medication, diet, and lifestyle adjustments, poor awareness and misconceptions about the disease can delay diagnosis, lead to poor self-care, and increase the risk of life-threatening complications such as cardiovascular disease, kidney failure, and blindness (WHO, 2022). Despite medical advances, public understanding and prevention behaviours remain a critical challenge globally and in developing countries.

The increasing burden of diabetes has become a major public health concern worldwide. Changes in diet patterns reduced physical activity, obesity, and ageing populations are contributing significantly to the rising incidence of the disease. More than just a medical condition, diabetes has serious socio-economic implications. It can result in reduced productivity, absenteeism from work, long-term disability, and premature death (Chatterjee et al., 2017). These outcomes impose direct and indirect costs on families and national health systems, particularly in lower- and middle-income countries (LMICs), where public health infrastructure and chronic disease support systems are often underdeveloped (IDF, 2021). Furthermore, limited awareness and misconceptions surrounding diabetes have been shown to undermine prevention

and early diagnosis efforts, particularly in resource-constrained settings. Many individuals fail to recognise the risk factors or symptoms until complications arise, indicating a knowledge gap that public health interventions must urgently address (Getie et al., 2020).

Globally, the International Diabetes Federation (IDF) estimates that as of 2021, more than 537 million adults aged 20 to 79 were living with diabetes, representing one in ten adults worldwide. This number is expected to rise to 643 million by 2030 and 783 million by 2045 if current trends continue (IDF, 2021). Notably, nearly 75% of these individuals reside in LMICs, where healthcare systems are already stretched by infectious diseases and other pressing health challenges. Sub-Saharan Africa, historically burdened by communicable diseases, is now experiencing a rapid epidemiological transition with a growing prevalence of NCDs, including diabetes. In this region, diabetes prevalence was estimated at 4.5% in 2021, affecting about 24 million people—numbers projected to double by 2045 (Atun et al., 2017). Yet, despite this emerging crisis, awareness, screening, and access to diabetes care remain alarmingly low.

In Ghana, diabetes has become a pressing concern within the broader NCD landscape. The Ghana Health Service (GHS) reports that diabetes is among the top ten causes of mortality in the country, contributing significantly to the national disease burden (World Health Organization, 2022). According to the IDF, the national prevalence of diabetes among adults stood at approximately 3.6% in 2021, though this may be an underestimation due to under reporting and undiagnosed cases (IDF, 2021). Urbanisation, dietary shifts towards processed foods, sedentary lifestyles, and increasing obesity rates have all contributed to this trend (Osei-Yeboah et al., 2016). Additionally, Ghanaian communities often face challenges with timely diagnosis due to poor access to health facilities, low health literacy, and stigma surrounding chronic diseases. In

rural and peri-urban areas, such as Somanya, these challenges may be more pronounced due to limited health education campaigns and healthcare provider shortages (Alor et al., 2024).

Understanding the knowledge, attitudes, and practices (KAP) of individuals concerning diabetes is vital in the effort to improve health outcomes and shape appropriate interventions. Numerous studies have demonstrated that low knowledge levels and negative attitudes can significantly affect the ability of individuals to engage in prevention behaviours such as regular exercise, healthy eating, and blood glucose monitoring (Johnson et al., 2025). In contrast, increased awareness has been associated with better disease control and adherence to treatment regimens among those already diagnosed (Ogunlana et al., 2022). Moreover, beliefs about causes, risk factors, and treatment options influence whether individuals seek medical care or rely on traditional or alternative remedies. Without assessing these community-based perspectives, public health strategies risk being misaligned with local realities and therefore ineffective (Alor et al., 2024).

KAP studies help identify not only knowledge gaps but also behavioural patterns and socio-cultural beliefs that shape health decisions. For instance, a study conducted in Nigeria found that while most respondents had heard of diabetes, very few understood its causes or recognised early symptoms, leading to delays in care-seeking behaviour (Olaewaju et al., 2020). Such findings highlight the necessity of tailored community-level interventions that go beyond general health messaging. They also provide evidence for targeted health education and screening campaigns to reduce late presentations and complications.

Despite being preventable and manageable, the effectiveness of diabetes control efforts hinges on people's knowledge, perceptions, and behavioural practices. As Ghana continues to deal with

the growing burden of NCDs, it becomes increasingly important to understand how communities engage with this condition.

1.2 Problem Statement

Diabetes mellitus has emerged as one of the most pressing global health challenges of the 21st century. According to the International Diabetes Federation (IDF), approximately 537 million adults aged 20 to 79 years were living with diabetes in 2021, and this number is projected to rise to 643 million by 2030 and 783 million by 2045 if current trends continue (IDF, 2021). The burden of diabetes is no longer confined to high-income countries; low- and middle-income countries (LMICs) now account for nearly 80% of diabetes-related deaths worldwide (World Health Organization, 2022). The chronic nature of diabetes, coupled with its long-term complications, places significant strain on individuals, households, and health systems, particularly in resource-limited settings.

Sub-Saharan Africa is experiencing a rapid increase in the prevalence of diabetes, primarily due to urbanisation, lifestyle changes, and demographic transitions. As of 2021, the region was home to an estimated 24 million adults with diabetes, and this figure is expected to more than double by 2045 (IDF, 2021). Despite the growing burden, awareness and diagnosis remain alarmingly low, with more than half of diabetes cases undiagnosed in many African countries (Atun et al., 2017). This silent progression increases the risk of complications, hospital admissions, and early mortality. Evidence from the region suggests that the majority of the population lacks sufficient knowledge about diabetes, its risk factors, and preventive strategies. Negative attitudes, cultural misconceptions, and poor health-seeking behaviours further complicate prevention and management efforts (Manyara et al., 2024).

In Ghana, diabetes is a leading cause of outpatient attendance and hospital admissions related to non-communicable diseases, with national prevalence estimated between 2.8% and 3.95% among adults (Kazibwe et al., 2024). However, other studies suggest this may be an underestimation due to under diagnosis and inconsistent data collection (Osei-Yeboah et al., 2016). Urbanisation and dietary transitions are fuelling risk factors such as obesity, physical inactivity, and poor nutrition. Despite these realities, knowledge levels among the general population remain low, and preventive practices are often not prioritised until serious complications occur (Hinne et al., 2024).

The lack of awareness, limited access to routine screening, and poor attitudes towards disease prevention contribute significantly to the growing diabetes burden in Ghana. Community-level data on knowledge, attitudes, and practices related to diabetes remain scarce, especially in peri-urban towns such as Somanya (Nyarko et al., 2019). This study addresses a critical gap by assessing the knowledge, attitudes, and practices related to diabetes prevention and management among adults in Somanya. In doing so, it contributes valuable evidence to support targeted interventions, community health education, and policy formulation aimed at reducing the burden of diabetes in Ghana.

1.3 Rationale of the Study

The rising prevalence of diabetes in Ghana and across sub-Saharan Africa signals a shift in the public health landscape, where non-communicable diseases (NCDs) are becoming increasingly dominant. Despite being largely preventable through behavioural and lifestyle modifications, diabetes continues to affect millions of individuals, often due to poor awareness, negative health attitudes, and inadequate preventive practices (Manyara et al., 2024). In Ghana, although

diabetes is recognised as a national health priority, many adults remain unaware of its risk factors, complications, and the importance of early detection (Asante et al., 2023). This gap in knowledge and practice significantly hampers national efforts toward reducing the diabetes burden (Johnson et al., 2025).

Research that assesses community-level knowledge, attitudes, and practices (KAP) provides a deeper understanding of how people perceive and respond to health threats in their local environments. Such insights are essential for designing effective health education programmes, promoting behavioural change, and informing district-level health policy.

As a fast-developing area in the Eastern Region, Somanya is experiencing socio-economic and lifestyle transformations that may expose its population to heightened diabetes risk. However, there is a lack of empirical data on the KAP of residents with regard to diabetes prevention and management. Without this information, local health authorities may struggle to tailor interventions to community needs or monitor the effectiveness of current strategies.

This study is therefore timely and relevant. It seeks to fill the existing evidence gap by providing detailed insights into the knowledge, attitudes, and practices related to diabetes among adults in Somanya. The findings will support community-specific public health responses and contribute to broader national efforts to curb the growing threat of diabetes in Ghana.

1.4 General Objective

To assess the knowledge, attitudes, and practices regarding diabetes prevention and management among adults in Somanya.

1.5 Specific Objectives

1. To assess the level of knowledge of diabetes prevention and management among adults in Somanya.
2. To explore the attitudes of adults in Somanya towards diabetes and its prevention and management.
3. To examine the practices adopted by adults in Somanya for preventing and managing diabetes.
4. To determine the factors influencing diabetes prevention and management practices among adults in Somanya.

1.6 Research Questions

1. What is the level of knowledge about diabetes prevention and management among adults in Somanya?
2. What are the attitudes of adults in Somanya towards diabetes and its prevention and management?
3. What practices do adults in Somanya adopt in the prevention and management of diabetes?
4. What factors influence diabetes prevention and management practices among adults in Somanya?

1.7 Conceptual Framework

This study is guided by the Health Belief Model to explain how individual perceptions influence diabetes prevention and management behaviours. The model emphasises the role of beliefs in shaping health-related decision-making (Rosenstock, 1974; Becker, 1974; Glanz et al., 2015).

In this study, selected constructs of the model were indirectly captured through the attitude component of the Knowledge, Attitudes, and Practices (KAP) framework. These include perceived barriers, perceived benefits, and aspects of perceived severity, which were reflected in respondents' beliefs regarding diabetes treatment, medication use, and preventive behaviours. Although these constructs were not measured as independent variables, they provide a useful basis for interpreting behavioural patterns (Carpenter, 2010).

The study also adopts the KAP framework, which explains how knowledge influences attitudes and how these attitudes shape health-related practices (Launiala, 2009). Knowledge of diabetes, including awareness of risk factors, symptoms, and prevention strategies, is expected to influence individuals' attitudes towards the disease.

Attitudes, representing underlying health beliefs, in turn influence practices such as physical activity, dietary behaviour, blood glucose screening, and healthcare-seeking behaviour.

In addition, socio-demographic factors such as age, sex, education, income, and place of residence may influence knowledge, attitudes, and practices either directly or indirectly (Glanz et al., 2015; WHO, 2022).

Overall, the framework illustrates a pathway in which knowledge influences health-related perceptions (attitudes), which subsequently shape preventive and management practices.

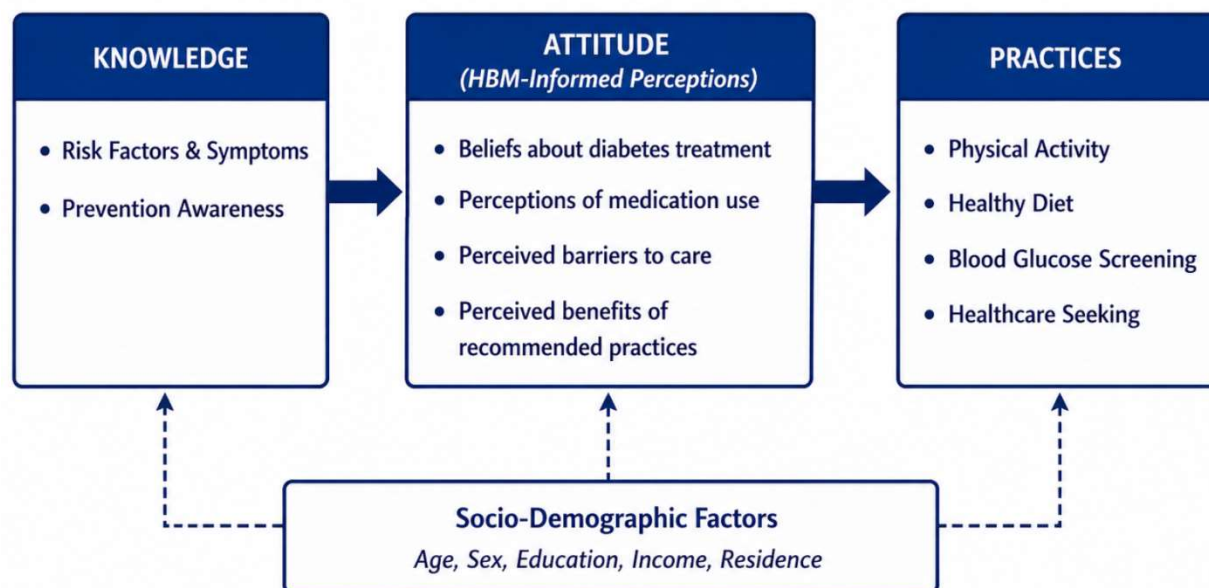


Figure 14.1 Conceptual Framework Based on the Health Belief Model (Irwin et al., 1950s)

1.8 Profile of the Study Area

Somanya is the capital of the YiloKrobo Municipality, located in the Eastern Region of Ghana. It lies approximately 71 kilometers northeast of Accra and serves as one of the key administrative and commercial hubs in the region. Geographically, Somanya is situated within the forest-savannah transitional ecological zone and shares boundaries with the Lower ManyaKrobo Municipality to the south, the Asuogyaman District to the east, and the Fanteakwa North District to the west (GSS, 2021).

The YiloKrobo Municipality, with Somanya as Its capital, had a population of approximately 87,847 as reported by the 2021 Population and Housing Census. The population is predominantly Krobo by ethnicity, with Christianity being the dominant religion. The area exhibits a youthful demographic structure, with a significant proportion of residents engaged in informal sector employment such as petty trading, subsistence farming, and artisanal work.

Additionally, a growing number of residents are employed in public service, education, and healthcare (GSS, 2021).

Somanya hosts a number of healthcare facilities, including the YiloKrobo District Hospital, Somanya Polyclinic, and several community-based health planning and services (CHPS) compounds. These institutions provide primary and secondary health services to the population. Educational infrastructure in the municipality includes basic schools, senior high schools, and a campus of the University of Environment and Sustainable Development (UESD), which has further positioned Somanya as an emerging academic center.

The combination of socio-economic diversity, accessible health infrastructure, and a mix of urban and peri-urban characteristics makes Somanya a strategic site for public health research, particularly on non-communicable diseases such as diabetes.

1.9 Scope of the Study

This study focused on assessing the knowledge, attitudes, and practices (KAP) related to diabetes prevention and management among adults aged 18 years and above in selected communities in Somanya in the Eastern Region of Ghana. The study examined respondents' awareness of diabetes risk factors, symptoms, complications, and preventive measures, as well as their attitudes toward diabetes and the practices they adopt in preventing and managing the condition.

The study was limited to selected communities within Somanya and therefore may not be generalisable to the entire population of the Eastern Region or Ghana. In addition, the study relied on self-reported data, which may be subject to recall bias or social desirability bias. The

study also focused on behavioural and perceptual factors and did not include clinical diagnosis or biochemical assessment of diabetes.

1.10 Organization of the Study

This study is organised into six chapters.

Chapter One presents the introduction, including the background of the study, problem statement, rationale, objectives, research questions, conceptual framework, scope of the study, and profile of the study area.

Chapter Two reviews relevant literature on diabetes-related knowledge, attitudes, practices, and associated factors.

Chapter Three describes the methodology, including the study design, population, sampling techniques, data collection procedures, data analysis, and ethical considerations.

Chapter Five discusses the findings in relation to existing literature.

Chapter Six provides the conclusion and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction to the Literature Review

This chapter critically reviews existing empirical and institutional literature on diabetes-related knowledge, attitudes, practices, and their determinants, in line with the objectives of this study. The review is organised according to the study's four specific objectives: knowledge of diabetes prevention and management, attitudes towards diabetes, preventive and self-care practices, and the factors influencing these practices. Rather than separating theory from evidence, each section integrates conceptual clarification with empirical findings to show how understanding, beliefs, and lived realities interact to shape diabetes-related behaviour.

The chapter follows a funnel approach, beginning with global evidence, narrowing to sub-Saharan Africa, and then to Ghana, before identifying gaps at the district and peri-urban level that justify the present study in Somanya. Given the growing burden of diabetes in Ghana and the limited availability of localized behavioural data, this review provides the empirical foundation for examining how adults in Somanya understand diabetes, how they perceive their risk, and how they translate these perceptions into preventive and management practices.

2.2 Knowledge of Diabetes Prevention and Management

Knowledge of diabetes refers to an individual's awareness and understanding of the disease, including its causes, risk factors, symptoms, complications, and methods of prevention and control. In the context of diabetes, knowledge plays a critical role because the disease is largely influenced by modifiable lifestyle behaviours, and early detection depends heavily on people's ability to recognise risk and seek timely screening. Individuals who understand that diabetes is linked to diet, physical inactivity, obesity, and family history, and who are aware of its long-term

complications, are more likely to engage in preventive behaviours and seek care before irreversible damage occurs (World Health Organization [WHO], 2022).

At the global level, evidence consistently shows that inadequate diabetes knowledge is a major barrier to prevention and control. The WHO estimates that nearly half of people living with type 2 diabetes worldwide are unaware of their condition, largely because early stages are often asymptomatic and many people do not recognise risk factors or warning signs (WHO, 2022). The International Diabetes Federation (IDF) further reports that in 2021 about 240 million adults globally were living with undiagnosed diabetes, increasing their risk of severe complications such as cardiovascular disease, kidney failure, and blindness (IDF, 2021). Studies in both high- and middle-income countries have demonstrated that people with higher levels of diabetes knowledge are more likely to engage in healthy eating, physical activity, and regular blood glucose monitoring, and to seek medical advice when symptoms appear (Chatterjee et al., 2017).

In low- and middle-income countries, where access to routine screening and health education is limited, the consequences of poor knowledge are particularly severe. A systematic review of diabetes knowledge in sub-Saharan Africa found that although many adults had heard of diabetes, detailed understanding of its causes, prevention, and complications was generally low, especially among individuals with limited formal education and those living in peri-urban and rural areas (Manyara et al., 2024). This knowledge gap contributes to late diagnosis and poor self-care, which in turn increases morbidity and mortality. In several African countries, more than 50% of diabetes cases remain undiagnosed, largely because people do not recognise early symptoms or do not perceive themselves to be at risk (Atun et al., 2017).

Empirical studies from different parts of Africa confirm these patterns. In a rural Nigerian community, Olarewaju et al. (2020) found that although over 70% of respondents had heard of

diabetes, fewer than 40% could correctly identify its risk factors or complications, and misconceptions about spiritual and hereditary causes were common. Similarly, in Ethiopia, Getie et al. (2020) reported that limited knowledge about diabetes was significantly associated with poor self-care practices among adults living with the condition. These findings suggest that simply being aware of diabetes is not sufficient; detailed and accurate knowledge is essential for meaningful prevention and management.

In Ghana, evidence indicates that diabetes knowledge among the general adult population remains suboptimal, particularly outside major urban centres. A national scoping review of diabetes in Ghana reported that low awareness and limited understanding of risk factors and symptoms contribute to widespread underdiagnosis and late presentation at health facilities (Kazibwe et al., 2024). Studies conducted in different districts further illustrate these gaps. For example, Asante et al. (2023), in a study in Akatsi South District, found that although most adults had heard of diabetes, many could not correctly identify modifiable risk factors such as physical inactivity and unhealthy diet, nor were they fully aware of the disease's long-term complications.

In the Eastern Region of Ghana, where Somanya is located, emerging evidence suggests similar challenges. Alor et al. (2024), in a peri-urban study in the Eastern Region, found that while awareness of diabetes was relatively high, detailed knowledge of prevention strategies and early symptoms was limited, particularly among adults with low education and those engaged in informal employment. This is significant because peri-urban communities such as Somanya are undergoing rapid lifestyle transitions, with increasing consumption of processed foods and reduced physical activity, which elevate diabetes risk.

The literature shows that while basic awareness of diabetes is relatively widespread, deeper and more actionable knowledge, particularly regarding modifiable risk factors, early symptoms, and

long-term complications, remains inconsistent across populations. In Ghana and similar settings, many adults are aware of diabetes as a disease but lack the detailed understanding required to translate awareness into effective prevention and early care-seeking. This pattern reflects a broader disconnect between exposure to health information and meaningful comprehension of how everyday behaviours shape diabetes risk. This study therefore addresses a critical gap by systematically assessing diabetes knowledge among adults in Somanya, providing evidence needed to strengthen community-level prevention and control strategies.

2.3 Attitudes toward Diabetes Prevention and Management

Attitudes toward diabetes refer to how individuals perceive the disease, including their beliefs about its seriousness, their personal susceptibility, the benefits of preventive actions, and the barriers they associate with adopting healthy behaviours. These perceptions are critical because they shape motivation and determine whether knowledge is translated into action. People who believe that diabetes is a serious condition, that they are personally at risk, and that preventive behaviours are effective are more likely to engage in healthy eating, physical activity, and screening, whereas those who minimise their risk or view prevention as burdensome are less likely to act (WHO, 2022).

Globally, studies consistently show that attitudes play a decisive role in diabetes prevention and management. In many high- and middle-income countries, individuals who perceive diabetes as a severe and life-altering disease are more likely to modify their diet, increase physical activity, and attend routine medical check-ups (Chatterjee et al., 2017). Conversely, people who believe that diabetes is an inevitable part of ageing or that its consequences can be easily controlled with medication alone are less likely to adopt preventive lifestyles. Evidence from large international studies indicates that perceived susceptibility and perceived benefits are among the strongest

predictors of whether adults engage in diabetes screening and risk-reduction behaviours (IDF, 2021).

In sub-Saharan Africa, attitudinal barriers are particularly influential because diabetes is often viewed through cultural and social lenses. Manyara et al. (2024) report that in several African settings, diabetes is frequently perceived as a disease of the wealthy or the elderly, leading younger and middle-aged adults to underestimate their own risk. Fear of diagnosis, stigma, and fatalistic beliefs also discourage screening and long-term self-care. Atun et al. (2017) further note that in contexts where communicable diseases have historically dominated health priorities, non-communicable diseases like diabetes are often not perceived as urgent, which weakens motivation for prevention even when knowledge exists.

Empirical studies across the region illustrate how these attitudes affect behaviour. In Nigeria, Ogunlana et al. (2022) found that adults who believed that diabetes was preventable and who perceived strong benefits from lifestyle change were significantly more likely to engage in physical activity and adhere to dietary recommendations. In contrast, those who viewed diabetes as unavoidable or primarily hereditary were less motivated to adopt healthy behaviours. Similarly, Olarewaju et al. (2020) reported that fear of being diagnosed and concerns about the social consequences of having diabetes led many individuals to avoid screening, even when services were available.

In Ghana, attitudes toward diabetes have been shown to strongly influence both prevention and management. Asante et al. (2023) found that in Akatsi South District, adults who perceived diabetes as a serious and potentially disabling disease were more likely to support preventive actions such as regular exercise and reduced sugar intake. However, a substantial proportion of respondents believed that diabetes could be controlled mainly through medication, which

reduced their perceived need for lifestyle change. In poor urban communities in Accra, Awuah et al. (2025) observed that while many people expressed concern about diabetes, this concern was often not accompanied by a strong sense of personal vulnerability, particularly among men and younger adults, leading to low engagement in screening and preventive behaviours.

Evidence from the Eastern Region suggests similar patterns. Alor et al. (2024) reported that although many adults in peri-urban communities acknowledged that diabetes is a serious condition, fewer believed that they themselves were at risk, especially if they were not visibly overweight or did not have a known family history of the disease. This low perceived susceptibility weakened motivation to adopt preventive practices, even among individuals who had some knowledge of diabetes. Such findings are important for towns like Somanya, where changing diets, reduced physical activity, and increasing obesity are occurring alongside persistent beliefs that diabetes is a problem for “other people.”

The literature reveals that attitudes toward diabetes are shaped not only by knowledge but also by cultural beliefs, social norms, and personal experiences. Even where awareness exists, low perceived risk, fatalism, fear of diagnosis, and overreliance on medication can undermine prevention and self-management. These attitudinal patterns help explain why diabetes continues to rise in many African and Ghanaian communities despite growing public health messaging.

2.4 Practices Related to Diabetes Prevention and Management

Practices related to diabetes prevention and management refer to the concrete actions individuals take to reduce their risk of developing diabetes or to control the disease once diagnosed. These include dietary behaviours, physical activity, weight management, routine blood glucose screening, and appropriate use of healthcare services. Unlike knowledge and attitudes, which reflect what people know and believe, practices represent what people actually do in their daily

lives. Effective diabetes prevention depends on sustained engagement in healthy eating, regular physical activity, and early detection through screening, particularly in populations undergoing rapid lifestyle changes (WHO, 2022).

Globally, there is strong evidence that lifestyle practices are central to preventing type 2 diabetes. Large epidemiological and intervention studies have shown that diets high in fruits, vegetables, whole grains, and low in refined sugars and saturated fats, combined with regular physical activity, significantly reduce diabetes risk (Chatterjee et al., 2017). The IDF (2021) reports that even modest weight loss and increased physical activity can reduce the risk of progression from prediabetes to diabetes by up to 58%, yet many adults worldwide fail to meet recommended physical activity and dietary guidelines. Regular screening also remains suboptimal, particularly among asymptomatic individuals who do not perceive themselves to be at risk.

In sub-Saharan Africa, preventive and self-care practices are shaped by both socioeconomic conditions and health system constraints. Manyara et al. (2024) note that although awareness of diabetes is increasing, engagement in regular physical activity, healthy diets, and routine screening remains low across much of the region. Urbanisation has led to greater consumption of processed foods and more sedentary lifestyles, while access to safe spaces for exercise and affordable healthy foods is often limited. In Ethiopia, Getie et al. (2020) found that poor dietary practices and low levels of physical activity were common among adults with diabetes and were strongly associated with inadequate disease control. Similarly, in Nigeria, Ogunlana et al. (2022) reported that fewer than half of adults attending a primary care clinic adhered consistently to recommended dietary and exercise guidelines.

Evidence from Ghana reflects these broader regional patterns. Nationally, lifestyle-related risk factors such as physical inactivity, unhealthy diets, and overweight are rising, contributing to

increasing diabetes prevalence (Kazibwe et al., 2024). In Akatsi South District, Asante et al. (2023) found that although many adults expressed positive attitudes toward diabetes prevention, only a minority reported engaging in regular physical activity or following recommended dietary practices. Screening practices were also poor, with many respondents having never checked their blood glucose unless they were already ill. This gap between attitudes and behaviour highlights structural and motivational barriers to sustained prevention.

In urban Accra, Awuah et al. (2025) observed that even among individuals who were aware of diabetes risk factors, consumption of sugary drinks and fried foods remained high, while routine physical activity was uncommon. Many respondents relied on medication alone once diagnosed, rather than combining treatment with lifestyle modification. In peri-urban communities in the Eastern Region, Alor et al. (2024) reported similar trends: limited engagement in preventive practices such as regular exercise and weight monitoring, alongside low uptake of voluntary blood glucose screening. These patterns are particularly concerning in towns like Somanya, where dietary transitions and reduced physical activity are occurring in the absence of strong preventive health infrastructure.

Taken together, the literature indicates that while the importance of healthy lifestyles for diabetes prevention is widely acknowledged actual practices often fall short of recommended standards. Economic constraints, limited access to healthy foods and safe spaces for exercise, and low uptake of routine screening contribute to a persistent gap between what people know and what they do. This disconnect is especially evident in peri-urban Ghanaian settings, where rapid social and dietary changes are not matched by corresponding improvements in preventive health behaviour.

2.5 Factors Influencing Diabetes Prevention and Management Practices

Diabetes prevention and management practices do not occur in isolation but are shaped by a complex interaction of individual, social, and health-system factors. Even when people possess basic knowledge of diabetes and express concern about its consequences, their ability to engage in healthy behaviours depends on socioeconomic conditions, cultural norms, access to health services, and the degree of support within their environment. Understanding these interacting determinants is essential for explaining why some individuals adopt preventive practices while others do not.

At the global level, a consistent body of evidence shows that socio-demographic characteristics such as age, education, income, and employment status strongly influence diabetes-related behaviours. Higher levels of education and income are associated with better diet quality, greater physical activity, and higher uptake of preventive screening, largely because these groups have greater access to health information and resources (Chatterjee et al., 2017; IDF, 2021). Conversely, individuals in lower socioeconomic groups often face competing priorities such as food insecurity and unstable employment, which make it difficult to prioritise long-term health behaviours over immediate needs. Health system factors also play a major role: availability of primary care, affordability of screening, and continuity of care significantly affect whether people engage in early detection and sustained self-management (WHO, 2022).

In sub-Saharan Africa, these global determinants are further shaped by contextual realities such as limited health infrastructure, high out-of-pocket costs, and strong influence of cultural beliefs. Manyara et al. (2024) found that across the region, diabetes prevention and self-care are constrained not only by low income and low education but also by beliefs that diabetes is either hereditary, spiritually caused, or inevitable with ageing. Such beliefs reduce motivation to

engage in preventive behaviours even when knowledge exists. Atun et al. (2017) similarly report that weak primary health care systems and low availability of routine screening services limit opportunities for early detection, reinforcing patterns of late diagnosis and reactive rather than preventive care.

Empirical studies illustrate how these factors operate in everyday life. In Ethiopia, Getie et al. (2020) showed that adults with higher educational attainment and better access to health services were significantly more likely to adhere to recommended dietary and physical activity practices. In Nigeria, Ogunlana et al. (2022) found that income, perceived cost of healthy foods, and distance to health facilities were major predictors of whether patients followed self-care guidelines. Fear of diagnosis and stigma were also important deterrents to screening and ongoing engagement with care.

In Ghana, similar structural and psychosocial factors shape diabetes-related practices. A national scoping review by Kazibwe et al. (2024) highlighted that limited access to routine screening, shortages of trained health workers, and high out-of-pocket expenditure remain major barriers to effective diabetes prevention and control. At the community level, Asante et al. (2023) found that education level, employment status, and exposure to health education significantly influenced whether adults engaged in physical activity, healthy eating, and screening. Individuals with low income and informal employment were less likely to adopt preventive behaviours, even when they recognised their importance.

Urban and peri-urban studies further show how environmental and social factors affect behaviour. In Accra, Awuah et al. (2025) reported that overcrowded living conditions, lack of safe spaces for exercise, and easy access to cheap, energy-dense foods discouraged physical activity and healthy diets, despite relatively high awareness of diabetes. In the Eastern Region,

Alor et al. (2024) observed that limited access to affordable fruits and vegetables, coupled with irregular health education and weak community outreach, reduced people's ability to act on their knowledge about diabetes prevention.

Taken together, these studies demonstrate that diabetes prevention and management practices are shaped by far more than individual choice. Knowledge and positive attitudes are necessary but not sufficient; they must be supported by enabling environments, accessible health services, and socioeconomic conditions that allow people to act on what they know. In settings like peri-urban Ghana, where rapid lifestyle change coexists with uneven access to resources, these interacting factors are particularly important for understanding patterns of diabetes-related behaviour.

2.6 Summary of the Literature

The literature reviewed in this chapter demonstrates that diabetes is increasingly shaped by behavioural, social, and environmental factors, making knowledge, attitudes, and practices central to effective prevention and management. Across global and regional contexts, diabetes is no longer viewed solely as a clinical condition but as a lifestyle-related public health challenge that requires sustained engagement in healthy behaviours, early screening, and continuous self-care. Evidence consistently shows that individuals who understand diabetes risk factors, recognise its seriousness, and believe in the benefits of prevention are more likely to adopt healthier diets, engage in physical activity, and seek timely medical care.

At the same time, the review highlights a persistent gap between awareness and action. In many low- and middle-income settings, including sub-Saharan Africa, adults may have heard of diabetes but often lack detailed, practical knowledge about how everyday behaviours influence their risk. Attitudes such as low perceived susceptibility, fear of diagnosis, and over reliance on medication weaken motivation for prevention, while structural barriers such as cost, limited

access to screening, and constrained food and physical environments further restrict people's ability to act on what they know. In Ghana, these challenges are compounded by rapid urbanisation and dietary transition, which increase diabetes risk even as preventive behaviours remain low.

Effective prevention and control therefore depend not only on improving knowledge and attitudes but also on addressing the social and health-system conditions that shape everyday practice. This integrated perspective provides the foundation for interpreting the findings of the present study and for understanding how diabetes prevention and management operate within the lived realities of adults in Somanya.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodological framework adopted to assess the knowledge, attitudes, and practices (KAP) regarding diabetes prevention and management among adults aged 18 years and above in Somanya. It outlines the research design, study population, sampling method, data collection instruments, analysis plan, and ethical procedures.

3.2 Study Design

The study employed an analytical cross-sectional design using a quantitative approach. This design was appropriate for obtaining a snapshot of current knowledge, attitudes, and practices within a defined population at a specific point in time. It enabled the identification of associations between socio-demographic characteristics and diabetes-related behaviours.

3.3 Study Population

The study population consisted of adults aged 18 years and above residing in selected communities in Somanya, Eastern Region of Ghana.

3.4 Inclusion and Exclusion Criteria

Inclusion Criteria

- Adults aged 18 years and above
- Permanent residents of selected communities in Somanya for at least 6 months

Exclusion Criteria

- Visitors or temporary residents of Somanya

- Individuals who were critically ill at the time of data collection

3.5 Sample Size Determination

The sample size was determined using Cochran's formula for calculating sample sizes for proportions in large populations:

$$n = \frac{Z^2 \times pq}{e^2}$$

Where:

n = sample size (Cochran, 1977)

Z = the z-score that corresponds with 95% confidence interval which is 1.96

p = assumed proportion (0.5) for maximum variability

q = 1-p = 0.5

e = Margin of error set at 5% (0.05)

$$n = \frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2} \cong 384$$

Accounting for a 10% non-response rate, the final sample size will be 422 participants. However due to some challenges with getting study participants, a total of 404 participants were recruited for the study.

3.6 Sampling Technique

A community-based multistage sampling technique was employed for this study to ensure adequate representation and minimize selection bias. In the first stage, three communities within Somanya were selected: Adjikpo, Ogome, and Akweteyman. These communities were purposively chosen to reflect diverse socio-demographic, educational, and occupational characteristics relevant to diabetes prevention and management.

Adjikpo is predominantly a rural farming community, with most residents engaged in agriculture. The community has limited access to healthcare services and relatively lower levels of formal education. Ogome, on the other hand, is characterized by a younger and more educated population and is located closer to health facilities, thereby enhancing access to healthcare services and health information. Akweteyman comprises a mixed occupational structure, including traders, farmers, and other informal sector workers, and reflects a blend of rural and semi-urban characteristics with varied socio-economic and educational backgrounds.

In the second stage, households within each selected community were sampled using systematic random sampling. A sampling interval was determined based on the estimated total number of households in each community, and the first household was selected randomly. Thereafter, every n th household was included in the study until the required sample size was achieved.

In the final stage, one eligible adult aged 18 years and above was selected from each chosen household. Where more than one eligible adult was present in a household, simple random sampling was applied to select one respondent. Each eligible individual was assigned an equal chance of selection, and one participant was chosen through a random selection process. This approach ensured fairness in selection and reduced intra-household selection bias.

3.7 Data Collection Tools and Procedures

Data were collected using a structured interviewer-administered questionnaire designed specifically to address the objectives of the study. The questionnaire was developed based on a review of relevant literature on diabetes knowledge, attitudes, and practices.

The data collection instrument consisted of a structured, interviewer-administered questionnaire divided into four sections.

Section A captured respondents' socio-demographic characteristics, including age, sex, marital status, educational level, occupation, religion, income, and place of residence. These variables were used to describe the study population and to examine their association with diabetes-related knowledge, attitudes, and practices.

Section B assessed respondents' knowledge of diabetes, including understanding of the disease, risk factors (such as obesity and physical inactivity), symptoms, complications (including kidney failure, blindness, and limb amputation), and prevention and management strategies. Responses were scored to determine respondents' level of diabetes-related knowledge.

Section C examined respondents' attitudes toward diabetes prevention and management, focusing on beliefs about the seriousness of the disease, treatment practices, medication use, and preventive behaviours. This included perceptions about the safety and effectiveness of insulin, oral medications, and alternative therapies. The attitude items were measured using Yes, No, and Don't know response options. For scoring, responses reflecting a positive attitude were assigned one (1), while negative and Don't know responses were assigned zero (0). Composite attitude

scores were then generated and used to categorise respondents as having either positive or negative attitudes.

Section D assessed practices related to diabetes prevention and management, including dietary habits, physical activity, blood glucose screening, and healthcare-seeking behaviour. Responses were used to evaluate the extent to which respondents engaged in recommended preventive practices.

3.8 Pre-testing

The questionnaire was pre-tested in a community outside the selected study communities to assess clarity, cultural appropriateness, and the flow of questions. Feedback from the pre-test was used to refine wording and improve comprehension. The questionnaire was administered in English or local languages, depending on the respondent's preference.

Data collection took place through household visits in the randomly selected communities within Somanya. Trained research assistants fluent in English and local languages administered the questionnaire to eligible respondents. Prior to participation, the purpose of the study was explained, and written informed consent was obtained from each respondent. Only one eligible adult aged 18 years and above was interviewed per selected household.

3.8 Data Analysis

Data collected were checked for completeness and consistency before analysis using STATA version 19.5. Descriptive statistics were used to summarise the socio-demographic characteristics of respondents and to describe levels of knowledge, attitudes, and practices related to diabetes

prevention and management. Results were presented using frequencies, percentages, means, and standard deviations, as appropriate.

Knowledge of diabetes was assessed using structured questions adapted from a validated KAP questionnaire. Each correct response was assigned a score of one (1), while incorrect and “don’t know” responses were assigned a score of zero (0). The total knowledge score for each respondent was computed. The total knowledge scores were categorised into three levels based on predefined cut-off points: poor knowledge (0–8), moderate knowledge (9–12), and good knowledge (13–16).

Attitudes toward diabetes prevention and management were assessed using seven (7) structured questions. Responses were categorised as “Yes,” “No,” or “Don’t know.” Each positive response was assigned a score of one (1), while “No” and “Don’t know” responses were assigned a score of zero (0). The total attitude score ranged from 0 to 7. Respondents who scored four or more (≥ 4) were classified as having a positive attitude, while those who scored less than four (< 4) were classified as having a negative attitude.

Practices related to diabetes prevention and management were assessed using four (4) behavioural questions. Responses were categorised as “Yes,” “No,” or “Don’t know.” Each practice item was analysed individually. Respondents who answered “Yes” to recommended health behaviours were classified as having positive practices, while those who answered “No” or “Don’t know” were classified as having negative practices.

Inferential statistical analyses were conducted to examine relationships between socio-demographic variables and diabetes-related knowledge, attitudes, and practices. The Chi-square

test was used to assess associations between categorical variables. Binary logistic regression analysis was performed to identify factors associated with diabetes prevention and management practices. Variables with a p-value less than 0.05 were considered statistically significant.

3.9 Ethical Considerations

Ethical approval was obtained from the Ensign Global University Ethical Review Board. Additional clearance was sought from the Yilo-Krobo Municipal Health Directorate and relevant community authorities. All participants were informed of the study's purpose, their rights, the voluntary nature of participation, and the confidentiality of responses. Written informed consent was obtained prior to enrolment.

Participants were assured that they could withdraw at any time without consequences. Data were anonymised and stored securely to maintain participant confidentiality throughout and after the study.

CHAPTER FOUR

RESULTS

4.1 Demographic Characteristics

Table 4.1 presents the socio-demographic characteristics of the respondents. The majority of participants were aged 30–39 years 168 (41.79%), indicating that most respondents were within the economically active age group. Males constituted a larger proportion of the sample 268 (66.67%) compared to females 134 (33.33%). Nearly half of the respondents were single 184 (45.77%), while 128 (31.84%) were married. In terms of education, most respondents had attained secondary education 207 (51.49%).

Occupationally, the vast majority 399 (99.25%) were employed, reflecting the informal nature of employment in the study area. Regarding income, 165 (41.10%) earned above GHS 1000 monthly, although a notable proportion earned lower incomes.

Most respondents resided in peri-urban areas 256 (63.68%), consistent with the study setting. The sample was predominantly Ghanaian 379 (94.28%), with a small proportion of Nigerians 23 (5.72%). Regarding family history of diabetes, the majority of respondents 281 (69.90%) reported that they did not have first-degree relatives with diabetes, while 102 (25.37%) indicated a positive family history. A small proportion 19 (4.73%) were unsure of their family history.

Table 4.1 Socio-Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Age Group	18–29	93	23.13
	30–39	168	41.79
	40–49	83	20.65
	50+	58	14.43
Sex	Male	268	66.67
	Female	134	33.33
Marital Status	Single	184	45.77

	Married	128	31.84
	Co-habiting	37	9.20
	Divorced	37	9.20
	Widowed	16	3.98
Education Level	Secondary school	207	51.49
	College (Diploma)	84	20.90
	University	57	14.18
	Middle school	54	13.43
Occupation	Employed	399	99.25
	Unemployed	3	0.75
Monthly Income	>1000	165	41.10
	801–1000	113	28.07
	200–500	46	11.28
	501–800	42	10.53
	<200	36	9.02
Residence	Peri-urban	256	63.68
	Rural	85	21.14
	Urban	61	15.17
Nationality	Ghanaian	379	94.28
	Nigerian	23	5.72
Family History of Diabetes	Yes	102	25.37
	No	281	69.90
	Don't know	19	4.73

4.2 Level of Knowledge of Diabetes Prevention and Management among Adults in Somanya

Knowledge of diabetes prevention and management was assessed using structured questionnaire items covering disease diagnosis, risk factors, symptoms, complications, and management. Each correct response was assigned a score of one (1), while incorrect and “don’t know” responses were assigned a score of zero (0).

The mean knowledge score among respondents was 11.19 ± 2.31 . Based on the total scores, respondents were categorised into three levels: poor knowledge (0–8), moderate knowledge (9–

12), and good knowledge (13–16). Overall, 208 (51.74%) of respondents had good knowledge, 150 (37.31%) had moderate knowledge, while 44 (10.95%) had poor knowledge.

The findings indicate that respondents had good knowledge of major risk factors of diabetes, including excessive sugar intake 345 (85.82%), obesity 334 (83.08%), family history 326 (81.10%), and physical inactivity 321 (80.05%). Awareness of common symptoms was also high, with most respondents identifying slow wound healing 368 (91.77%), frequent urination 326 (81.30%), and increased thirst 295 (73.38%) as symptoms of diabetes.

Regarding complications, a majority correctly identified kidney failure 309 (76.87%) and stroke 251 (62.59%) as complications. In terms of management, respondents demonstrated high awareness of key strategies such as avoiding sugary foods 360 (89.55%), regular exercise 338 (88.48%), oral medications 350 (87.06%), and insulin therapy 341 (84.83%).

However, some misconceptions remain, as 131 (32.59%) of respondents believed that diabetes is curable with treatment.

Table 4.2 Knowledge of Diabetes among Respondents

Item	Response	Frequency (n)	Percentage (%)
Family history is a risk factor	Yes	326	81.10
	No	61	15.17
	Don't know	15	3.73
Obesity is a risk factor	Yes	334	83.08
	No	48	11.94
	Don't know	20	4.98
Excess sugar intake is a risk factor	Yes	345	85.82
	No	57	14.18
Physical inactivity is a risk factor	Yes	321	80.05
	No	29	7.23

Stress is a risk factor	Don't know	51	12.72
	Yes	302	75.12
	No	65	16.17
Blood sugar increases in diabetes	Don't know	35	8.71
	Correct (Increase)	385	95.77
	Incorrect/No change	17	4.23
Diabetes is curable with treatment	Yes	131	32.59
	No	252	62.69
	Don't know	19	4.73
Frequent urination is a symptom	Yes	326	81.30
	No	55	13.72
	Don't know	20	4.99
Increased thirst is a symptom	Yes	295	73.38
	No	39	9.70
	Don't know	68	16.92
Slow wound healing is a symptom	Yes	368	91.77
	No	33	8.23
Kidney failure is a complication	Yes	309	76.87
	No	75	18.66
	Don't know	18	4.48
Stroke is a complication	Yes	251	62.59
	No	117	29.18
	Don't know	33	8.23
Insulin injection is a management option	Yes	341	84.83
	No	28	6.97
	Don't know	33	8.21
Oral medications are a management option	Yes	350	87.06
	No	33	8.21
	Don't know	19	4.73
Regular exercise is a management option	Yes	338	88.48
	No	28	7.33
	Don't know	16	4.19
Avoiding sugary foods is a	Yes	360	89.55

management option	No	42	10.45
-------------------	----	----	-------

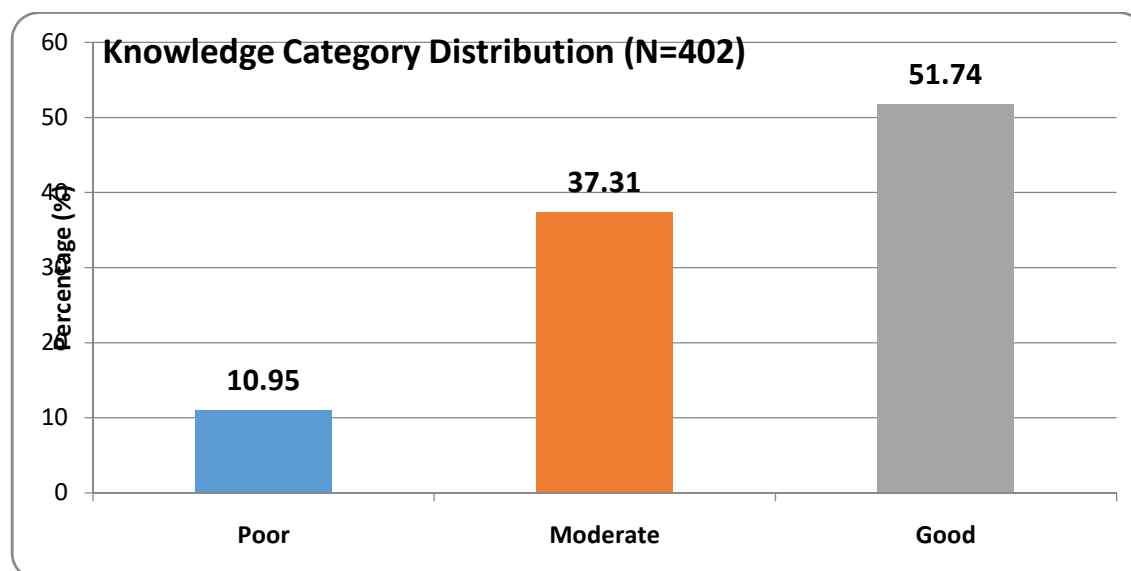


Figure 4.2 Knowledge Category Distribution

Figure 4.2 presents the distribution of respondents according to their level of knowledge of diabetes prevention and management. Out of the total sample (N = 402), the majority of respondents, 208 (51.74%), demonstrated good knowledge, followed by 150 (37.31%) who had moderate knowledge, while 44 (10.95%) exhibited poor knowledge.

4.3 Attitudes towards Diabetes among Adults in Somanya

The attitude of respondents towards diabetes prevention and management was assessed using seven (7) structured items. Each positive response was assigned a score of one (1), while negative and “don’t know” responses were assigned a score of zero (0), giving a total possible score ranging from 0 to 7.

The mean attitude score was 2.73 ± 1.53 . Respondents were classified based on their total scores, where those who scored four or more (≥ 4) were considered as having a positive attitude, while those who scored less than four (< 4) were classified as having a negative attitude. Based on this classification, 60.7% of respondents had negative attitudes, while 39.3% had positive attitudes. Figure 4.3 shows the distribution of attitude levels among respondents.

The study revealed the presence of several misconceptions regarding diabetes management. A substantial proportion of respondents believed that insulin causes harmful effects 305 (75.87%), and that long-term use of metformin leads to kidney damage 294 (73.13%). Additionally, 308 (78.97%) believed that prolonged use of medication could result in organ failure.

Furthermore, more than half of the respondents 212 (52.74%) believed that controlling blood glucose with diet alone is superior to medication. A considerable proportion also perceived herbal remedies to be more effective than prescribed treatment 167 (41.54%), although 212 (52.74%) disagreed with this view.

Regarding fatalistic beliefs, 93 (23.13%) of respondents believed that there is no point in controlling blood sugar due to complications, while the majority 289 (71.89%) disagreed. Similarly, 151 (37.56%) agreed that alternative therapies are better than conventional treatment, whereas 235 (58.46%) disagreed.

Table 4.3 Attitudes towards Diabetes among Respondents

Statement	Response	Frequency (n)	Percentage (%)
Alternative therapies are better than diet control and medication	Yes	151	37.56
	No	235	58.46
	Don't know	16	3.98

There is no point in controlling blood sugar due to complications (fatalism)	Yes	93	23.13
	No	289	71.89
	Don't know	20	4.98
Insulin causes harmful effects to the body	Yes	305	75.87
	No	63	15.67
	Don't know	30	7.46
Long-term use of metformin causes kidney damage	Yes	294	73.13
	No	52	12.94
	Don't know	52	12.94
Long-term drug use causes organ failure	Yes	308	78.97
	No	60	15.38
	Don't know	16	4.10
Controlling glucose with diet alone is superior to medication	Yes	212	52.74
	No	160	39.80
	Don't know	26	6.47
Herbs (ginger, cinnamon, fenugreek) are better than prescribed medication	Yes	167	41.54
	No	212	52.74
	Don't know	19	4.73

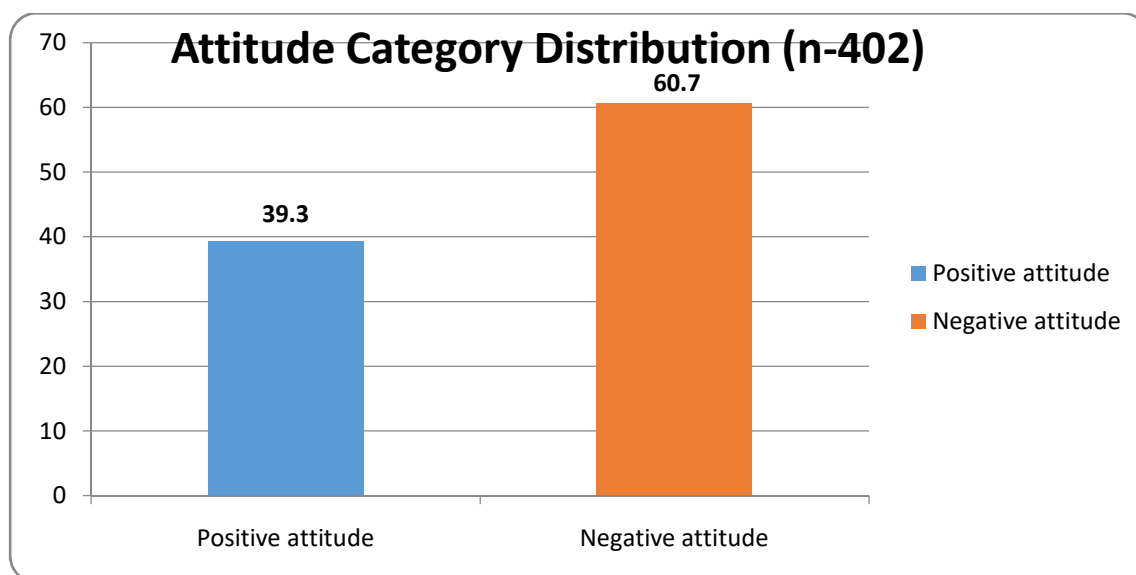


Figure 4.3 Attitude Category Distribution

Figure 4.3 shows the overall attitude towards diabetes among adults in Somanya. It was revealed that majority of respondents (60.7%) had negative attitudes, while 39.3% had positive attitudes.

4.4 Practices Adopted by Adults in Somanya for Preventing and Managing Diabetes

The findings indicate relatively good lifestyle-related practices among respondents, with 302 (75.12%) engaging in regular physical activity and 286 (71.14%) avoiding refined or sugary foods. A high proportion of respondents 350 (91.38%) also expressed willingness to seek treatment if diagnosed with diabetes.

However, routine screening practices were poor, as only 140 (34.83%) reported checking their blood glucose regularly, while the majority 262 (65.17%) did not engage in regular screening.

Table 4.4 Diabetes-Related Practices among Respondents

Practice Item	Response	Frequency (n)	Percentage (%)
Engages in 30–60 minutes of physical activity daily	Yes	302	75.12

Would consider treatment if diagnosed with diabetes	No	100	24.88
	Yes	368	91.38
Checks blood sugar regularly (at least annually)	No	53	8.62
	Yes	140	34.83
Avoids refined sugar / sugary foods	No	262	65.17
	Yes	286	71.14
	No	116	28.86

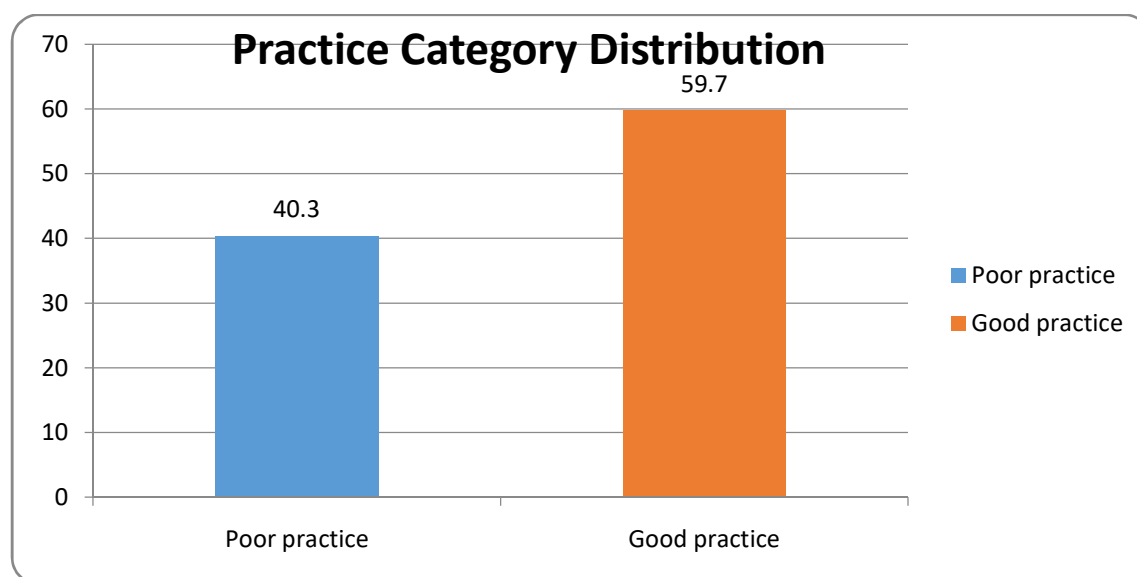


Figure 4.4 Practice Category Distribution

Figure 4.4 shows the overall practice levels towards diabetes prevention and management among adults in Somanya. It was revealed that majority of respondents (59.7%) had good practice, while less than half (40.3%) had poor practices.

4.5 Factors Associated with Physical Activity among Respondents

Table 4.5 presents the chi-square analysis between selected predictor variables and engagement in physical activity among respondents. The results showed that there was a statistically significant association between physical activity and knowledge level ($\chi^2 = 25.31$, $p < 0.001$), attitude ($\chi^2 = 17.47$, $p < 0.001$), age group ($\chi^2 = 28.32$, $p < 0.001$), sex ($\chi^2 = 34.10$, $p < 0.001$), education level ($\chi^2 = 61.64$, $p < 0.001$), monthly income ($\chi^2 = 28.06$, $p < 0.001$), and family history of diabetes ($\chi^2 = 6.37$, $p = 0.041$).

Table 4.5 Factors Associated with Physical Activity among Respondents

Knowledge level	Physical Activity n (%)	Physical Activity n (%)	χ^2	p-value
Poor knowledge	20 (45.45)	24 (54.55)	25.31	<0.001
Moderate knowledge	170 (76.23)	53 (23.77)		
Good knowledge	112 (82.96)	23 (17.04)		
Attitude level				
Negative attitude	101 (63.92)	57 (36.08)	17.47	<0.001
Positive attitude	201 (82.38)	43 (17.62)		
Age group (years)				
18–29	89 (95.70)	4 (4.30)	28.32	<0.001
30–39	118 (70.24)	50 (29.76)		
40–49	54 (65.06)	29 (34.94)		
50+	41 (70.69)	17 (29.31)		
Sex			34.10	<0.001
Female	77 (57.46)	57 (42.54)		
Male	225 (83.96)	43 (16.04)		
Education level				
College (Diploma)	74 (88.10)	10 (11.90)	61.64	<0.001
Middle school	18 (33.33)	36 (66.67)		
Secondary	162 (78.26)	45 (21.74)		
University	48 (84.21)	9 (15.79)		
Monthly income (GHS)				
<200	32 (88.89)	4 (11.11)	28.06	<0.001
200–500	20 (44.44)	25 (55.56)		
501–800	32 (76.19)	10 (23.81)		
801–1000	86 (76.79)	26 (23.21)		
>1000	130 (79.27)	34 (20.73)		
Family history of diabetes				

No	214 (76.16)	67 (23.84)	6.37	0.041
Yes	70 (68.63)	32 (31.37)		
Don't know	18 (94.74)	1 (5.26)		
TOTAL	302 (75.12)	100 (24.88)		

4.6 Logistic regression analysis of Factors Associated with Physical activity

Multivariable logistic regression analysis revealed that knowledge level, sex, age, education, and income were significant predictors of physical activity.

Respondents with moderate knowledge (AOR = 3.25, 95% CI: 1.35–7.84, $p = 0.009$) and good knowledge (AOR = 3.87, 95% CI: 1.48–10.14, $p = 0.006$) were significantly more likely to engage in physical activity compared to those with poor knowledge. Similarly, males were significantly more likely to engage in physical activity compared to females (AOR = 3.59, 95% CI: 1.79–7.21, $p < 0.001$).

Age was inversely associated with physical activity, as respondents aged 30–39, 40–49, and 50+ were significantly less likely to engage in physical activity compared to those aged 18–29. With respect to education, respondents with middle school education were significantly less likely to engage in physical activity compared to those with college education (AOR = 0.21, $p = 0.012$), while other categories were not statistically significant.

Higher income levels were significantly associated with increased likelihood of engaging in physical activity. Respondents earning respondents earning above 1000 GHS were approximately 6.4 times more likely to engage in physical activity (AOR = 6.42, 95% CI: 2.31–17.84, $p < 0.001$), compared to those earning 200–500 GHS. However, family history of diabetes was not significantly associated with physical activity.

Table 4.6 Logistic regression analysis of Factors Associated with Physical Activity

Variable	Category	AOR (95% CI)	p-value
Knowledge level	Poor (Ref)	1.00	—
	Moderate	3.25 (1.35–7.84)	0.009
	Good	3.87 (1.48–10.14)	0.006
Sex	Female (Ref)	1.00	—
	Male	3.59 (1.79–7.21)	<0.001
Age group (years)	18–29 (Ref)	1.00	—
	30–39	0.11 (0.02–0.50)	0.004
	40–49	0.05 (0.01–0.23)	<0.001
	50+	0.07 (0.02–0.33)	0.001
Education level	College (Ref)	1.00	—
	Middle school	0.21 (0.06–0.71)	0.012
	Secondary school	0.60 (0.24–1.50)	0.271
	University	0.34 (0.08–1.36)	0.127
Income (GHS)	200–500 (Ref)	1.00	—
	501–800	3.17 (1.06–9.49)	0.039
	801–1000	5.60 (1.98–15.87)	0.001
	<200	3.04 (0.70–13.19)	0.137
	>1000	6.42 (2.31–17.84)	<0.001
Family history of diabetes	Don't know (Ref)*	1.00	—
	No	4.18 (0.27–63.65)	0.304
	Yes	1.62 (0.12–22.62)	0.719

4.7 Factors Associated with Blood Glucose Screening Among Respondents

Table 4.7 presents the chi-square analysis between selected predictor variables and engagement in regular blood glucose screening among respondents. The results showed that there was a statistically significant association between blood glucose screening sex ($\chi^2 = 24.56$, $p < 0.001$), education level ($\chi^2 = 14.40$, $p = 0.002$), income ($\chi^2 = 29.94$, $p < 0.001$), and family history of diabetes ($\chi^2 = 25.60$, $p < 0.001$).

However, no statistically significant association was observed between blood glucose screening and attitude ($p = 0.826$), age group ($p = 0.071$), occupation ($p = 0.245$), or knowledge ($p = 0.56$).

Table 4.7 Association between Socio-Demographic Factors and Blood Glucose Screening Practices among Respondents

Knowledge level	Good (Yes) n (%)	Poor Practice (No) n (%)	χ^2	p-value
Poor knowledge	11 (25.00)	33 (75.00)	5.76	0.056
Moderate knowledge	72 (32.29)	151 (67.71)		
Good knowledge	57 (42.22)	78 (57.78)		
Attitude level			0.05	0.826
Negative attitude	104 (65.82)	54 (34.18)		
Positive attitude	158 (64.75)	86 (35.25)		
Sex			24.56	<0.001*
Female	65 (49.24)	67 (50.76)		
Male	195 (73.58)	70 (26.42)		
Age group (years)			7.02	0.071
18–29	58 (62.37)	35 (37.63)		
30–39	115 (68.45)	53 (31.55)		
40–49	59 (71.08)	24 (28.92)		
50+	30 (51.72)	28 (48.28)		
Education level			14.40	0.002*
College	55 (65.48)	29 (34.52)		
Middle school	45 (83.33)	9 (16.67)		
Secondary	120 (57.97)	87 (42.03)		
University	42 (73.68)	15 (26.32)		
Income (GHS)			29.94	<0.001*
200–500	34 (75.56)	11 (24.44)		
501–800	23 (54.76)	19 (45.24)		
801–1000	81 (72.32)	31 (27.68)		
<200	10 (27.78)	26 (72.22)		
>1000	113 (68.90)	51 (31.10)		
Family history of diabetes			25.60	<0.001*
Don't know	16 (84.21)	3 (15.79)		
No	200 (71.17)	81 (28.83)		
Yes	46 (45.10)	56 (54.90)		
Occupation			1.35	0.245
Unemployed	1 (33.33)	2 (66.67)		
Employed	261 (65.41)	138 (34.59)		

4.8 Logistic regression analysis of Factors Associated with Blood Glucose Screening

Multivariable logistic regression analysis showed that sex and education level were significant predictors of blood sugar screening.

Males were significantly less likely to engage in blood sugar screening compared to females (AOR = 0.22, 95% CI: 0.11–0.42, $p < 0.001$). Respondents with middle school education were significantly less likely to undergo blood sugar screening compared to those with college education (AOR = 0.12, 95% CI: 0.04–0.43, $p = 0.001$).

However, knowledge level, age, income, and family history of diabetes were not significantly associated with blood sugar screening.

Table 4.8 Logistic regression analysis of Factors Associated with Blood Glucose Screening

Variable	Category	AOR (95% CI)	p-value
Knowledge level	Poor (Ref)	1.00	—
	Moderate	0.99 (0.42–2.34)	0.990
	Good	0.91 (0.36–2.29)	0.840
Sex	Female (Ref)	1.00	—
	Male	0.22 (0.11–0.42)	<0.001*
Age group (years)	18–29 (Ref)	1.00	—
	30–39	1.16 (0.53–2.56)	0.713
	40–49	0.71 (0.29–1.76)	0.458
	50+	1.78 (0.72–4.40)	0.215
Education level	College (Ref)	1.00	—
	Middle school	0.12 (0.04–0.43)	0.001
	Secondary school	0.93 (0.46–1.88)	0.839
	University	0.46 (0.16–1.33)	0.150
Income (GHS)	200–500 (Ref)	1.00	—

	501–800	2.04 (0.71–5.83)	0.183
	801–1000	0.77 (0.30–2.00)	0.590
	<200	2.90 (0.83–10.10)	0.094
	>1000	0.48 (0.18–1.25)	0.132
Family history of diabetes	Don't know (Ref)*	1.00	—
	No	0.91 (0.14–5.70)	0.916
	Yes	3.36 (0.58–19.59)	0.177

CHAPTER FIVE

5.0 DISCUSSION

5.1 Knowledge of Diabetes among Adults

The findings of this study show that respondents in Somanya demonstrated generally high awareness of diabetes, particularly with respect to risk factors, symptoms, complications, and management strategies. For instance, a large proportion correctly identified excessive sugar intake (85.82%), obesity (83.08%), family history (81.10%), and physical inactivity (80.05%) as risk factors, while recognition of symptoms such as slow wound healing (91.77%) and frequent urination (81.30%) was also notably high. At first glance, this suggests that diabetes-related information is reaching the population to a considerable extent.

One plausible explanation for this pattern is the increasing visibility and burden of diabetes in Ghana and globally. Diabetes currently affects over **537 million adults worldwide**, with projections rising to 643 million by 2030, making it one of the most widely discussed non-communicable diseases. In Ghana, where a substantial proportion of cases remain undiagnosed, community exposure to diabetes may contribute to improved general awareness. This aligns with evidence from the International Diabetes Federation (2021) and World Health Organization (2022), which highlight growing public exposure to diabetes information even in low- and middle-income settings.

However, despite the high item-specific knowledge observed, the overall classification showed that only 51.7% of respondents had good knowledge, indicating that nearly half still had inadequate understanding. This suggests that knowledge may be fragmented rather than comprehensive. In other words, respondents may recognise isolated facts (e.g., sugar intake or symptoms) but lack a deeper, integrated understanding of the disease. This finding is consistent

with the scoping review by Manyara et al. (2024), which reported that while awareness of diabetes is widespread in sub-Saharan Africa, detailed and functional knowledge remains limited, particularly regarding prevention and long-term management.

The findings are also consistent with studies conducted in Ghana. For example, Asante et al. (2023) found that although a majority of adults had heard of diabetes and could identify some risk factors, comprehensive knowledge was still suboptimal, especially regarding complications and preventive behaviours. Similarly, Kugbey et al. (2017) reported that even among patients with diabetes in Accra, gaps in knowledge persisted, particularly in understanding disease progression and self-care. These findings suggest that the pattern observed in Somanya reflects a broader national trend, where awareness exists but does not always translate into complete understanding.

In contrast, some studies in other African settings have reported lower levels of knowledge. For instance, Olarewaju et al. (2020) in Nigeria found that although over 70% of respondents had heard of diabetes, fewer than 40% could correctly identify key risk factors and complications. The relatively higher knowledge observed in this study may therefore reflect improvements in public health messaging and education in Ghana.

Another important finding is the presence of **persistent misconceptions**, particularly the belief among about one-third of respondents (32.9%) that diabetes is curable. This is a critical issue because such misconceptions can undermine long-term disease management and delay appropriate care-seeking. Similar misconceptions have been reported in other studies across sub-Saharan Africa, where diabetes is sometimes perceived as a temporary condition or one that can be cured through medication or alternative therapies (Manyara et al., 2024; Bigna et al., 2019).

This highlights a key gap between awareness and accurate understanding, which has important implications for health education.

The findings generally indicate that although knowledge of diabetes in this population is relatively encouraging, it is incomplete and unequal, with important gaps and misconceptions that could hinder effective prevention and management.

5.2 Attitudes towards Diabetes among Adults

The findings of this study reveal that a **majority of respondents (60.7%) exhibited negative attitudes** towards diabetes prevention and management, with widespread misconceptions regarding treatment. Notably, a high proportion believed that insulin causes harmful effects (75.87%) and that long-term use of metformin leads to kidney damage (73.13%). In addition, over half of respondents (52.74%) perceived diet alone as superior to medication, while a considerable proportion (41.54%) believed that herbal remedies are more effective than prescribed treatment. These findings point to misconceptions and skepticism toward biomedical management of diabetes.

One possible explanation for these negative attitudes is the **influence of cultural beliefs and informal health information systems**. In many Ghanaian and broader African contexts, health knowledge is often shaped not only by formal education but also by **community narratives, anecdotal experiences, and traditional beliefs**. Reports of side effects from medications can easily spread within communities and reinforce fear. For instance, concerns about Metformin and organ damage may stem from misunderstandings of complications caused by poorly controlled diabetes rather than the medication itself.

These findings are consistent with broader evidence from sub-Saharan Africa. The scoping review by Manyara et al. (2024) highlights those negative perceptions of diabetes treatment, fear of lifelong medication, and preference for traditional remedies are common across the region. Likewise, Bigna et al. (2019) identified perceived barriers including fear of treatment and mistrust of health systems as major obstacles to effective diabetes care.

The findings also align with studies conducted in Ghana. Asante et al. (2023) reported that although some individuals recognise the seriousness of diabetes, many do not fully accept the need for sustained medical treatment, often placing greater trust in lifestyle changes alone or alternative remedies. Similarly, research in Accra by Kugbey et al. (2017) found that illness perceptions, including beliefs about treatment effectiveness, significantly influenced self-care behaviors.

In contrast, studies in more resourced settings or among populations with higher exposure to structured diabetes education tend to report more positive attitudes toward medical treatment. For example, Chatterjee et al. (2017) note that in high-income settings, individuals were more likely to accept the role of medication alongside lifestyle modification, reflecting stronger trust in biomedical care. This highlights the role of health literacy and access to accurate information in shaping attitudes.

Another important dimension of the findings is the preference for diet-only control and herbal remedies, which suggests a tendency to favour “natural” approaches over clinical interventions. While lifestyle modification is indeed a cornerstone of diabetes prevention and management, the belief that it is sufficient on its own, especially for individuals already diagnosed can be problematic. Evidence shows that effective diabetes control often requires a combination of

lifestyle changes and pharmacological treatment, and failure to adhere to prescribed medication contributes to poor glycaemic control (Chatterjee et al., 2017).

From the perspective of the Health Belief Model (HBM), these findings reflect strong perceived barriers and weak perceived benefits of medical treatment. Beliefs that insulin is harmful or that medications cause organ damage increase the perceived cost of engaging in treatment, thereby discouraging adherence. At the same time, the belief in the superiority of herbal remedies or diet alone may inflate perceived benefits of alternative approaches, even when these are not medically sufficient. These distorted perceptions can disrupt the pathway from knowledge to behaviour, resulting in poor health outcomes despite awareness of the disease.

5.3 Practices Related to Diabetes Prevention and Management

The findings of this study indicate that a moderate proportion of respondents demonstrated good preventive practices (59.7%), particularly in relation to lifestyle behaviours. A majority reported engaging in regular physical activity (75.12%) and avoiding sugary foods (71.14%) and an even larger proportion (91.38%) expressed willingness to seek treatment if diagnosed with diabetes. These results suggest that, at least at a behavioural intention and lifestyle level, many adults in Somanya are making efforts toward diabetes prevention.

As diabetes becomes more visible within communities, individuals may adopt basic preventive behaviours such as reducing sugar intake or increasing physical activity, even if their understanding of the disease is not comprehensive. In addition, the socio-economic structure of the study population may naturally promote higher levels of physical activity compared to more sedentary urban populations. This could partly explain the high proportion reporting regular physical activity.

These findings are consistent with some evidence from Ghana and similar settings. For instance, Asante et al. (2023) reported that a proportion of adults engaged in certain preventive behaviours such as dietary modification, even when overall knowledge was not optimal. Similarly, Ogunlana et al. (2022) in Nigeria found that while some individuals reported engaging in lifestyle changes, these behaviours were often inconsistent and not sustained over time. This suggests that although lifestyle practices may appear favourable in cross-sectional assessments, they may not always reflect long-term adherence.

However, despite these encouraging findings, a critical gap was observed in **screening practices**, with only 34.83% of respondents reporting regular blood glucose checks. This is a significant concern, particularly in light of evidence that a large proportion of diabetes cases in Africa remain undiagnosed. IDF, (2021) reports that **a very high proportion of diabetes cases in Africa (around 70–75%) are undiagnosed**. The low uptake of screening observed in this study is therefore a major challenge.

A plausible explanation for poor screening practices is the presence of structural and psychological barriers, including cost of testing, limited access to screening services, low perceived risk, and fear of diagnosis. Nyarko et al. (2019), in a study in rural Ghana, highlighted that screening uptake remains low due to limited access and lack of proactive detection systems, with many individuals only seeking testing when symptoms become severe.

Furthermore, the gap between relatively good lifestyle practices and poor screening behaviour points to a disconnect between knowledge, attitudes, and action. While individuals may be aware of general preventive measures such as diet and exercise, they may not perceive screening as equally important, particularly if they do not feel at risk. This is supported by Manyara et al.

(2024), who found that in many sub-Saharan African settings, individuals engage in selective health behaviours while neglecting others, especially those that require interaction with formal healthcare systems.

From the perspective of the **Health Belief Model (HBM)**, these findings can be explained by variations in perceived susceptibility and perceived barriers. The relatively high engagement in physical activity and dietary control may reflect some recognition of the benefits of healthy living (perceived benefits). However, the low screening rates suggest that many individuals may have low perceived susceptibility or face strong perceived barriers, such as cost, and lack of screening services. This imbalance limits the translation of knowledge and attitudes into comprehensive preventive practice.

In contrast, studies in more developed settings or among populations with structured screening programs report higher uptake of routine blood glucose testing, largely due to better access to healthcare services and stronger preventive health systems (Chatterjee et al., 2017). The difference highlights the role of health system factors in shaping behaviour, beyond individual knowledge or motivation.

Overall, the findings suggest that while lifestyle-related practices among adults in Somanya are relatively encouraging, preventive health-seeking behaviours, particularly screening, is inadequate. This imbalance is critical because early detection is essential for preventing complications and reducing the burden of diabetes. Addressing this gap will require not only improving awareness but also reducing structural barriers, promoting routine screening, and strengthening community-based detection programs.

5.4 Factors Associated with Diabetes Prevention and Management Practices

The findings of this study demonstrate that diabetes-related practices are shaped by a combination of cognitive, socio-demographic, and environmental factors, with knowledge, attitude, education, residence, and income emerging as significant predictors. Both the chi-square and multivariable logistic regression analyses reinforce the idea that behaviour is not random but follows a structured pattern influenced by what people know, believe, and the conditions in which they live.

A key finding is that respondents with good knowledge were over two times more likely to engage in good practices (AOR = 2.61, $p < 0.001$). This suggests that knowledge plays a foundational role in shaping preventive behaviour. Individuals who understand diabetes risk factors, symptoms, and management strategies are more likely to adopt behaviours such as healthy eating, physical activity, and possibly treatment-seeking. This aligns strongly with findings from Getie et al. (2020) in Ethiopia, where higher knowledge levels were significantly associated with better self-care practices among diabetic patients. Similarly, Ogunlana et al. (2022) in Nigeria reported that individuals with better knowledge were more likely to adhere to recommended lifestyle modifications. However, the strength of the association observed in this study highlights that knowledge alone, while important, is not sufficient; its effect is amplified when combined with other enabling factors.

Closely linked to knowledge is attitude, which was also a significant predictor of practice. Respondents with positive attitudes were nearly twice as likely to exhibit good practices (AOR = 1.88, $p = 0.027$). This finding shows the importance of perception and belief systems in shaping behaviour. Even when individuals are knowledgeable, negative attitudes can hinder the

translation of knowledge into action. This is consistent with Kugbey et al. (2017), who found that illness perceptions significantly influenced self-care practices among diabetes patients in Accra. Likewise, Manyara et al. (2024) reported that across sub-Saharan Africa, attitudinal factors such as perceived severity, susceptibility, and trust in treatment strongly determine engagement in preventive behaviours. The current finding therefore reinforces the idea that improving knowledge without addressing attitudes may have limited impact.

Education level also emerged as a significant determinant, particularly at the lower end. Respondents with only middle school education were **significantly less likely to engage in good practices** (AOR = 0.18, $p = 0.001$) compared to those with college education. This suggests that education enhances individuals' ability to interpret health information, evaluate risks, and make informed decisions. Similar patterns have been reported in Ghana and other African contexts. Asante et al. (2023) found that higher educational attainment was associated with better engagement in diabetes prevention behaviours, while Bigna et al. (2019) identified low education as a key barrier to effective diabetes care in sub-Saharan Africa.

Place of residence showed a particularly interesting pattern. Respondents in peri-urban areas were more than twice as likely to have good practices (AOR = 2.36, $p = 0.044$), while those in rural areas were significantly less likely (AOR = 0.29, $p = 0.006$), compared to urban residents. This finding reflects the complex interaction between access, lifestyle, and environmental context. Peri-urban areas like Somanya may offer a balance between access to health information and services (more than rural areas) and more physically active lifestyles (compared to urban settings). In contrast, rural residents may face barriers such as limited access to healthcare facilities, fewer screening opportunities, and lower exposure to health education. This is

consistent with findings by Nyarko et al. (2019), who highlighted that diabetes screening and preventive services are less accessible in rural Ghana, contributing to lower engagement in preventive practices. At the same time, studies in urban settings, such as Awuah et al. (2025), suggest that despite better access to services, urban lifestyles characterised by sedentary behaviour and unhealthy diets may offset these advantages.

From the perspective of the Health Belief Model (HBM), these findings provide strong empirical support for the model. Knowledge contributes to perceived susceptibility and severity, while attitudes reflect perceived benefits and barriers, both of which significantly influence behaviour. Education and income can be seen as modifying factors that shape how individuals interpret and act on health information, while residence reflects external cues and structural conditions that either enable or constrain action. The strong associations observed between these variables and practice highlight that behaviour is the result of interplay between individual beliefs and contextual factors.

The findings emphasize that improving diabetes prevention and management practices requires a multi-dimensional approach. Interventions must go beyond increasing knowledge to also address attitudes, improve health literacy through education, and reduce structural barriers related to access and environment. The consistency of these findings with studies across Ghana and sub-Saharan Africa strengthens their validity and highlights the need for integrated, context-specific strategies to promote effective diabetes prevention and control.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study assessed the knowledge, attitudes, and practices (KAP) related to diabetes prevention and management among adults in Somanya in the Eastern Region of Ghana. The study revealed that although respondents demonstrated relatively good awareness of diabetes, this knowledge was not universal, as nearly half of the respondents had poor overall knowledge. In addition, important misconceptions persist.

With regard to attitudes, the study found that negative perceptions toward diabetes management were widespread, with many respondents expressing mistrust in biomedical treatments such as insulin and oral medications, and a preference for alternative or herbal remedies. In terms of practices, while a majority of respondents reported engaging in positive lifestyle behaviours, such as physical activity and reduced sugar intake, a critical gap was identified in preventive health-seeking behaviour, particularly low uptake of routine blood glucose screening.

Furthermore, the study established that knowledge, attitude, education, residence, and income were significant predictors of diabetes-related practices, reinforcing the idea that health behaviour is shaped by a combination of individual, social, and environmental factors. The findings align with the Health Belief Model, demonstrating that knowledge and perceptions influence behaviour, but are also moderated by realities such as access and socio-economic conditions.

In conclusion, while there are encouraging signs of awareness and some positive practices, significant gaps remain in attitudes, comprehensive knowledge, and preventive behaviours,

particularly screening. Addressing these gaps is essential for improving diabetes prevention and control in Somanya and similar settings.

6.2 Recommendations

1. The Ghana Health Service and local health authorities should implement regular, targeted health education campaigns focusing not only on basic awareness but also on correcting misconceptions (e.g., diabetes is not curable). These programs should use culturally appropriate communication channels such as community durbars, local radio, and churches.
2. Implement programmes to improve attitudes and promote trust in medical treatment, including insulin and oral medications.
3. Community members should be encouraged to form peer network groups that will help to enforce positive lifestyle practices such as exercises and healthy eating habits.
4. The Ghana health service in collaboration with the ministry of health should make Diabetes screening compulsory for all adults assessing care in the various facilities.
5. Ghana Health Service to strengthen policies and increase investment in diabetes prevention and control in all districts

6.3 Final Remark

The growing burden of diabetes in Ghana calls for urgent and sustained public health action. This study highlights that improving knowledge alone is not sufficient; meaningful progress requires addressing attitudes, strengthening health systems, and creating enabling environments that support healthy behaviour. By implementing targeted, culturally appropriate, and evidence-

based interventions, it is possible to significantly reduce the impact of diabetes and improve the health and well-being of communities such as Somanya.

REFERENCES

- Alor, D., Boafu, D., Danso, S. and Kwame, D. (2024) 'Knowledge and risk perception of diabetes among adults in peri-urban Ghana: A cross-sectional study in the Eastern Region', *Ghana Journal of Health Sciences*, 18(1), pp. 33–42.
- Asante, D.O., Frimpong, E.B. and Aziz, N.A. (2023) 'Assessing hypertension and diabetes knowledge, attitudes and practices among adults in Akatsi South District, Ghana', *Frontiers in Public Health*, 11, p. 1056999.
- Atun, R., Davies, J.I., Gale, E.A.M., Bärnighausen, T., Beran, D., Kengne, A.P., Levitt, N.S., Nyirenda, M. and Pastakia, S.D. (2017) 'Diabetes in sub-Saharan Africa: From clinical care to health policy', *The Lancet Diabetes & Endocrinology*, 5(8), pp. 622–667.
- Awuah, R.B., Amartey, A.M., de-Graft Aikins, A., Owusu-Dabo, E. and Addo, J. (2025) 'Perceptions and knowledge of diabetes in poor urban communities in Accra, Ghana', *Global Public Health*.
- Bigna, J.J., Noubiap, J.J.N., Donfack-Otchom, B. and Mbanya, J.C. (2019) 'Prevalence of diabetes and barriers to care in sub-Saharan Africa: A systematic review', *BMC Public Health*, 19, p. 137.
- Chatterjee, S., Khunti, K. and Davies, M.J. (2017) 'Type 2 diabetes', *The Lancet*, 389(10085), pp. 2239–2251.
- Donyeh, A.B. (2022) 'Self-efficacy and self-care behaviours among persons with type 2 diabetes in Ghana', *BMC Endocrine Disorders*, 22, p. 189.

Ghana Statistical Service (2021) *2021 Population and Housing Census: General report*. Accra: Ghana Statistical Service.

Getie, A., Geda, B., Alemayhu, T., Bante, A., Aschalew, Z. and Wassihun, B. (2020) 'Self-care practices and associated factors among adult diabetic patients in public hospitals of Dire Dawa administration, Eastern Ethiopia', *BMC Public Health*, 20, p. 1232.

Hinne, T., Mensah, B., Boakye, H., Ogungbe, O. and Commodore-Mensah, Y. (2024) 'Health services availability and readiness for management of hypertension and diabetes in primary care health facilities in Ghana', *Global Heart*, 19.

International Diabetes Federation (2021) *IDF Diabetes Atlas*. 10th edn. Brussels: International Diabetes Federation.

Johnson, B.B., Jarvis, M.A. and Chipps, J.A. (2025) 'Self-management knowledge, attitudes and practices among persons with type 2 diabetes in Ghana', *African Journal of Primary Health Care & Family Medicine*, 17(1).

Kazibwe, J., Gad, M., AbassahKonadu, E., Amankwah, I., Owusu, R., Gulbi, G. et al. (2024) 'The epidemiological and economic burden of diabetes in Ghana: A scoping review to inform health technology assessment', *PLOS Global Public Health*, 4(3), e0001904.

Kugbey, N., Asante, K.O. and Adulai, K. (2017) 'Illness perception, diabetes knowledge and self-care practices among type 2 diabetes patients in Accra, Ghana', *BMC Research Notes*, 10, p. 381.

- Manyara, A.M., Maikweki, R., Mwangome, M. and Norris, S.A. (2024) ‘Knowledge, perceptions and practices towards type 2 diabetes risk in sub-Saharan Africa: A mixed-methods scoping review’, *Public Health Nutrition*, 27(1), e104.
- Nyenwe, E.A., Odia, O.J., Ihekweba, A.E., Ojule, A. and Babatunde, S. (2017) ‘Type 2 diabetes in adult Nigerians: A study of its prevalence and risk factors’, *Diabetes Research and Clinical Practice*, 125, pp. 90–97.
- Nyarko, B.E., Amoah, R.S. and Crimi, A. (2019) ‘Boosting diabetes and pre-diabetes detection in rural Ghana’, *F1000Research*, 8, p. 289.
- Ogunlana, M.O., Adebuseye, L.A., Owolabi, M.O. and Ogunniyi, A. (2022) ‘Knowledge, attitude and practice of lifestyle modification among adults with diabetes in Nigeria’, *African Journal of Primary Health Care & Family Medicine*, 14(1).
- Olarewaju, S.O., Oladipo, A.R. and Fatiregun, A.A. (2020) ‘Knowledge, attitudes and practices regarding diabetes mellitus in a rural Nigerian community’, *Journal of Community Medicine and Primary Health Care*, 32(2), pp. 12–23.
- Osei-Yeboah, J., Owiredo, W.K.B.A., Norgbe, G.K., Lokpo, S.Y., Gyamfi, J., Allotey, E.A., Aduko, R.A., Noagbe, M. and Attah, F.A. (2017) ‘The prevalence of metabolic syndrome and its components among people with type 2 diabetes in the Ho Municipality, Ghana’, *International Journal of Chronic Diseases*, 2017, p. 8765804.
- World Health Organization (2022) *Diabetes*. Available at: <https://www.who.int/news-room/fact-sheets/detail/diabetes>