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TOPIC:

ASSESSING THE DECLINE IN ATTENDANCE TO DIABETIC CLINICS AMONG DIABETICS, A CROSS SECTIONAL STUDY AT THE HOLY FAMILY HOSPITAL, BEREKUM.

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YEAR SUBMITTED

2023

DECLARATION

We hereby declare that this submission is our own work towards the Diploma in General Nursing/Midwifery and that, to the best of our knowledge, it contains no material previously published by another person nor material which has been accepted for the award of diploma of the University, except where due acknowledgement has been made in the text.

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ABBREVIATION

DM	Diabetes mellitus

IDF	International Diabetes Federation
CP	Chronic pancreatitis
EPI	exocrine insufficiency
CDC’s	Centers for Disease Control and Prevention’s
NDPP	National Diabetes Prevention Program
IDDM	Insulin-dependent diabetes mellitus
SMBG	self-monitoring of blood glucose
W.H.O	World Health Organization

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CHAPTER ONE

INTRODUCTIONS

Background of the Study

Diabetes mellitus (DM) is a group of metabolic diseases characterized by increased levels of glucose in the blood (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both. Normally, a certain amount of glucose circulates in the blood. The major sources of this glucose is absorption of ingested food in the gastrointestinal tract and formation of glucose by the liver from food substances (Williams, 2018). Diabetes mellitus epidemic is a global public health concern and the seventh leading cause of death worldwide. Besides demographic determinants, it is established that the underlying epidemiology of the type 2 DM epidemic, which contributes greater than 90% of all DM cases, is strongly influenced by modifiable risk factors such as obesity, smoking, and physical inactivity (Mollentze & Koning 2020). The chronic hyperglycemia of diabetes mellitus (DM) is associated with end organ damage, dysfunction, and failure in organs and tissues including the retina, kidney, nerves, heart, and blood vessels. The International Diabetes Federation (IDF) estimates an overall prevalence of diabetes mellitus to be 366 million in 2011, and this is expected to rise to 552 million by 2030 (Alam, Asghar, Azmi, & Malik, 2014).

Diabetes mellitus is a common complication of chronic pancreatitis. It is traditionally considered to develop as a consequence of beta cell loss, but there might be additional factors. Recent studies have highlighted the importance of type 2 diabetes-related risk factors in this context and population-based studies show increased risk of diabetes following acute pancreatitis. The aim of this study was to explore multiple risk factors for diabetes in patients with chronic pancreatitis

(Olesen, 2019). Chronic pancreatitis (CP) is a fibro-inflammatory disease characterized by progressive replacement of the pancreatic parenchyma with fibrotic tissue.1 Development of pancreatic exocrine insufficiency (EPI) and diabetes mellitus (DM) are foreseeable complications of Chronic pancreatitis and affects a large proportion of patients.2 Whereas pancreatic exocrine insufficiency typically develops as a result of acinar cell destruction and/or obstruction of the pancreatic duct, the mechanisms underlying DM in the context of Chronic pancreatitis are incompletely understood and likely involve a number of mechanisms in addition to reduced beta cell mass following destruction of islet cells (Olesen, 2019).

The incidence of diabetes has increased during recent decades. Studies have shown that the incidence of type 1 diabetes mellitus increased worldwide over the past 3 decade. For example, the annual incidence of diabetes among youths increased from 9.0 cases per 100,000 person-year in 2002–2003 to 12.5 cases per 100,000 persons in 2011–2012 in the USA. The incidence of T1DM differed significantly among European regions, being highest in central and eastern European countries in the 1990s. The prevalence of being overweight or obese is also increasing worldwide.

The WHO Global Report on Diabetes indicated that being overweight or obese is the strongest risk factor for type 2 diabetes mellitus (T2DM) and that T2DM and pre-diabetes are increasingly being observed in children, adolescents, and younger adults. Thus, the increase of overweight rate and obesity rate also affect the incidence of diabetes in different degrees. Diabetes can lead to complications in many parts of the body and can increase disability rates and the occurrence of other complications, resulting in a heavy economic burden. The highest proportion of health-care spending in the USA was on diabetes, costing an estimated $101.4 billion in 2013. The incidence of diabetes varies from region to region and is affected by many factors. The human development level of a country was measured using its human development index (HDI): a summary indicator

of health, education, and income. The Human Development Index of a region may impact the diabetes incidence locally (Liu et al., 2020).

Non-attendance at diabetes outpatient appointments is a sizeable problem worldwide and has been associated with suboptimal health outcomes. According to NHS England's quarterly review ending in March 2019, the overall non-attendance rate for general follow-up hospital outpatient appointments were 8%, with non-attendance rates appearing similar for people with diabetes compared with other chronic health conditions. Non-attendance is associated with suboptimal outcomes for the patient, and is a poor use of healthcare resources. Diabetes is a long-term condition associated with a number of complications, the incidence of which increases if the diabetes is not managed optimally. Despite significant advances, there remains a sizeable gap between advised and actual clinical outcomes achieved by people with type 1 and type 2 diabetes

(Brewster, Bartholomew, Holt, & Price, 2020). According to Desai et al., (2020), an estimated 353 million adults worldwide are at high risk of developing diabetes. Numerous randomized controlled diabetes prevention lifestyle interventions have demonstrated strong efficacy in delaying or reducing the onset of type 2 diabetes among high-risk adults yet penetration and participation of real-world diabetes prevention programs have been limited. In the United States this has been a particular challenge among low-income, less educated, and culturally diverse individuals. A meta-analysis of community-based DPP interventions and evaluation of the Centers for Disease Control and Prevention's (CDC's) National Diabetes Prevention Program (NDPP) found that program attendance and weight loss goals were much lower among black, Hispanic, and other racial/ethnic individuals compared to non-Hispanic whites. This is concerning because these individuals have poverty rates two times higher than those of non-Hispanic whites and, among those in the highest poverty level, diabetes prevalence is 18% compared to 8% for those in the lowest poverty level.

Furthermore, low-income individuals are increasingly insured through the public programs of Medicaid and Medicare, which account for 66% of the estimated $237 billion in annual direct medical costs attributable to diabetes in the United States.

1.1 Problem Statement

It was noticed that, many people who report to the Holy Family Hospital, Berekum have one way or the other been diagnosed with a relative high blood glucose level and are on anti-diabetic medications. In the year 2018, Holy Family Hospital, Berekum recorded diabetes as the second most diagnosed condition of which patients were admitted onto the medical wards. This condition accounted for one thousand, one hundred and forty-four (1144) cases in the hospital (Holy Family Hospital, 2018). Attendance to diabetic clinic was declining despite several people diagnosed of high blood glucose level. Diabetic clients admitted onto the wards were diagnosed of diabetic related complications (diabetic ketoacidosis, hyperglycemia in known DM). Although diabetes has been managed as such in the hospital, this study sought to find out the promoting factor(s) necessitating the decrease in attendance to clinics by people with known diabetes and what could be done to increase attendance among such clients. For example, as stated by Alam et al., (2014), chronic hyperglycemia of diabetes mellitus is associated with end organ damage, dysfunction, and failure in organs and tissues including the retina, kidney, nerves, heart, and blood vessels. These complications could be prevented with a prompt management of serum glucose at clinics.

1.2 Purpose of the Study

This study aims at identifying the reasons for the reduced turn-out of known diabetes to the usual diabetes clinic for medications and screening. This could promote the adoption of a measure to increase attendance among such clients.

1.3 General Objective

The main objective is to determine the factors promoting diabetic clients to miss appointments to diabetic clinics in the hospital.

1.4 Specific Objectives

This study intends to:

1. Identify why diabetic clients miss their appointment to clinics
2. Access diabetic client's knowledge about their medications
3. Determine possible solution to promote attendance among diabetic clients

1.5 Research Questions

1. Why do diabetic clients miss their appointment to clinics?
2. What knowledge do diabetic clients have on their medications?
3. What do you suggest to increase the attendance of clients to diabetes clinics?

1.6 Operational Definition of Terms.

Diabetes Mellitus – a group of metabolic diseases characterized by increased levels of glucose in the blood (hyperglycemia)

Type 1 diabetes – diabetes acquired in the early stage of life (insulin dependent)

Type 2 diabetes – diabetes acquired at an old age

Hyperglycemia – a relatively high blood glucose concentration (greater than 11.1mmol/L)

Assessment – The act of determining the amount or quality of a substance with an appropriate parameter.

Management – Judicious means to accomplish a task in a skillful treatment manner.

Practitioner – A person who is engaged in the actual use or exercise of any act or profession, particularly that or law or medicine.

Knowledge – The act of familiarity which is gained by actual experience or practical skills.

Health practitioners/ professionals – This encompasses nurses, doctors, physician assistants and midwives at the Holy Family Hospital, Berekum.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter contains review of relevant literature related to the research topic. A well-structured literature review begins with the general information on diabetes mellitus then narrows the focus on those studies carried out on diabetes mellitus. The literature review is structured in a thematically order and comprises of definition of diabetes mellitus, assessment of diabetes mellitus, the effective management of diabetes and attendance to diabetic clinics for support and management.

2.1 Definition of Diabetes Mellitus

Diabetes mellitus (DM) is a group of metabolic diseases characterized by increased levels of glucose in the blood (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both. Normally, a certain amount of glucose circulates in the blood. The major sources of this glucose are absorption of ingested food in the gastrointestinal tract and formation of glucose by the liver from food substances (Hinkle & Cheeve, 2016). Diabetes mellitus epidemic is a global public health concern and the seventh leading cause of death worldwide. Besides demographic determinants, it is established that the underlying epidemiology of the type 2 DM epidemic, which contributes greater than 90% of all DM cases, is strongly influenced by modifiable risk factors such as obesity, smoking, and physical inactivity (Awad et al., 2020). The chronic hyperglycemia of diabetes mellitus (DM) is associated with end organ damage, dysfunction, and failure in organs and tissues including the retina, kidney, nerves, heart, and blood vessels. The International

Diabetes Federation (IDF) estimates an overall prevalence of diabetes mellitus to be 366 million in 2011, and this is expected to rise to 552 million by 2030 (Alam, Asghar, Azmi, & Malik, 2014).

The common cause of type 1 DM is due to an absolute lack of insulin and has an autoimmune basis. This disorder was previously known as insulin-dependent diabetes mellitus (IDDM) until the reclassification of diabetes mellitus based on etiopathology. An immune mediated destruction of beta cells is the hallmark of the disorder, and hyperglycemia only ensues when 90% of beta cells are lost. Type 2 DM is the commonest form of diabetes and accounts for 90–95% of cases. It develops secondary to a relative insulin deficiency but the primary defect is insulin resistance.

Carbohydrate intolerance that begins or is first recognized during pregnancy is known as gestational diabetes. Previously undiagnosed diabetes mellitus (either type 1 or type 2) may manifest itself particularly during initial assessments in pregnancy. However, gestational diabetes is considered a separate entity from type 2 DM. As pregnancy advances, the increasing insulin resistance creates a demand for more insulin. In the great majority of pregnancies, the demand is readily met, and the balance between insulin resistance and insulin supply is maintained. However, if resistance becomes dominant the pregnant woman becomes hyperglycemic. Genetic defects in beta cell function is associated with numerous forms of diabetes and with an onset of hyperglycemia usually before the age of 25. This heterogeneous group are referred to as maturity onset diabetes of the young and have minimal or no defects in insulin action. The key to diagnosis is a family history as they are autosomal dominant conditions. There is a failure in secretion of insulin. LADA (latent autoimmune diabetes in adults) accounts for 2–12% of all cases of diabetes.

Patients are typically diagnosed after 35 years of age and are often misdiagnosed as type 2 DM.

Glycemic control is initially achieved with sulfonylureas but patients are generally thinner and require insulin therapy more rapidly than in type 2 DM patients (Alam et al., 2014). The economic cost of diabetes continues to increase because of increasing health care costs and an aging population. Half of all people who have diabetes and are older than 65 years of age are hospitalized each year, and severe and life-threatening complications often contribute to the increased rates of hospitalization. Costs related to diabetes are estimated to be almost $174 billion annually, including direct medical care expenses and indirect costs attributable to disability and premature death (Hinkle & Cheeve, 2016).

2.2 Assessment of Diabetes Mellitus

An abnormally high blood glucose level is the basic criterion for the diagnosis of diabetes. Fasting plasma glucose, random plasma glucose, and glucose level 2 hours after receiving glucose (2-hour postload) may be used. In addition to the assessment and diagnostic evaluation performed to diagnose diabetes, ongoing specialized assessment of patients with known diabetes and evaluation for complications in patients with newly diagnosed diabetes are important components of care.

(Hinkle & Cheeve, 2016). The Criteria for Diagnosing Diabetes Mellitus according to Hinkle and Cheeve (2016) are; the Symptoms of diabetes plus casual plasma glucose concentration equal to or greater than 200 mg/dL (11.1 mmol/L). Casual is defined as any time of day without regard to time since last meal. The classic symptoms of diabetes include polyuria, polydipsia, and unexplained weight loss; or Fasting plasma glucose greater than or equal to 126 mg/dL (7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 hours; or two-hour post load glucose equal to or greater than 200 mg/dL (11.1 mmol/L) during an oral glucose tolerance test. The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water. In the absence of

unequivocal hyperglycemia with acute metabolic decompensation, these criteria should be confirmed by repeat testing on a different day. The third measure is not recommended for routine clinical use

2.3. Management of Diabetes Mellitus

The main goal of diabetes treatment is to normalize insulin activity and blood glucose levels to reduce the development of vascular and neuropathic complications. Therefore, the therapeutic goal for diabetes management is to achieve normal blood glucose levels (euglycemia) without hypoglycemia while maintaining a high quality of life. Diabetes management has five components: nutritional therapy, exercise, monitoring, pharmacologic therapy, and education. Diabetes management involves constant assessment and modification of the treatment plan by health professionals and daily adjustments in therapy by the patient. Although the health care team directs the treatment, it is the individual patient who must manage the complex therapeutic regimen. For this reason, patient and family education is an essential component of diabetes treatment and is as important as all other components of the regimen (Alam et al., 2014; Hinkle & Cheeve, 2016).

2.3.1. Nutritional Therapy

Meal planning, and weight control are the foundation of diabetes management. The most important objectives in the dietary and nutritional management of diabetes are control of total caloric intake to attain or maintain a reasonable body weight, control of blood glucose levels, and normalization of lipids and blood pressure to prevent heart disease. Success in this area alone is often associated with reversal of hyperglycemia in type 2 diabetes. However, achieving these goals is not always easy. Because medical nutrition therapy of diabetes is complex, a registered dietitian who understands diabetes management has the major responsibility for designing and teaching this aspect of the therapeutic plan. Nurses and all other members of the health care team must be

knowledgeable about nutritional therapy and supportive of patients who need to implement nutritional and lifestyle changes. Nutritional management of diabetes promote to achieve and maintain: Blood glucose levels in the normal range or as close to normal as is safely possible, lipid and lipoprotein profile that reduces the risk for vascular disease, blood pressure levels in the normal range or as close to normal as is safely possible. To prevent, or at least slow, the rate of development of the chronic complications of diabetes by modifying nutrient intake and lifestyle.

To address individual nutrition needs, taking into account personal and cultural preferences and willingness to change. To maintain the pleasure of eating by only limiting food choices when indicated by scientific evidence. For obese patients with diabetes (especially those with type 2 diabetes), weight loss is the key to treatment. Obese patients who have type 2 diabetes and who require insulin or oral agents to control blood glucose levels may be able to reduce or eliminate the need for medication through weight loss. For obese patients with diabetes who do not take insulin or sulfonylureas, consistent meal content or timing is important but not as critical. Rather, decreasing the overall caloric intake assumes more importance. However, meals should not be skipped. Pacing food intake throughout the day places more manageable demands on the pancreas.

Consistently following a meal plan is one of the most challenging aspects of diabetes management.

It may be more realistic to restrict calories only moderately. For patients who have lost weight, maintaining the weight loss may be difficult. To help these patients incorporate new dietary habits into their lifestyles, diet education, behavioral therapy, group support, and ongoing nutrition counseling is encouraged (Alam et al., 2014; Hinkle & Cheeve, 2016).

2.3.2. Exercise

Exercise is extremely important in diabetes management because of its effects on lowering blood glucose and reducing cardiovascular risk factors. Exercise lowers blood glucose levels by increasing the uptake of glucose by body muscles and by improving insulin utilization. It also improves circulation and muscle tone. Resistance (strength) training, such as weight lifting, can increase lean muscle mass, thereby increasing the resting metabolic rate. These effects are useful in diabetes in relation to losing weight, easing stress, and maintaining a feeling of well-being.

Exercise also alters blood lipid concentrations, increasing levels of high-density lipoproteins and decreasing total cholesterol and triglyceride levels. This is especially important for people with diabetes because of their increased risk of cardiovascular disease. A person with diabetes should exercise at the same time (preferably when blood glucose levels are at their peak) and in the same amount each day. Regular daily exercise, rather than sporadic exercise should be encouraged.

Exercise recommendations must be altered as necessary for patients with diabetic complications such as retinopathy, autonomic neuropathy, sensorimotor neuropathy, and cardiovascular disease.

Increased blood pressure associated with exercise may aggravate diabetic retinopathy and increase the risk of a hemorrhage into the vitreous or retina. Patients with ischemic heart disease risk triggering angina or a myocardial infarction, which may be silent. Avoiding trauma to the lower extremities is especially important in patients with numbness related to neuropathy. In general, a slow, gradual increase in the exercise period is encouraged (Hinkle & Cheeve, 2016).

2.3.3 Monitoring glucose level

Blood glucose monitoring is a cornerstone of diabetes management, and self-monitoring of blood glucose (SMBG) levels have dramatically altered diabetes care. Self-Monitoring of Blood Glucose

Using frequent SMBG and learning how to respond to the results enable people with diabetes to adjust their treatment regimen to obtain optimal blood glucose control. This allows for detection and prevention of hypoglycemia and hyperglycemia and plays a crucial role in normalizing blood glucose levels, which in turn may reduce the risk of long-term diabetic complications. Various methods for SMBG are available. Most involve obtaining a drop of blood from the fingertip, applying the blood to a special reagent strip, and allowing the blood to stay on the strip for the amount of time specified by the manufacturer. The meter gives a digital readout of the blood glucose value. They have a special lancing device that is useful for patients who have painful fingertips or experience pain with finger sticks. Because laboratory methods measure plasma glucose, most blood glucose monitors approved for patients' use in the home and some test strips calibrate blood glucose readings to plasma values. Plasma glucose values are 10% to 15% higher than whole blood glucose values, and it is crucial for patients with diabetes to know whether their monitor and strips provide whole blood or plasma results. Methods for SMBG must match the skill level of patients. Factors affecting SMBG performance include visual acuity, fine motor coordination, cognitive ability, comfort with technology and willingness to use it, and cost. A potential hazard of all methods of SMBG is that the patient may obtain and report erroneous blood glucose values as a result of using incorrect techniques. Some common sources of error include improper application of blood (e.g., drop too small), damage to the reagent strips caused by heat or humidity, use of outdated strips, and improper meter cleaning and maintenance (Alam et al., 2014; Hinkle & Cheeve, 2016).

2.3.4. Pharmacologic Therapy

This incorporates the use of insulin regimen to control diabetes or oral antidiabetic agents or both.

In type 1 diabetes, exogenous insulin must be administered for life because the body loses the ability to produce insulin. In type 2 diabetes, insulin may be necessary on a long-term basis to control glucose levels if meal planning and oral agents are ineffective. In addition, some patients in whom type 2 diabetes is usually controlled by meal planning alone or by meal planning and an oral antidiabetic agent may require insulin temporarily during illness, infection, pregnancy, surgery, or some other stressful event. In many cases, insulin injections are administered two or more times daily to control the blood glucose level. Because the insulin dose required by the individual patient is determined by the level of glucose in the blood, accurate monitoring of blood glucose levels is essential (Hinkle & Cheeve, 2016).

Oral antidiabetic agents may be effective for patients who have type 2 diabetes that cannot be treated effectively with medical nutritional therapy and exercise alone. Oral antidiabetic agents include first-generation and second-generation sulfonylureas, biguanides, alpha-glucosidase inhibitors, non-sulfonylurea insulin secretagogues, thiazolidinediones (glitazones), and dipeptidepeptidase-4 (DPP-4) inhibitors. Sulfonylureas and meglitinides are considered insulin

secretagogues because their action increases the secretion of insulin by the pancreatic beta cells (Alam et al., 2014)

2.3.5 Providing Patient Education

Diabetes mellitus is a chronic illness that requires a lifetime of special self-management behaviors.

Because medical nutritional therapy, physical activity, and physical and emotional stress affect diabetic control, patients must learn to balance a multitude of factors. Patients with new-onset type

1 diabetes are hospitalized for much shorter periods or may be managed completely on an outpatient basis. Patients with new-onset type 2 diabetes are rarely hospitalized for initial care.

There has been a proliferation of outpatient diabetes education and training programs, with increasing support of third-party reimbursement. All encounters with patients with diabetes are opportunities for reinforcement of self-management skills, regardless of the setting.

2.4 Attendance to Diabetic Clinics

Healthcare appointments are an opportunity for healthcare professionals to support individuals with diabetes with their self-management. Understanding the reasons why people do not attend outpatient appointments can help to reveal barriers or personal determinants that also affect their ability to manage their condition (Brewster et al., 2020). Type 2 diabetes is a serious, progressive condition associated with insulin resistance and hyperglycemia that can lead to long-term

microvascular and macrovascular complications, including blindness, renal failure, amputation, and premature cardiovascular disease. Structured diabetes education (SDE) is a key intervention that supports diabetes self-management in the United Kingdom. Health care providers (HCPs) working in primary care are mainly responsible for referring people with type 2 diabetes to

Structured diabetes education. A systematic review and meta-analysis demonstrated that group based educational interventions improve clinical, lifestyle, and psychosocial outcomes in people with type 2 diabetes compared with usual care (Findlay-White, Slevin, Carey & Coates 2020). It is unclear from observational studies whether poor appointment keeping is causally related to suboptimal outcomes as non-attendance may stem, at least in part, from ill health. Regardless, nonattendance behavior can serve as a marker for identifying those at risk of poor outcomes, and who should be targeted with alternative care models or outreach services. Steps taken to help people with diabetes attend more regularly could translate into better outcomes for the individual

(Brewster et al., 2020). The 2016–2017 National Diabetes Audit (in England and Wales) demonstrated that, although up to 90% of people with type 2 diabetes and 50% of those with type 1 diabetes were offered structured education, less than 10% of those who received an offer were recorded as having attended. This low attendance is thought to result in part from inconsistent recording of this information on electronic health records within primary care practices, with local evidence suggesting that attendance is higher. Also, in Northern Ireland, there is no national audit, but local evidence suggests an attendance rate of 60%.

A recent systematic review by Findlay-White et al., (2020) examining patients' reasons for declining to attend Structured diabetes education (SDE) suggested a combination of those "who could not go" for logistical, medical, or financial reasons and those "who would not go," citing reasons related to knowledge, emotional issues, cultural issues, or no perceived benefit. All studies in that review cited practical barriers for nonattendance such as sessions being too long, the venue being too far away, no available transportation, inability to take time off work, other family responsibilities, or other health issues. Some of the studies gave other reasons, including patients perceiving no benefit, already being knowledgeable, not viewing diabetes as serious, feeling shame and stigma, doubting the value of SDE, being unclear about the purpose of the program, believing attendance was optional, feeling that the doctor met their needs, lacking interest, feeling negative about group education, exhibiting avoidance and refusal, and experiencing fear of being overwhelmed or not understanding. In relation to diagnosis of type 2 diabetes, a systematic review of emotional, cognitive, and behavioral responses concluded that patients underestimate the seriousness of diabetes, overestimate their ability to manage it, and show limited engagement in the management of their disease. People develop personal models of diabetes comprising their beliefs about diabetes symptoms, treatment effectiveness, and consequences, and their emotional

responses to future complications. These models are associated with and influence self-care. A longitudinal study investigated the development of personal models in people with type 2 diabetes from diagnosis and found that the communication of information and the way type 2 diabetes is perceived at diagnosis determines patients' view of their diabetes. Significantly, these views persisted over the years. There is some literature hinting that reasons for nonattendance at SDE may relate to difficulty in adjusting psychologically to the diagnosis of type 2 diabetes. Low attendance at SDE programs remains a matter of concern, and studies continue to suggest that practical reasons are the main causes of low attendance. The literature speaks of patients' difficulties in making a psychosocial adjustment to their diagnosis and to living with type 2 diabetes. This study investigates the possible links between adjusting to the diagnosis of and living with type 2 diabetes and nonattendance at SDE. Nearly all studies examining why people with type 2 diabetes do not attend SDE cite practical and logistical reasons. However, practical reasons mask underlying emotional, cognitive, and social issues connected to the experiences of being diagnosed and living with diabetes. This notion suggests that there are more complex barriers to attending SDE than previously acknowledged.

The study by Findlay-white et al., (2020) further categorize nonattendance reasons as follows; first category ("feels well; must be well") illustrates the difficulty most participants had in understanding that type 2 diabetes could be doing silent damage in the form of vascular complications. As one participant said, "I felt great, probably as good as I felt for 9, 10 months, you know, so that was probably another reason why I felt I didn't need to go" . Most participants said they thought they would attend SDE if things started to go wrong and they developed complications, indicating that they had a limited concept of prevention and their own role in their diabetes management. One participant stated, "Maybe if my toes started to fall off or something,

something devastating like that started to happen, I'd think, 'Oh my goodness, maybe I do need to be educated,' but for me it's all positive" The second category ("fatalistic attitude") was expressed in varying guises. For example, one person expressed fatalistic religious beliefs, saying "The Lord has your life laid out for you. You're born the day you die. Your life is laid out in front of you, so no matter what you do, you'll go, so . . . I suppose I grew up with all those philosophies, but still. " Another spoke of her family history, saying, "It didn't bother me for the simple reason that it was in the family. . . . Can't do anything about it. You can't turn back the clock. . . . You know, you just forget about it". Fatalism is defined as a belief that something is predetermined and therefore, one is powerless to change that thing. Fatalism has been recognized as a barrier to self-care in people with type 2 diabetes. Someone with a fatalistic view of their diabetes diagnosis may not see the point of attending SDE, especially if they believe their personal influence is limited.

The participants who contributed to the third category ("I'm being looked after") showed an interest in being on the receiving end of diabetes care. However, they did not recognize that diabetes care involves self-management and an active partnership between patients and their

HCPs. As one participant put it, "I went to the nurse last week, and she takes your blood pressure, goes through all the tests that have been done, the diabetes and all the rest of it, and everything was fine". Being looked after could also relate to the involvement of other members of the family.

For example, one participant said, "The last thing you want to do is go and sit down and be lectured to for 2 or 3 hours, probably being told stuff, because again, my wife being what she is, is on the

Internet and checking everything right through, the dos and don'ts, and they give you a lot of literature that my wife read from cover to cover". In the fourth category ("I know enough"), participants described receiving education at diagnosis from their primary care nurse or dietitian

or through family members who also live with diabetes. Others reported using the Internet or reading leaflets to obtain information. As one said, “The nurse, when I was diagnosed, told me everything about diabetes and gave me all the information I needed”. These participants felt informed, which, for them, negated the need to attend an education program (Findlay-White et al., 2020).

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This chapter deals with the study area, population of the study, study design, sampling size and techniques, method of data collection, data analysis techniques, ethical consideration and the limitations of the study.

3.1 The Study Area

The study was conducted at the Holy Family Hospital, Berekum. The hospital is situated in the Berekum Municipality at the Bono Region of Ghana. The hospital serves people in the Berekum municipality and its neighboring districts as well as the Western North Regions in the country. People from Ivory Coast also seek for health services from the facility. This hospital is under the supervision of the Catholic Dioceses specifically the Sunyani Dioceses.

The hospital has an about 300 bed capacity and provide health-based services to clients who purchase them. The health services which are run at the facility are as follows. General Medical service, Surgery and Surgical services, Maternity and Gynecological, Emergency services, Child Health Clinic, Nutrition-based services Ophthalmology, Dental Health service, Ultrasonography, X-Ray service, Physiotherapy, Laboratory and Blood Banking services, Mental Health services, HIV/AIDS Clinics, Special Diabetes Clinics, Special Hypertension Clinic, Tuberculosis Clinic, Ear Nose and Throat (ENT) service, Pharmacy services And Morgue. The hospital also has canteen services for staffs and others who visits the facility.

The hospital has been demarcated into department for effective service delivery and supervision.

The existing departments are as follows.

1. Inpatient Department: This department constitute the medical wards (separate males and females ward), surgical ward (separate males and females ward), maternity and labor ward, pediatric ward, neonatal intensive care unit (NICU).

2. Emergency Department

3. Out-patient department (OPD): The hospital has six general consulting rooms apart from the special consulting rooms for other medical and surgical clinics.

4. Research and Laboratory department

5. Transport department and others.

3.2 The Study Population

The study population was the inclusion of all diabetic clients who seek for health service from the hospital. Clients attend diabetic clinic schedules weekly for refill of antidiabetic medications and education. These clients are mostly at the OPD and diabetic clinic

3.3 Study Design

A descriptive, cross-sectional design was used to conduct the study, with data collected at different point in time. This design was used because, it is straight forward and is designed at finding out the prevalence of a phenomenon, problem, attitude or issue by taking a picture or cross-section of the population.

3.4 Sampling Size and Technique

The study population were clients who are diabetics and seek for health needs from the Holy Family hospital. These clients attend their scheduled diabetic clinics weekly for refill of antidiabetic medications and education at designated point in the hospital. A sample size of fifty (50) were selected with a fair representation of clients from several weekly clinic. A simple random sampling technique was used to avoid bias in subject selection. A lottery method was used to get the sample size.

3.5 Data collection method and instrument

A written questionnaire with both open and closed ended questions was used in this study to collect data from respondents. This tool was used because it could be administered to larger numbers of respondents concurrently, with uniform instructions and explanations. The respondents were able to complete the questionnaire in their own convenient setting, therefore diminishing possible bias connected to researcher presence, and devoid of instant time constraints. In the data collection process, questionnaires were administered among respondents in various clinic in ten (10) different settings and time.

3.6 Data analysis technique

All the questionnaires returned was crossed checked for completeness, those half-filled were excluded from analytical process. Since questionnaires were made of both closed and open ended questions, both qualitative and quantitative data analysis technique were used to analyze the response. Responses were represented in the form of bar and pie charts for easy interpretations

and comparison. Data were entered and analyzed using Microsoft Excel 2013 and results were presented in the form of frequencies and percentages.

3.7 Ethical consideration

The team maintained the confidentiality and anonymity of all respondents throughout the study and its writing. The study was conducted upon the approval from the administrator of the Holy Family Hospital, Berekum in a form of introductory letter to the hospital. Respondents consent was obtained after comprehensive explanation of the purpose and procedure of the study. They were informed on their right to withdraw from the study at any point in the course and no infringement will be done under any means. In addition, the identities of the respondents were not disclosed but an aggregate data of their response was presented.

3.8 Limitations of the study

There were certain limitations which were encounter during the conduction of the study. However, these limitations did not affect the validity of the data collected, because necessary steps were taken to deal with any set back as early as possible. The study took place at the Holy Family Hospital, Berekum and even with this setting, actual individuals who were involved were clients with diabetes as a medical condition. The findings could not be generalized with all medical conditions in the localities of Ghana. Again, the setting of the study is very big and as such data was taken from few individual of which our resources were able to cover.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

This chapter presents a detailed analysis of the data gathered from the field. The results are presented in tables and figures. The analysis data was done according to the specific objectives of the study. The results are categorized into the demographic characteristics of the respondents, clients' knowledge about their medications, poor attendance of diabetic client to diabetic clinics and possible solution to promote attendance among diabetic clients**.**

4.1 Demographic Characteristics of the Respondents

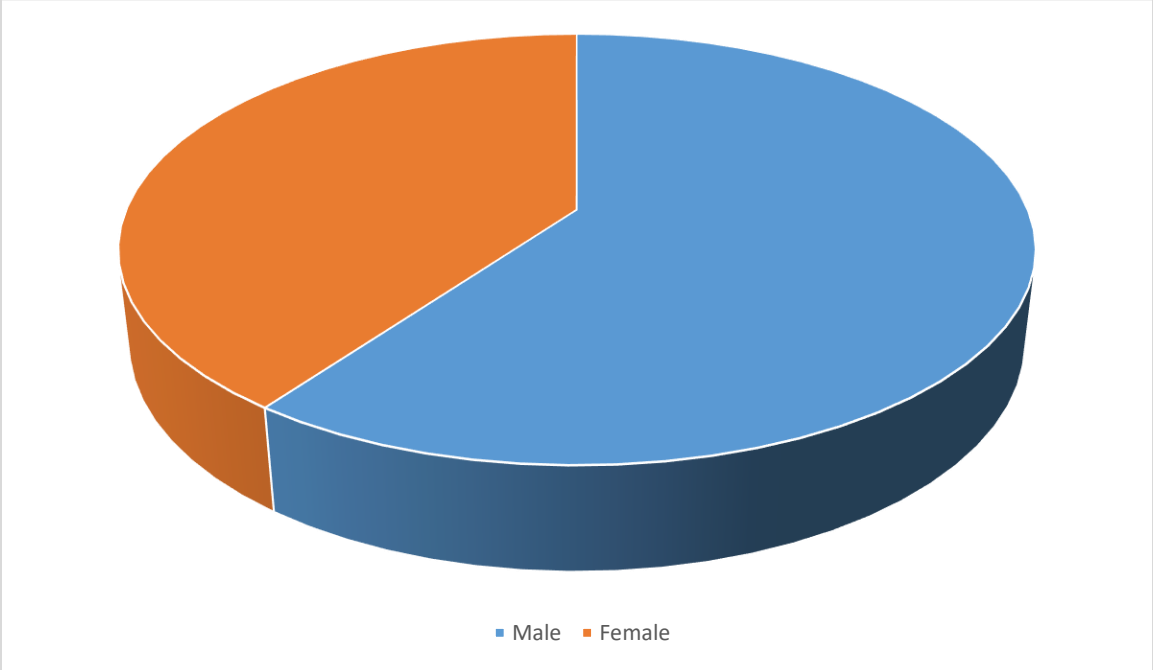

Figure 1: Gender of Respondents

From figure one, it was observed that, 60% of the respondents were males and the remaining 40% were also females.

Table 1: Age Distribution of Respondents

Variable	Categories	Frequency (n)	Percentage (%)
Age	18-23	5	10
	24-29	6	12
	30-35	9	18
	Above 35	20	40
	Total	**50**	**100**

From Table 1, only five (n=5) of the respondents (10%) were aged between 18-23 years, most of the respondents (40%) were aged above 35 years. Twelve percent (12%) of the respondents were aged between 24-29 years and 18% were aged between 30-35 years.

Table 2: Marital Status of Respondents

Variable	Categories	Frequency (n)	Percentage (%)
Marital status	Single	10	20
	Married	35	70
	Divorced	5	10
	Total	**50**	**100**

Most of the respondents (70%) were married, 20% of the respondents were single and 10% of the respondents was divorced.

Table 3: Educational Background of Respondents

Variable	Categories	Frequency (n)	Percentage (%)
Educational background	Primary	14	28
	J.H.S.	5	10
	S.H.S	16	32
	Tertiary	15	30
	Total	**50**	**100**

Twenty-eight percent (28%) of the respondents had primary education, 6% of the respondents had Junior High School education, most of the respondents (32%) had Senior High School education and 30% of the respondents had tertiary education

Table 4: Religions of Respondents

Variable	Categories	Frequency (n)	Percentage (%)
Religion	Christianity-25	35	70
	Islamic	12	24
	Traditional	3	6
	Total	**50**	**100**

From table 5, most of the respondents (70%) are Christians, 24% of the respondents are Moslems and 6% of the respondents are Traditionalists.

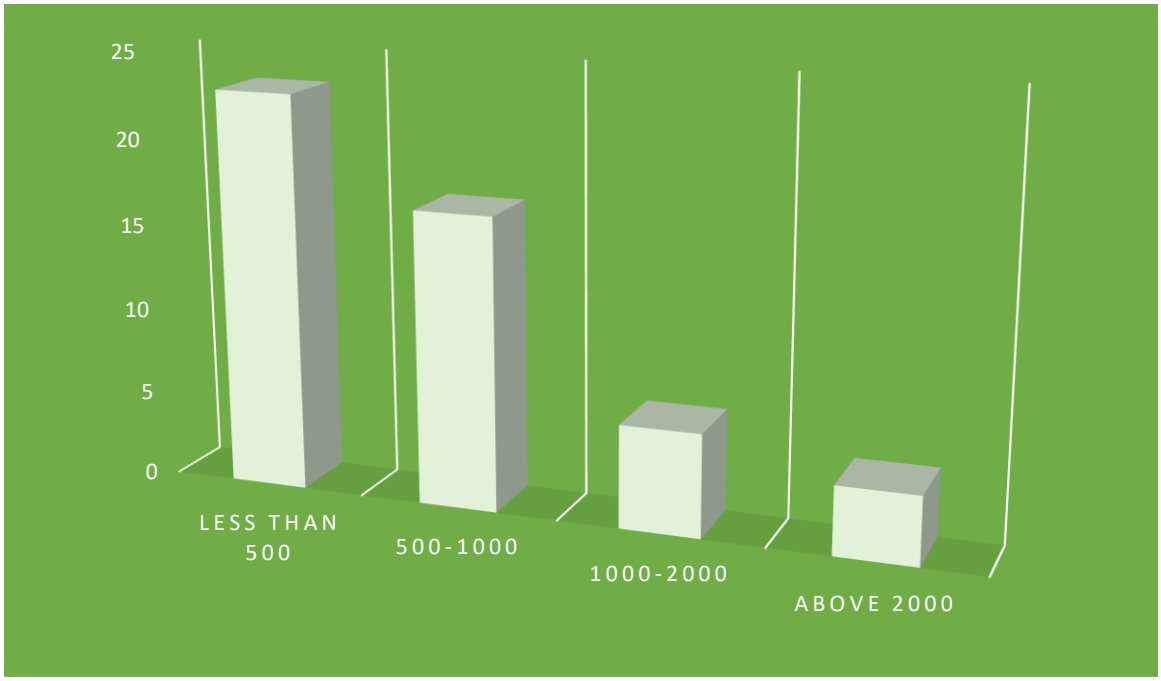

Figure 2: Respondents monthly income

Respondents were asked how much they earn every month and 46% of the respondents indicated that they 500cedis and below, 34% of them also indicated they earn 500-1000cedis a month, 12% also indicated that earn 1000-2000cedis every month and 8% of them also indicated that earn 2000cedis and above.

4.2 Clients' knowledge about their medications.

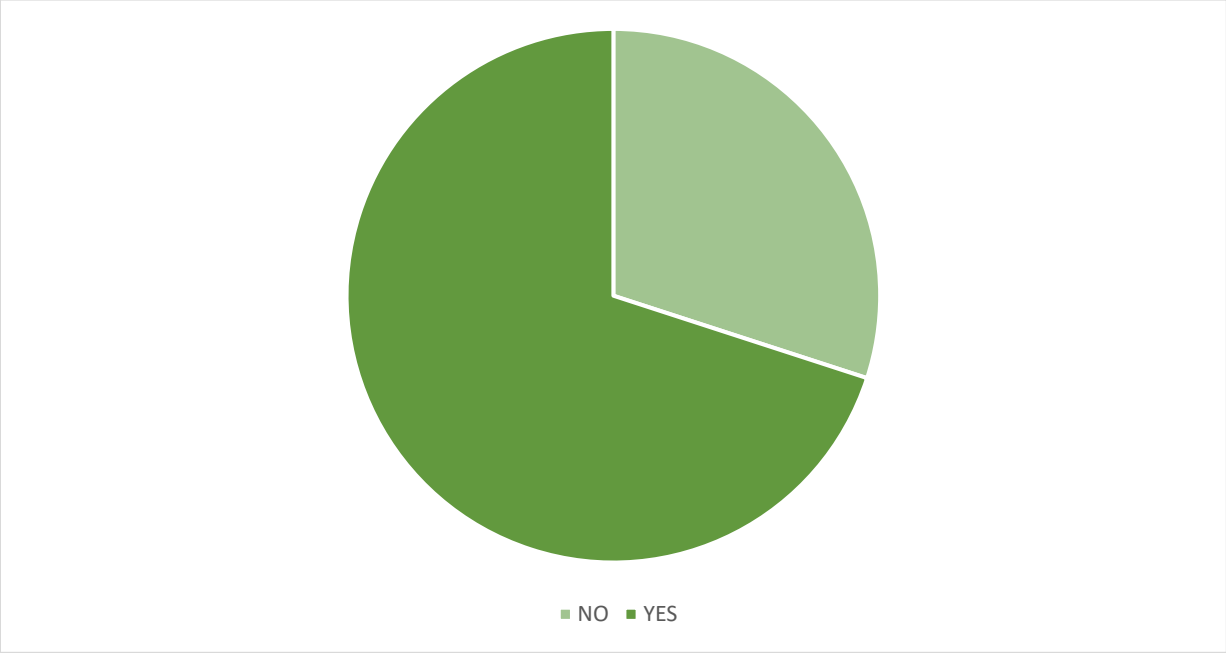

Figure 2: Respondents view on family history of DM.

Out of the total number of respondents (n=50), 70% of the respondents indicated no, which means they does not have any family history whereas, the remaining respondent (30%) indicated that they have that history in the family.

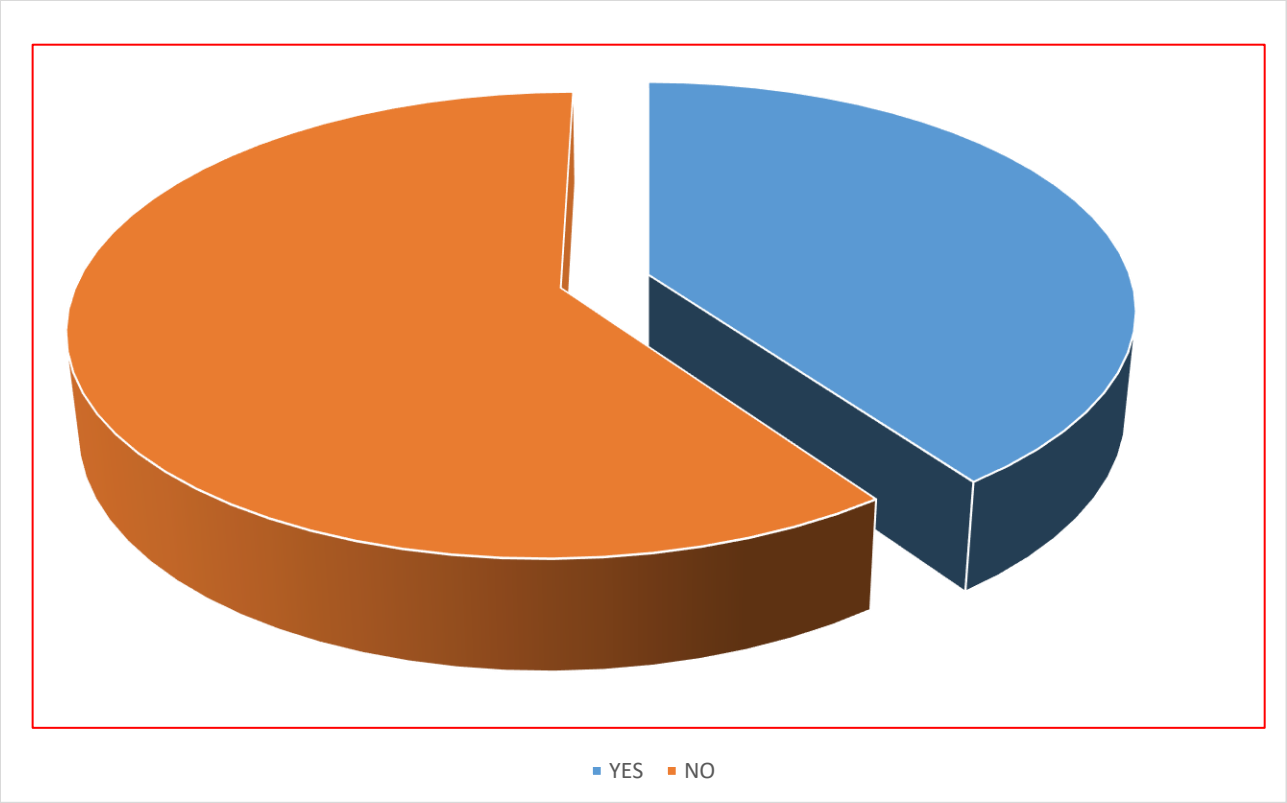

Figure 3: Respondents view on family history of any chronic illness.

Respondents were asked if there is any chronic illness in their families, where majority of the respondents (60%) indicated that there is no chronic illness in their family and the remaining 40% also indicated that there is chronic illness in the family.

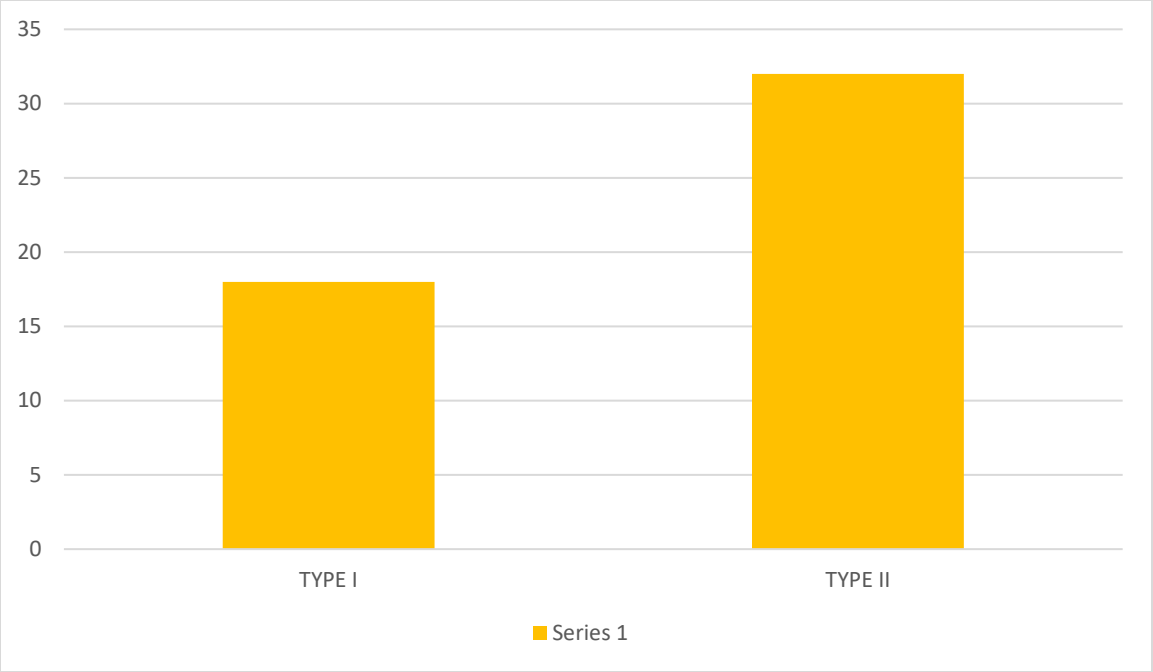

Figure 4: Respondents type of DM.

Concerning the type of DM, respondents were asked whether they belongs to the type I or Type II. Majority if the respondents' (64%) indicated that they belongs to the type II group and 36% of the respondents also indicated that they belongs to the type I group.

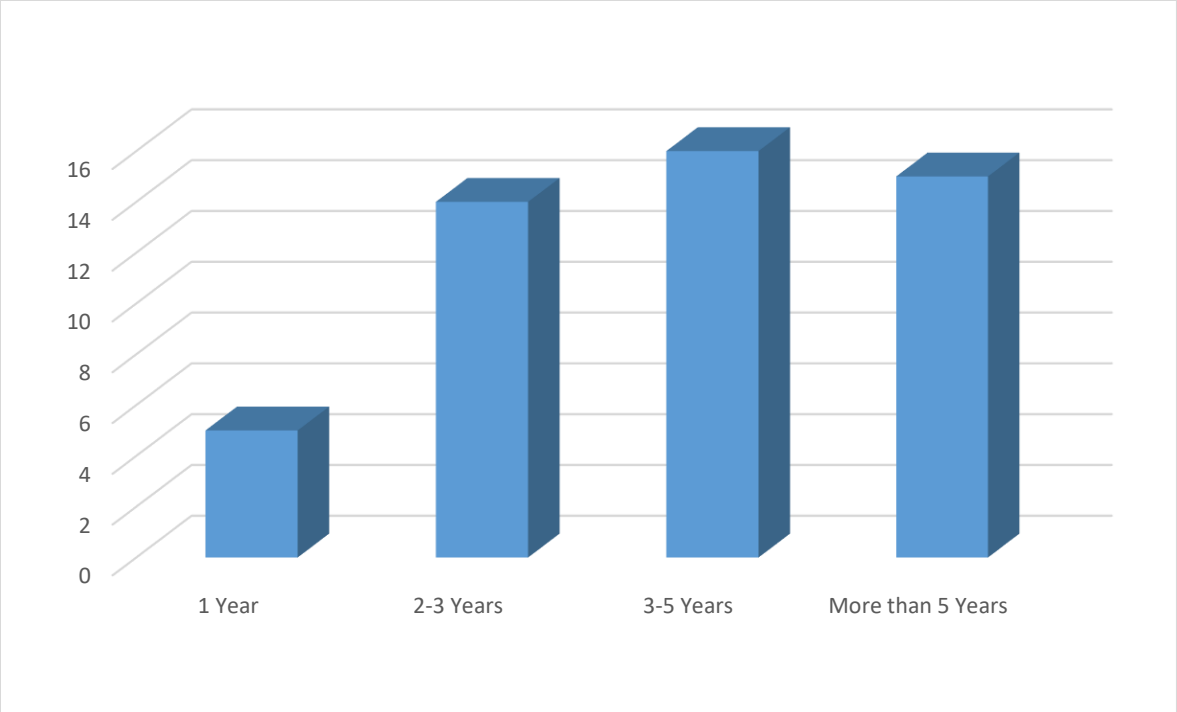

Figure 5: Respondents duration of therapy.

Figure 5 portrays the duration of the drug therapy among the diabetic clients. Thirty-two percent (32) of the respondents indicated 3-5 years, 30% indicated more than 5 years, and 28% also indicated 2-3 years and then few (10%) also indicated 1 year.

Table 5: Respondents current medications

Variable	Categories	Frequency (n)	Percentage (%)
Current medication	Metfomine	13	26
	Insulin	21	42
	Glibenclamide	10	20
	Metformine and Glibenclamide	6	12
	Total	**50**	**100**

From Table 5, it is indicative most (42%) of the respondents are on insulin, 26% are on Metformin, 20% are also in Glibenclamide and few (12%) of them are also on both Metformin and Glibenclamide.

4.3 Poor attendance of diabetic client to diabetic clinics.

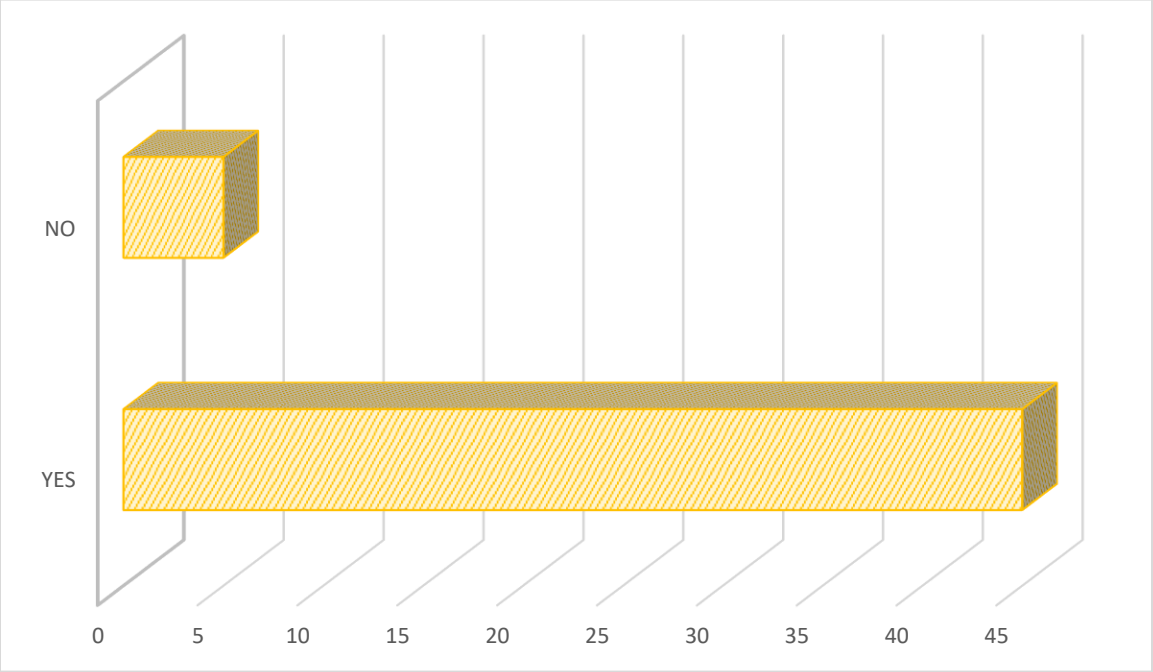

Figure 6: Respondents view in how attending diabetic clinic is necessary.

With regards to whether attending Diabetic clinic is important, most (90%) of the respondents indicated that it is indeed necessary and the remaining 10% also indicated that it's not important to them.

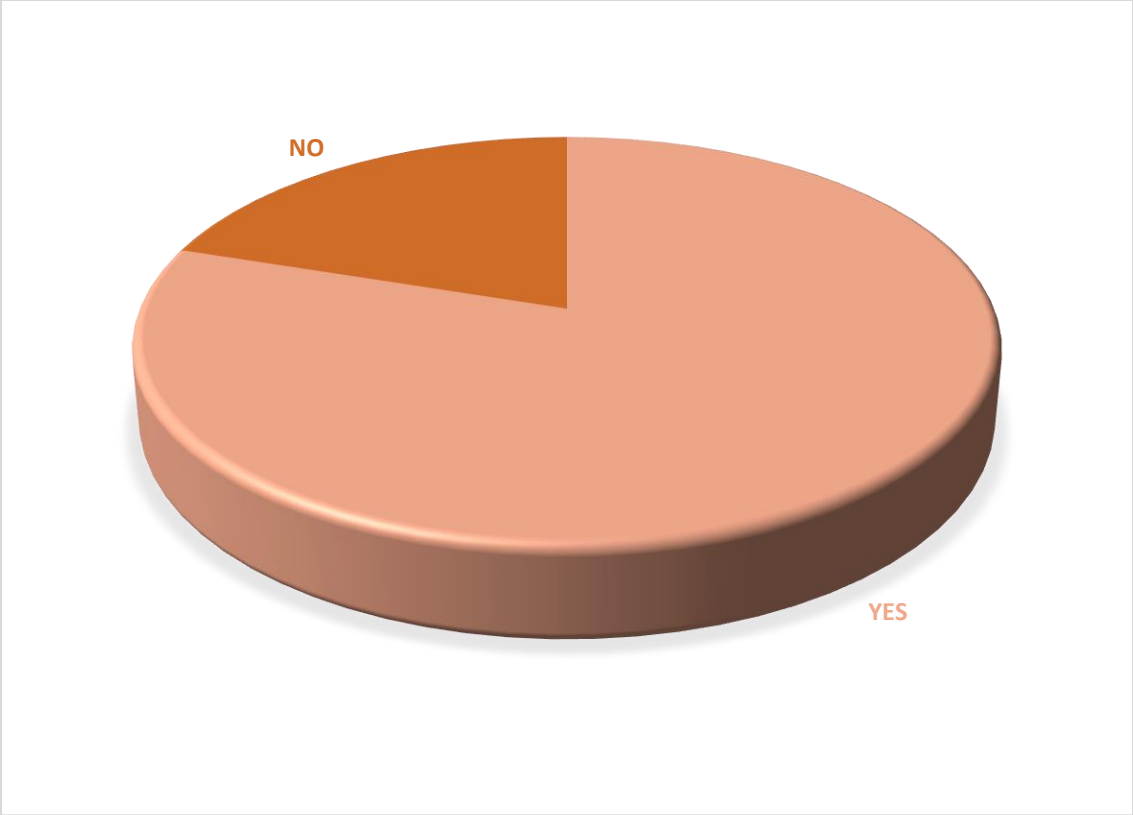

Figure 7: Respondents view on their attendance to diabetic clinic.

Figure 7 reveals the attendance to the diabetic clinic and most (80%) of the respondents indicated that they have been attending to the clinic whereas the rest (20%) of the respondents also indicated that they have not been attending to the clinic.

A follow up question was asked with regards to those who have been attending provide that number of times they attend to the clinic in every month and 80% indicated once in a month and 20% also indicated that twice every month.

To those who have not been attending to the clinic, they were also asked to provide the reason behind their refusal to attend the clinic and majority (90%) of the respondents revealed that, they are taking herbal treatment and the 10% also indicated that they are tired of the antidiabetic drugs because of the side effects of the drugs.

4.4 Possible solution to promote attendance among diabetic clients.

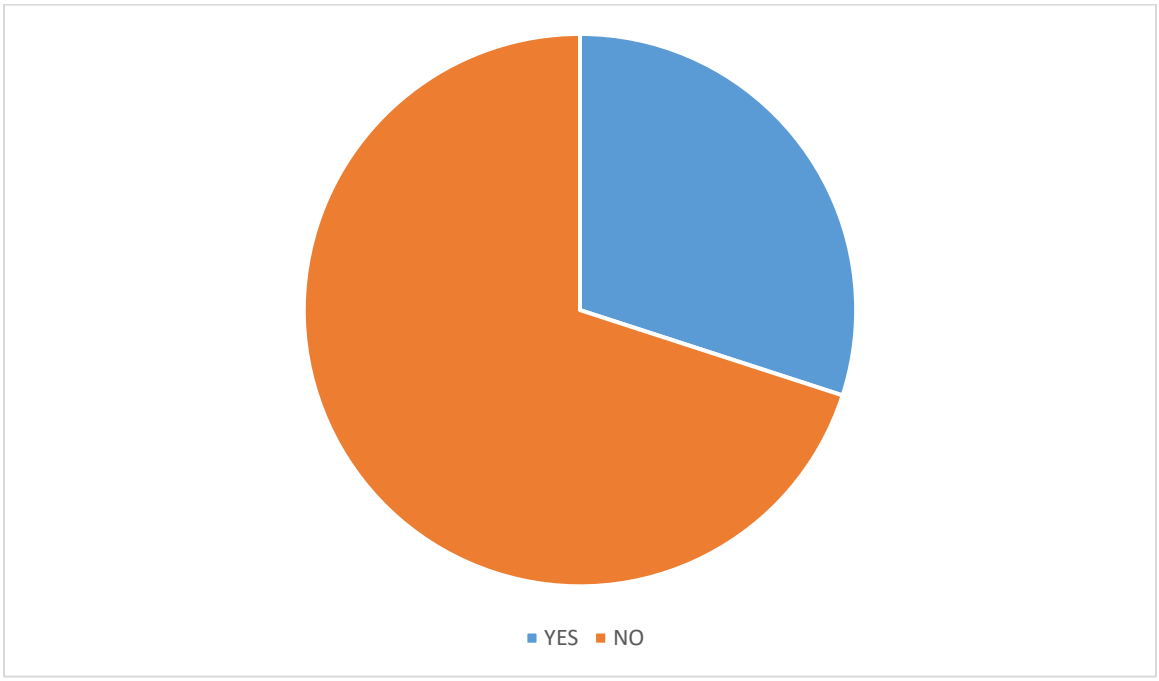

Figure 8: Respondents view on whether they are been accompanied by someone or not.

Analysis from figure 8 portrays respondents view on whether they are accompanied to the clinic by someone or they go there alone. Most (70%) of the respondents indicated that they go there alone whereas the remaining 30% also indicated that they get someone to accompany them to the clinic.

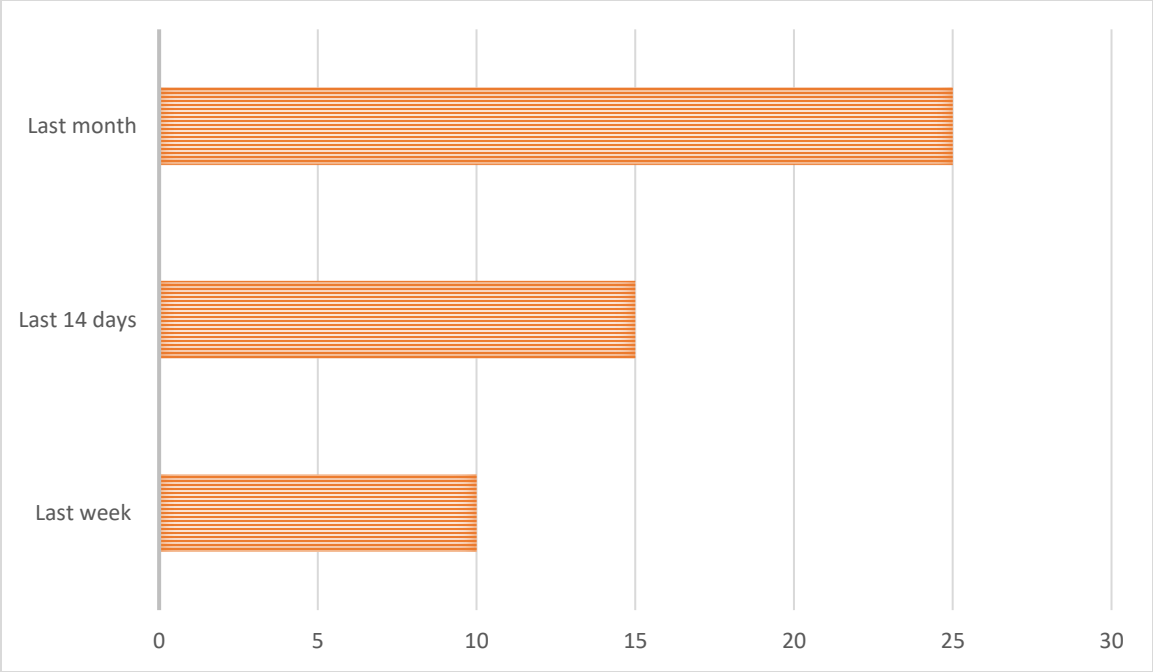

Figure 9: Respondents last visit to the clinic.

Data collected and presented in figure 9 depicts respondents view on their last visit to the clinic. It is clear that majority (50%) of the respondents indicated that they visited the clinic last month followed by that last 14 days where 30% indicated and the rest (20%) of the respondents also indicated that they visited the clinic last week.

Table 6: Respondents view on the possible solutions to promote the attendance among Diabetic clients.

Statements	**SA**	**A**	**D**	**SD**	**TOTAL**
Through effective education	28	24	10	38	**100**
There should be at least one person to accompany.	45	15	20	20	**100**
Cost of health care must be reduced	42	30	17	11	**100**
Long queues discourages you from accessing healthcare	48	30	15	7	**100**

The above table seeks to analyze the possible solution to promote attendance among diabetic clients. Out of the 50 respondents, 28% indicated that they strongly agreed that through effective education more client will get to know much about their condition and that complications with 24% indicated they agree. Ten percent (10%) however disagrees that effective education is the solution since everyone is aware of the condition while a total of 38% strongly disagree.

Forty-five percent (45%) of the respondents strongly agreed that there should be at least one person to accompany the diabetic clients whenever they are going to the clinic with 15% agreeing while 20% of the respondents indicated disagree and strongly disagree. In terms of cost, 42% indicated

they strongly agreed that cost of health care prevents them from accessing health care while 30% said they agreed. Seventeen percent (17%) said they disagree with 11% strongly disagreed.

To find out whether long queues discourages respondents from accessing healthcare, 48% and 30% indicated they strongly agreed and agreed respectively while 15% and 7% disagreed and strongly disagreed respectively.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

5.0 Introduction

This chapter deals with the discussion of findings of the study. It compares the findings with that of the literature review. It also includes the drawing of conclusion and making recommendations based on the findings. This discussion is based on the specific objectives of the study.

5.1 Discussions

5.1.1 Demographic Characteristics

The current study found that, 60% of the respondents were males and the remaining 40% were also females. Only five (n=5) of the respondents (10%) were aged between 18-23 years, most of the respondents (40%) were aged above 35 years. Twelve percent (12%) of the respondents were aged between 24-29 years and 18% were aged between 30-35 years. Most of the respondents (70%) were married, 20% of the respondents were single and 10% of the respondents was divorced. Twenty-eight percent (28%) of the respondents had primary education, 6% of the respondents had Junior High School education, most of the respondents (32%) had Senior High School education and 30% of the respondents had tertiary education. Most of the respondents (70%) are Christians, 24% of the respondents are Moslems and 6% of the respondents are Traditionalists. This findings are in line with Brewster (2016) who indicated in his study that Christians were more than the other religion and the respondent were also not married.

5.1.2. Clients' knowledge about their medications.

Out of the total number of respondents 70% of the respondents indicated no, which means they does not have any family history whereas, the remaining respondent (30%) indicated that they

have that history in the family. In the current study, respondents were asked if there is any chronic illness in their families, where majority of the respondents indicated that there is no chronic illness in their family and the remaining 40% also indicated that there is chronic illness in the family. Concerning the type of DM, respondents were asked whether they belongs to the type I or Type II. Majority if the respondents' (64%) indicated that they belongs to the type II group and 36% of the respondents also indicated that they belongs to the type I group. This finding contradict to Alam et al. (2014), where most of the respondents indicated that they do not know whether in their families there are any chronic illness and the type of diabetes they have. With regards to the duration of the drug therapy among the diabetic clients. Thirty-two percent (32) of the respondents indicated 3-5 years, 30% indicated more than 5 years, and 28% also indicated 2-3 years and then few (10%) also indicated 1 year. This finding is in line with Findlay-White et al., (2020) where almost all the respondents stated the years and the average age was 35 years.

5.1.3. Poor attendance of diabetic client to diabetic clinics.

With regards to whether attending Diabetic clinic is important, most (90%) of the respondents indicated that it is indeed necessary and the remaining 10% also indicated that it's not important to them.Concerning the attendance to the diabetic clinic most of the respondents indicated that they have been attending to the clinic whereas the some of the respondents also indicated that they have not been attending to the clinic. A follow up question was asked with regards to those who have been attending provide that number of times they attend to the clinic in every month and 80% indicated once in a month and 20% also indicated that twice every month. To those who have not been attending to the clinic, they were also asked to provide the reason behind their refusal to attend the clinic and majority (90%) of the respondents revealed that, they are taking

herbal treatment and the 10% also indicated that they are tired of the antidiabetic drugs because of the side effects of the drugs. This finding is in line with Adeesour (2020) who indicated in a study that the attendance of the Diabetic Patients to the clinic is poor with some reasonable excuses which tends to default their therapy.

5.1.4. Possible solution to promote attendance among diabetic clients.

Analysis from figure 8 portrays respondents view on whether they are accompanied to the clinic by someone or they go there alone. Most (70%) of the respondents indicated that they go there alone whereas the remaining 30% also indicated that they get someone to accompany them to the clinic. Data collected and presented in figure 9 depicts respondents view on their last visit to the clinic. It is clear that majority (50%) of the respondents indicated that they visited the clinic last month followed by that last 14 days where 30% indicated and the rest (20%) of the respondents also indicated that they visited the clinic last week. The above table seeks to analyze the possible solution to promote attendance among diabetic clients. Out of the 50 respondents, 28% indicated that they strongly agreed that through effective education more client will get to know much about their condition and that complications with 24% indicated they agree. Ten percent (10%) however disagrees that effective education is the solution since everyone is aware of the condition while a total of 38% strongly disagree. Similarly, this finding affirms to Benoit and Fleming (2019) where most respondents indicated that explaining to them the importance and the clinic they are to attend is the best solution to the poor attendance.

5.2 Conclusion

The study concluded that, the major reason given for not complying with an appointment was ignorance, followed by being out of town on the day of appointment, poor attitude of some staffs, transportation issues, financial problems, and work. The findings are consistent with other

studies, which also mention forgetting as the major reason for missing clinic appointments. Some of the reasons given for not attending clinic appointments are impossible for the clinic to address, such as bad weather, funerals and travel out of town.

5.3 Recommendation

Per the analysis of the data collected, the following recommendations were made:

1. One way of improving compliance to clinic visits would be improved the diabetes care at the local primary health care clinics, so that the patients can receive care closer to their homes. The patients should be informed of why it is important to provide reliable contact information to the medical authorities.
2. The clinic may also provide counselling and education to all non-attendant patients.
3. The clinic should consider using positive reinforcement, and giving incentives to every attending patient.
4. Care providers need to be aware of both their positive and negative communication skills, which may also impact on clinic attendance.
5. The recruitment process for the present study focused on those patients who came to the clinics without an appointment, having missed a prior appointment, as well as those with cellular phones or landline telephones.

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APPENDIX

QUESTIONNAIRE

Dear Respondent,

We are students of Holy Family Nursing and Midwifery Training College, Berekum researching the topic "Assessing the decline in attendance to diabetic clinics among diabetics, a cross sectional study at the Holy Family Hospital, Berekum".

Kindly answer the under listed questions by ticking (√**)** the appropriate box or write in the spaces provided. Any information provided is confidential. Your opinion is neither considered right nor wrong. You can choose to withdraw your participation at any time. It will take you approximately 30 minutes to answer the questionnaire

Thank you.

PLEASE TICK [√] THE APPROPRIATE BOX WHERE APPLICABLE.

SECTION A: Demographic Data

1. Gender: (a) Male [ ] (b) Female [ ]

2. Age: (a) 18 – 23 years [ ] (b) 24 – 29 years [ ] (c) 30 – 35 years [ ] (d) 35 and above

3. Marital status: (a) Married [ ] (b) Single [ ] (c) Divorced [ ]

4. Ethnicity: ……..……

5. Religious background: (a) Christian [ ] (b) Islam [ ] (c) Other (specify) ……

6. Educational background: (a) Primary [ ] (b) JHS [ ] (c) SHS [ ] (c) Tertiary [ ]

7. Monthly income (in Cedis) :

   A. Less than 500 [ ]

   B. 500-1000 [ ]

   C. 1000-2000 [ ]

   D. 2000 and more [ ]

SECTION B: Clients' knowledge about their medications.

8. Family history of DM

   A. Yes [ ] B. No [ ]

9. Is there any other chronic illness

   A. Yes [ ] B. No [ ]

10. Type of DM

    A. Type I [ ] B. Type II [ ]

11. Duration of DM therapy:

A. 1 year [ ]

B. 2-3 years [ ]

C. 3-5 years [ ]

D. more than 5years [ ]

12. Current medication:

A. Insulin [ ]

B. Metformine [ ]

C. Glibenclamide [ ]

D. Glibenclamide and Metformine [ ]

SECTION C: Poor attendance of diabetic client to diabetic clinics.

13. Is it the best to be attending diabetics' clinic?

A. Yes [ ] B. No [ ]

14. Have you been attending the diabetics' clinic?

Yes [ ] B. No [ ]

15. If yes, how many times in a month?

…….

16. If no, why……..

.....

SECTION D: Possible solution to promote attendance among diabetic clients.

17. Has someone accompanied you to the clinic before?

A. Yes [ ] B. No [ ]

18. When was the last time you visited the clinic?

A. Last week [ ]

B. Last 14 days [ ]

C. Last month [ ]

Indicate your position on the following statements by ticking (√) the appropriate option NB: SA= Strongly Agree, A= Agree, SD= Strongly Disagree, D= Disagree

No	Statements	SA	A	D	SD
19.	Through effective education				
20.	There should be at least one person to accompany her.				
21.	Cost of health care must be reduced				
22.	Long queues discourages you from accessing healthcare				

NATIONAL CATHOLIC HEALTH SERVICE (DIOCESE OF SUNYANI)
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Tel. 0352222124
Fax: 0352222474

Our Ref. ...HFNMTC/GC/011/020823

Your Ref. .....

Date ..... February 8, 2023

The Administrator
Holy Family Hospital
Berekum
Bono Region

Dear Administrator

PERMISSION TO CONDUCT RESEARCH

I wish to introduce to you the under listed names of final year students of the College:

1. Boahemaa Precious
2. Manu Awuah Heaven

As part of the pre-requisite for the award of Diploma in Nursing they are to conduct a research study on the topic **'Assessing the Decline in Attendance to Diabetic Clinics among Diabetics; a Cross-Sectional Study at the Holy Family Hospital, Berekum.'**

I would be grateful if you could assist them with any material or help they may need to accomplish this task.

Thank you.

Yours faithfully

fw/Appiah.96.....
Joseph Appiah
Supervisor

For: Principal