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Challenges Encountered by Patients Diagnosed with Diabetes Mellitus Type II among selected Rural Barangay in Puerto Princesa: Basis for Development Structured Plan

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ABSTRACT

Diabetes Mellitus Type II (T2DM) has become one of the most pressing chronic health conditions in the Philippines,.In the rural barangays of Puerto Princesa, an increasing number of residents are facing the complex challenges that this disease presents. This study explores the key difficulties faced by patients diagnosed with Type II diabetes in these areas and suggests a structured plan aimed at alleviating their burdens and improving their quality of life. One of the most significant challenges encountered by diabetic patients in rural Puerto Princesa is limited access to medical care.The lack of local clinics equipped to monitor blood sugar levels, manage comorbidities, or provide immediate interventions contributes to the deterioration of patients' health. Furthermore, the scarcity of endocrinologists and diabetes educators complicates the situation, leaving general practitioners to handle complex cases without specialized support. Another major concern is the economic burden of managing diabetes. Patients often struggle to afford oral hypoglycemics, glucose test strips, and proper nutrition. Many residents depend on agriculture or informal labor for their income, which is often insufficient for consistent diabetes care. As a result, patients may ration medication, skip doses, or increasing their risk for complications like neuropathy, retinopathy, and cardiovascular disease. Equally important is the lack of health literacy and awareness regarding diabetes management. The study proposed a basis to develop a structured plan when managing a patient with type 2 diabetes in a selected rural northern barangay of Puerto Princesa City

Keywords: Structured plan, Challenges, Encountered, Blood,, knowledge,

CHAPTER 1
INTRODUCTION

The study's history, problem statement, significance, scope, and delimitation are presented in this chapter, along with an explanation of the main research topics.

Background of the Study

A chronic, complicated, and non-transmissible endocrine condition, diabetes mellitus (DM) is rapidly spreading, has caused clinical challenges all over the world, and is commonly linked to dangers pertaining to patients' intricate metabolic development. Oxidative stress and elevated blood sugar and fat levels are

its defining characteristics. These elements cause chronic issues affecting the organs such as the kidneys, eyes, nerves, and blood vessels. Aloke (2022) cites the World Health Organization (2016) as saying that diabetes is an epidemic with a high risk of death and morbidity. Approximately 640 million individuals worldwide are predicted to be affected by this illness by 2040, up from the current 387 million.

Although community-based settings like Satellite Clinics are very beneficial for the treatment of diabetes, there are drawbacks as well. Having insufficient resources might make it challenging to give all patients the care, medicine, and support they need, especially in low-income or northern rural barangay areas in Puerto Princesa City. Certain patients may find it difficult to implement suggested lifestyle modifications because of financial limitations, access to transportation, sedentary lifestyle, lack of knowledge about their diseases and complications, inability to get healthful meals, or the responsibilities of their occupations and households.

While assisting with Rural Health Physician on outpatient consultation, I noticed that some of the patients diagnosed with diabetes suffered from complications like chronic kidney disease and underwent dialysis twice a week at the downtown. They verbalized their emotions that it's too hard for them to continue their treatment due to a lack of finances and uncomfortable for them to travel in the city due to their present health condition, as well as the patient I encountered amputated left foot due to poor wound healing and poor blood circulation because of diabetes complications. As well as some of patients experienced poor vision, also known as diabetic retinopathy, due to affected eyesight because of increased blood sugar that flows in the small vessels of both eyes.

Inadequate handling of these issues may result in serious health consequences such as renal failure, neuropathy, retinopathy, and cardiovascular disease. However, community-based healthcare initiatives may be extremely important in lowering the occurrence of these problems and developing the overall standard of living for people with diabetes via early intervention, education, and preventative treatment. Community healthcare providers may assist individuals in managing their diabetes more effectively and avoiding long-term problems by addressing both the physical and emotional components of the condition. A major obstacle to good diabetes management in many communities especially those with low socioeconomic status is access to and cost of drugs. Community nurses frequently help patients obtain affordable pharmaceuticals through government initiatives and charitable groups. They may also aid patients with blood glucose monitoring by offering free or low-cost testing supplies, ensuring that patients can routinely check their levels at home.

According to the International Diabetes Federation, 537 million people worldwide have diabetes as of 2021, and by 2045, that number is expected to rise to 784 million. Global spending in 2021 was approximately US$ 966 billion, and by 2045, it is projected to reach US$ 1,054 billion. Nearly 75% of diabetics live in low- and middle-income countries, according to data from the International Diabetes Federation.. According to recent data, a more significant percentage of residents of South and Southeast Asia are Type II diabetes mellitus patients. Approximately 90 million adults (aged 20–79 years old) in the Southeast had diabetes. 51.2% of cases in the Asia region went undetected. Type II diabetes mellitus patients face a significant financial burden on their country's economies, households, and health systems, directly due to medical expenses or indirectly due to decreased productivity. Diabetes and cardiovascular diseases (Non-Communicable Diseases) continue are the main reasons why people die in the Philippines.Records from the Department of Health indicate that heart disease accounts for at least 33% of fatalities in the country, followed by cancer (10%), diabetes (6%), and chronic respiratory disorders (5%). The Department of Health (DOH) offers monthly distributions of medications for diabetes and

hypertension—Metformin and Losartan, Amlodipine, and Metoprolol, respectively—will take place. Although the service would only be available to DOH Hypertension and Diabetes Club members, the Department of Health estimated it would assist one million Filipinos with diabetes. Participants in the Department of Health Hypertension and Diabetes Club would be those diagnosed with one or both conditions (Department of Health, 2023).

Diabetes Mellitus, especially Type II, affects 8.5% of the world's total population aged 18 years or older, and it will become the seventh leading cause of death worldwide by 2030 Cheng (2022).

Based on the study of Su et al. (2023), The polygenic and complicated etiology of type 2 diabetes mellitus (T2DM), also known as non-insulin-dependent diabetic mellitus, includes genetics, lifestyle choices, and the organism's acquired health state. Recently confirmed pathogenesis models show that dietary loading causes a persistent increase in insulin production, which leads to hyperinsulinemia and ultimately insulin resistance and β-cell failure. It was estimated that the disease would kill 6.7 million people in 2021 alone, or one person every five seconds. Furthermore, patients with diabetes are more susceptible to complications; in certain regions, the leading causes of death for those with diabetes are dementia, such as Alzheimer's disease, and cancers, such as ovarian, pancreatic, and gastrointestinal cancer., hyperglycemia in individuals with diabetes amplifies the replication of severe acute respiratory syndrome-CoV-2, and certain anti-glycemic medications may elevate the expression levels of Angiotensin Converting Enzyme, all of which heighten the vulnerability to and intensity of COVID-19. Additionally, diabetes worsens liver illness, obstructive sleep apnea, cognitive impairment, and affective problems. IN addition , patients have diabetes are at high risk for infections, especially foot, respiratory, urinary tract, and postoperative infections. These conditions tend to worsen one another. Consequently, it is still necessary to manage diabetic patients effectively.

In the Philippines, the prevalence of diabetes is 6.3%, meaning that, as of 2019, one in 14 adult Filipinos have the condition. Diabetes Philippines, Inc. According to Dr. Cynthia Sanchez, a trustee board member, 3,993,300 Filipino people have diabetes out of 63,265,700 total. According to the Philippine News Agency (2023), this 3.9 million would rise to 5.2 million by 2030 and 7.2 million by 2045.

Type II Diabetes Mellitus is becoming a growing health concern in Puerto Princesa City, following global trends. Local health officials report that sedentary lifestyles, unhealthy diets, and increasing obesity rates are the main causes of the sharp rise in diabetes prevalence in recent years. Being obese,a family history of diabetes, and living a sedentary lifestyle are risk factors for developing Type II diabetes. Furthermore, due to genetic predispositions, some ethnic groups, such as the Tagbanua, the Batak, and the Palaw'an, are less prone to developing diabetes. The City Health Office of Puerto Princesa has been working harder to raise awareness about diabetes treatment and prevention in response to this rising concern. Based on the Field Health Information System (FHIS) of the Department of Health as tabulated by the City Health Office of Puerto Princesa from January to June 2024, approximately 264 patients were Diagnosed with Type II Diabetes Mellitus in northern rural barangays in Puerto Princesa City. Numerous healthcare practitioners conduct examinations for individuals at risk, and community-based initiatives promote healthy lifestyles. Education plays a key role in managing Type II diabetes effectively, and local diabetes education programs equip individuals with the skills and knowledge needed to do so. These programs provide guidance on blood sugar monitoring, exercise, diet, and the appropriate use of medications such as insulin or oral hypoglycemics.

Nurses collaborated with other medical professionals, such as dietitians, to provide appropriate dietary recommendations, conduct focused group or individual education sessions, and offer education and

consultations for patients with Type II diabetes. Similarly, empowering patients to take care of themselves is another responsibility of nurses. Patients with diabetes mellitus must be willing to make necessary lifestyle modifications. While these changes can be challenging, with the support of a nurse, patients can take control of their health and effectively manage their condition. Since nurses work in clinical settings, delivering clinical care is one of their primary responsibilities. This includes making diagnoses, providing medical advice, and managing illnesses using evidence-based practices.

This is another essential part of nurses' roles in helping patients manage their ailments. Finally, nurses must broaden their understanding of Type II diabetes mellitus treatments and management. Given the speed at which technology and knowledge bases are developing, nurses must always stay updated. This prevents the use of outdated techniques or instructing patients using antiquated methods when the most recent techniques are accessible.

In order to examine this concerning issue from a different angle, the researcher set out to investigate people who had been diagnosed with Type II diabetes. A few barangays in Puerto Princesa City—Brgy—will be the sites of this investigation. Among Puerto Princesa's 10 rural barangays are Salvacion, Bahile, Macarascas, Maryugon, Buenavista, Santa Cruz, Bacungan, San Carlos, Manalo, and Tagabinet. The Philippine Statistic Authority (2021) reports that as of the 2020 census, Puerto Princesa has 307,079 residents, or roughly 130 people per square kilometer or 340 people per square mile.

In summary, diabetes mellitus is a widespread and complicated medical disorder that requires comprehensive strategies for optimal care, early detection, and prevention. Even though many people with diabetes now have better outcomes, thanks to advances in medical research and technology, legislative actions, public awareness campaigns, education initiatives, and improved healthcare access are still desperately needed to stop the rising global burden of diabetes. By addressing the underlying risk factors and promoting healthy lifestyles, we hope to lessen the prevalence of diabetes and improve the quality of life for those suffering from this chronic illness.

Lastly, important suggestions have been found to support clinical practice. These include recommendations for education and self-management regarding exercise, diet, and weight control when managing patients with diabetes mellitus in specific rural areas in northern barangays of Puerto Princesa City, as well as treatment recommendations to postpone or stop the progression from pre-diabetes to diabetes.

Statement of the Problem

The following questions were the focus of this investigation.:

Specifically, this study seeks to answer the following questions:

1. What are the Socio-Demographic profile of the respondents in terms of:

a. age;
b. gender;
c. marital status;
d. educational attainment;
e. occupation; and
f. monthly income?

2. What are the challenges encountered by patients diagnosed with diabetes mellitus in rural barangays in terms of:

a. health insurance;
b. health care access;

c. travel distances;
d. public transportation;
e. communication difficulties;
f. financial challenges;
g. lifestyle;
h. family support; and
i. health education?

3. 3.Are the difficulties faced by individuals with diabetes mellitus in rural barangays significantly correlated with their sociodemographic profile?
4. What structured plan can be proposed to address the identified problems based on the gathered data?

Significance of the Study

The importance of a study showed how valuable the research was and how it improved our knowledge in a particular field. This study will be deemed important by the following:

Department of Health. This study would help them to implement diabetes management programs that provide valuable data on the prevalence, risk factors, and efficient strategies for managing diabetes in these settings can benefit from utilizing collected data as a reference in health policies and practices. This can improve resource allocation and lead to the development of targeted interventions.

Puerto Princesa City Health Office (CHO). They could enhance diabetes mellitus prevention and promotion in the city's northern barangays and to support DOH-backed programs addressing the mentioned medical cases.

Community Health Nurse. This study would assist in implementing more DOH initiatives and play a significant role in promoting healthy outcomes for individuals with diabetes mellitus.

Patient. This research was important for further treatment management and evaluation which may lead to the development of a strategic care plan for patients with Type II diabetes mellitus.

Hospital. This study was significant for referral hospitals as the preferred choice for patients diagnosed with Diabetes Mellitus, enhancing their management and evaluation.

Readers. This research would provide valuable information about Diabetes Mellitus, a condition that continually sees advancements in management, treatment, and prevention. It covers the latest research findings, innovative treatments, and technological developments in diabetes care, all of which are sure to capture the interest of our readers.

Future Researchers. The data collected would generate information that might be used as a resource for future studies on this topic.. By examining the current challenges faced by the rural population in controlling diabetes mellitus, future scholars can make significant contributions to the advancement of community management.

Scope and Delimitation

This research was determined the challenges encountered by patients diagnosed with diabetes mellitus among selected northern rural barangays in Puerto Princesa City: basis for the development of the structured plan in terms of health insurance, health care access, travel distances, public transportation communication difficulties, financial difficulties, lifestyle, family support, and health education.

The scope of the study would be divided into four categories: topic, population, geography, and research methodology. Patients with diabetes mellitus in a few chosen rural barangays in Puerto Princesa City will be the main focus of this study.

The target population will be one hundred sixty-four (164) confirmed diagnosed with diabetes mellitus currently residing in selected rural barangays. The research will employ a descriptive approach with stratified sampling. The survey will gather data on the Challenges. Lastly, the proposed development of a structured plan program will be tailored to address the specific factors identified.

The frame, external factors, and program development was categorized the study's delimitation. The first and second semesters of the academic year 2024–2025 were the time range in which this study was undertaken.

Definition of Term

The following are the terms are theoretically and operationally defined for better understanding of the study.

Diabetes Mellitus Type II-This refers to an abnormal increase of sugar in the blood.

Management of Diabetes Mellitus-This refers to a comprehensive approach to maintaining blood sugar levels within a target range and preventing complications in patients in rural communities in Puerto Princesa City.

Strategy-This refers to a course of action created to help diabetic patients in a remote Puerto Princesa City barangay reach particular goals or objectives.

Challenges-This refers to difficulties or obstacles that hinder the diabetic patient from accessing health services.

Structure Plan-This refers to making efficient project management, strategic planning, or problem-solving endeavors as it offers responsibility, clarity, and a way to measure the success of a plan in a community.

Comprehensive Community-Based Program-This refers to a structured plan that addresses the needs of diabetic patients in rural barangays.

Rural Community-This refers to people living in Barangay Salvacion, Manalo Macarascas Bahile, Maryugon, Lucbuan, San Carlos, Santa Fe, Buenavista, and Maoyon, where the respondents reside.

Rural Barangays-This refers to the small administrative division in Puerto Princesa City where the respondent resides.

Health Insurance-This refers to a type of coverage that assists in medical and surgical expenses which can pay the care provider directly or reimburse the insured for costs related to illness or injury.

Healthcare Access-This refers to a person's capacity to quickly and affordably access the healthcare they require. It covers sickness treatment, chronic condition management, and preventative care as well as educating people and communities about health and wellness to encourage better habits and lifestyles.

Travel Distance-This refers to the distance people must travel in order to get medical services. This can have a significant impact on people's ability to access essential medical care, particularly in remote or underdeveloped areas.

Public Transportation-This refers to vital enhancing health care access, particularly for those without a car or dependable private transportation. Accessing hospitals, clinics, pharmacies, and other health services can be facilitated by effective and reasonably priced public transportation.

Communication Difficulties-This refers to various contexts, including interpersonal relationships with nurses, physicians, or other healthcare providers, the workplace, and broader societal interactions. They can come from several causes, including linguistic obstacles, emotional issues, misconceptions, or even medical ailments.

Financial Challenges-This refers to the financial capability of the patient when supporting their needs in terms of buying medicine, follow-up check-ups, laboratory evaluations, and supporting basic needs.

Family Support-This refers to a family group or relatives that support the plan of care of a patient with diabetes mellitus.

Lifestyle. It contains a broad range of elements, it includes as diet, exercise, social interactions, employment, leisure, and individual choices that reflect an individual's or a community's overall way of life. It describes the routines, behaviors, interests, and morals of an individual or group of individuals.

Health Education. This is the process of providing individuals or groups with the information and resources they require in order to preserve, advance, and improve their health. It comprises educating people on topics related to health, such as nutrition, exercise, illness prevention, mental health, cleanliness, and long-term medical management.

CHAPTER 2
REVIEW OF RELATED LITERATURE

Numerous studies and literature readings from both domestic and foreign contexts that were deemed relevant to the current investigation were included in this chapter..

Related Literature

Based on World Health Organization (2022),. Diabetes is a chronic metabolic disease characterized by elevated blood glucose levels. Over time, diabetes can cause major harm to the kidneys, heart, blood vessels, nerves, and eyes. The most prevalent is Type II diabetes, which often affects adults and is brought on by either a build-up of resistance to insulin or an inadequate amount of insulin produced by the body. Over the past three decades, Regardless of wealth, type II diabetes is become far more prevalent worldwide. A chronic condition known as type I diabetes is brought on by insufficient insulin production by the pancreas.An overviewed of the general factors that prevent rural residents from receiving the best care possible includes a lack of health insurance, obstacles to healthcare access and education, long travel distances, lack of public transportation, communication difficulties stemming from unreliable internet access, and significant financial challenges, such as the inability to pay for professional fees and prescription drugs. Additionally, the geographic mismatch in physician distribution in rural areas limits the number of providers available for patient care. Only 10% of physicians practice in rural areas, despite 17% of US citizens living there (Santen, 2023).

Studied by Dahal et al. (2023), despite the rising prevalence of diabetes and other non-communicable illnesses in Nepal, the government has enacted a number of laws pertaining to NCDs and is implementing these policies through services and programs. Still, there is room for improvement in how the policies are implemented. Despite the fact that Nepal has been using the essential non-communicable illness package since 2013 or 2014, primary care level health facilities have determined that the package's ongoing implementation components require strengthening. The lack of community screening and awareness suggests that there is a greater need for person-centered NCD treatments.

. A comprehensive self-management program must be developed and implemented to enhance the health outcomes of those with non-communicable diseases. Developing and implementing a life-course approach has also been necessary to preserve their NCDs' conditions and prevent problems from being uncontrolled. This approach may include secondary and tertiary preventative measures. Although Nepal has pledged to provide all citizens access to primary healthcare, alternatives have yet to be found to enhance the current primary healthcare delivery system. Evidence about Community Health Worker (CHW) capacity building, how CHWs administer interventions, and the successful execution of community-based CHW-led interventions are crucial.

Based on Cruz-Cobo (2020), it objectified the necessity of addressing both clinical and psychological elements. To achieve optimal metabolic control, dietary and nutritional practices must be changed, medication must be closely watched, diabetes education must be expanded, and weight loss plans incorporating both theory and exercise must be implemented. Strategies for reinforcement, including phone calls or recurring visits, must also be prioritized

Li et al. (2020) showed that prevention, medical care, rehabilitation, and health education are all incorporated into community health services. Convenience, economy, and adaptability are qualities of community nursing. Specifically, there are clear benefits to nursing interventions for chronic illnesses; therefore, we should fully utilize the advantages of community health services. This study demonstrated a considerable improvement in the DM group intervention's quality of life compared to their pre-intervention level.

Bailey (2023) emphasized, in summary, that nurses are crucial to the management of patients with Type II diabetes mellitus.. Nurses must provide clinical care, educate patients about healthy lifestyle choices, provide them with self-care tools, and stay up to date with technological and healthcare breakthroughs in order to properly care for patients with Type II diabetes mellitus. In the UK, the number of persons with Type II diabetes is increasing, according to data. The nation also invests a lot of money in treating and managing the illness.

Opina-Tan et al. (2024), emphasized that the community health club that was founded to manage diabetes and hypertension is the subject of this investigation. The fitness club's membership profile increased throughout the first two years of operation. The bulk of its members are exclusively hypertensive, elderly, female, and non-smokers. After two years, the percentage of members with managed hypertension has risen from when the club first started. Those who had diabetes, however, did not exhibit this. The officials mentioned the crucial procedures of the club's founding, member enrollment, activity management, and comprehension of the officers' duties and responsibilities. Club members' benefits from participation included sociability, improved condition awareness and understanding, improved disease control, and free, frequent, and accessible services.

Namsang et al. (2023), as discussed, the people with diabetes avoid taking certain medications out of concern that they may damage their kidneys from taking so many diabetes treatments. They took supplements in the hopes that they would lower the severity of their condition since they were advertised on a social media video and because their relatives advised them to. Some of them stopped taking their diabetes medication because they thought that doing so would hasten the deterioration of their kidneys. Many also employed herbal medicine in addition to taking herbal supplements as part of their treatment. Similarly, the majority of people with diabetes learned about glycemic control with herbal medicine from friends, family, and social media. Additionally, they take this in addition to doctor-

As discussed by Nigussie (2023), the International Physical Activity Questionnaire (IPAQ), a measuring tool used by the World Health Organization (WHO), showed that, when the total metabolic equivalent cut-off point score was applied, the prevalence of physical inactivity among adult DM patients was 30.5%. . The most popular physical activity that respondents reported doing was walking outside. It could be brought on by the expense of using a gym or other fitness center, anxiety about getting hurt while engaging in strenuous exercise, or self-perceptions such as feeling self-conscious about wearing sportswear, particularly among older people and women. Moreover, compared to younger age groups, those 60 years of age and beyond were more likely to be physically inactive. This result is consistent with research from Lebanon, Sri Lanka, and Barcelona. In DM patients, there is a positive and substantial correlation between aging and a lower level of physical activity. One possible explanation could be that individuals in this age group are retired and may have adopted a sedentary lifestyle after retirement. In addition, older adults find it challenging to engage in regular physical exercise because they believe that diabetes mellitus has weakened their bodies, which deters them from exercising regularly and makes them feel exhausted. The prevalence obtained in this study was comparable to that of a previous study carried out in Nigeria, which indicated a relatively similar prevalence of 31%. It was also contrasted with the 31% prevalence that the Philippines' Manila recorded using an analogous tool, IPAQ.

Based on the study of to the International Diabetes Federation's (IDF) (2013) Diabetes Atlas, 578 million adults would have diabetes by 2030, compared to 700 million people with the disease in 1945 (Odularo, 2020). The aging of the world's population, a decline in physical activity, and a rise in obesity rates are thought to be the main reasons of this trend. According to Lasker et al., 334 million people (6.3%) worldwide will have diabetes by 2025. The World Health Organization (WHO) declared diabetes to be a worldwide epidemic in 2000. In that year, the United States had 17.7 million cases, Indonesia had 8.4 million, Japan had 6.8 million, and India had 31.7 million. In China, there were 20.8 million cases.

As mentioned by Lumbaki et al. (2023), it is impossible to achieve better glycaemic control in Type II diabetic patients without fortifying the healthcare system. According to the WHO framework, an effective health system consists of highly skilled and driven healthcare professionals, a dependable supply of drugs and technology, an infrastructure that is kept up to date, enough budget, robust health plans, and evidence-based policies. The experts' recommendations from the current Delphi survey have highlighted these elements. The Delphi study's suggestions for healthcare practitioners emphasized the advantages of forming multidisciplinary care teams to improve diabetes treatment at the primary care level. Better results, such as those with Type II diabetes having adequate glycemic control, have been associated with such interdisciplinary teams. Given the lack of trained and specialized healthcare providers in Kinshasa, task shifting in this multidisciplinary team should be seriously explored. Improved diabetes care must be viewed within the larger context of managing noncommunicable diseases at the primary healthcare level. Nurses and pharmacists' interventions effectively control diabetes in Low- and Middle-Income Countries (LMICS) with relatively low physician density. Policymakers must treat diabetes and other noncommunicable diseases fairly if they want these reforms to occur.

As presented by Candelario et al. (2023), one emerging public health problem in the Philippines is the rising prevalence of diabetes, particularly in those who are prediabetic and lack understanding and awareness of the condition. This study assessed a 6-month community-based health program in a remote region in the Southern Philippines. The extensive learning modules that made up the pilot intervention were lectures, conversations, workouts, individualized dietary guidance, and door-to-door supervision visits by medical specialists connected to a higher education institution (HEI) in collaboration with local

government representatives and health specialists. The knowledge, attitudes, and practices of twenty-two (22) adults with hyperglycemia who took part in the study were evaluated both before and after the intervention. 90% of participants were over 50, 95% were married, 86.36% were female, 50.00% had completed secondary school, and 59.09% were unemployed. The findings showed that participants' actions ($p = 0.019$) and knowledge ($p < 0.001$) had significantly improved. The study's findings, however, revealed that most people's opinions remained neutral, suggesting that people found it difficult to adjust to the situation ($p = 0.266$). This study highlights the significance of community-academic cooperation and the involvement of community health workers in long-term health promotion projects.

As discussed by Carballo et al. (2020), regardless of demographics or socioeconomic class, the financial burden of medical costs is significant for people with diabetes mellitus who do not have health insurance. Six out of ten uninsured people with diabetes mellitus who were in our report said they had trouble paying their expenses, and nearly one-third of them were unable to pay anything at all. Those without insurance were twice as likely as those without insurance to be unable to pay for any medical expenditures. Moreover, families with low incomes and no insurance had the most excellent chance of incurring excessive costs. Despite the fact that the proportion of non-elderly adults with diabetes mellitus who had health insurance coverage rose from 84.7% in 2009 to 90.1% in 2016, our results show that policymakers should continue to focus on increasing access to health insurance for individuals with diabetes mellitus, especially those from low-income families..

Based on the study of Trani et al. (2024), it not only fills in a significant knowledge vacuum about diabetes education but also clarifies how important it is for Filipinos with diabetes to get the information and abilities they need to manage their long-term illness effectively. This innovative endeavor sets the stage for future endeavors focused on improving diabetes education and care in the Philippines. The observed modifications in behaviors and knowledge about diseases emphasize the educational intervention's clinical value. All five disease-related knowledge domains showed statistically significant gains in participant understanding, emphasizing the significance of physical exercise. Enhancements in levels of physical activity, dietary practices, and quitting smoking highlight the beneficial effects of the intervention on individual's capacity to control their diabetes and advance improved health outcomes.

Based on Giron et al. (2022), the Philippines' population is aging. In 2020, 8.6% of the population was 60 years of age or older; by 2050, this figure is predicted to almost double to 16.5%. According to a January–December 2021 study by the Philippine Statistics Authority, diabetes ranks as the sixth most common cause of death in the nation. Epidemiological studies on the elderly are scarce in the Philippines. Planning, resource allocation, and the provision of care for the nation's elderly diabetic population all depend on estimates of the prevalence of the disease.

Related Studies

Based on the study of to Patel (2022),.The many services and resources required to manage diabetes and related comorbidities cause significant financial problems, emotional distress, and unfulfilled basic needs for many people. Approximately 25% of Americans with diabetes experience food poverty, high out-of-pocket medical costs, and financial stress. A person with diabetes often spends about twice as much on medical care as someone without the condition**.** Additionally, individuals with diabetes report alarmingly high rates of cost-related non-adherence (CRN), ranging from 20% to 40%. In other words, because of the high expense of their medications, these individuals either disregard the need for essential diabetic management medications or change the frequency or amount of their treatments against the

recommendation of their physicians.. CRN is linked to increased symptoms, declining functioning, and elevated A1c values in people with diabetes. Hospitalization is more likely for patients with diabetes and cardiovascular disease who, over time, take less medication than is recommended due to financial concerns.

Based on the study of Aoto (2019) as cited by Tanimura (2022), the wealthiest people in the Philippines often have the highest prevalence of diabetes, but it is also common among the poorest urban populations. This data implies that a higher concentration of people with Type II diabetes lives in metropolitan areas that are more westernized. One explanation for this failure would be that people purchase inexpensive junk food and beverages from nearby stores; however, now, this theory needs to be supported by data. In emerging nations, there is a significant gap in income levels; the difference in income between. The difference between the richest and poorest people is almost ten times. As a result, there are significant disparities in access to healthcare. Due to logistical and financial barriers, the poorest people need help receiving advanced healthcare treatments and better lives. In these areas, the poorest people struggle to maintain proper glucose control and receive low levels in healthcare.

In the articled by Stanten (2023), in the US, almost one in ten persons (10.9%) have a diabetes diagnosis, and an additional 2.8% are thought to have the disease but are not yet aware of it. This complicated illness can shorten life expectancy and negatively affect the quality of life over decades. The burden of diabetes affects the person with the disease and the larger community. An estimated $404 billion was the yearly economic cost of prediabetes and diabetes in the United States in 2017. Medical expenses accounted for 75% of these costs, with the remaining 25% coming from early deaths, decreased national output, and lower labor force participation. An estimated 1 in 6 persons in the United States will be diagnosed with diabetes mellitus by 2060, which makes the consequences even more concerning. In 2017, the average medical costs for each person diagnosed with diabetes were 2.3 times greater than those without the disease.

Daryabor et al. (2020) showed that hyperglycemia affects the everyday activities of the skeletal muscles, liver, pancreatic beta cells, gastrointestinal tract, and circulatory system to increase systemic insulin resistance. A hyperglycemic environment also causes immune cell malfunction.

A studied of Shawahna's (2024) research, being physically active was associated with being younger, employed, earning a high income, having a positive attitude toward physical activity, not being overweight, and reporting no comorbidities. Similarly, patients with little financial means were also found to engage in less recreational activity. The study's findings aligned with those published in other nations, mainly Arab nations. Physical inactivity was predicted by advanced age and a high BMI. For each unit rises in body mass index, there was an estimated 6% increase in travel inactivity. Comparatively, elderly patients with chronic illnesses, and younger individuals without pre-existing chronic comorbidities should have less difficulty engaging in physical activity. If such individuals were older and had additional chronic infirmities, they probably would find it simpler to travel and engage in recreational activities. In the primary care clinic, healthcare practitioners should consider offering T2DM patients more complete healthcare services.

Skaal et al. (2023) emphasized that health professionals must analyze the levels of self-care activities and the factors influencing adherence to create effective interventions. Several studies have demonstrated that diabetes self-care activities are necessary to effectively manage the disease's progression. However, patients with diabetes find it difficult to complete and incorporate diabetes self-care tasks into their daily lives. As a result, patients must be encouraged and given the tools they need to increase their self-care

activities by changing their attitudes toward treatment. It takes a complete strategy to increase self-care activity adherence. Patients must be evaluated to determine the variables that can affect self-care practices. Several factors influence self-care behaviors including health, the healthcare system, psychology, socioeconomic status, and demographics. Giving patients the resources they need to manage their health actively is essential. At this point, the autonomy principle comes into play, and all medical personnel have an ethical duty to respect it. To make informed decisions, patients must feel empowered and supported. It has been discovered that family support is essential for treating diabetes and maintaining self-care routines. Putri (2020) emphasized that rural facilities in India had more significant challenges in implementing the program because of the program's larger catchment areas, restricted availability of equipment, and limited public transportation options. This suggests that a lack of equipment may have contributed to the facility's inability to adequately monitor patients, similar to other developing countries where patients receive subpar primary care due to limited access to medications and equipment. Regarding location, prior research indicates that diabetes care in rural areas is less adequate than in urban areas because of staffing levels, accessibility issues, and care-seeking behavior.

Based on Ozkok et al. (2023), The prevalence of Type II diabetes mellitus (T2DM) has dramatically increased worldwide, with aging being a key contributing factor. In addition to its conventional micro- and macrovascular effects, diabetes mellitus (DM) in the elderly is significant because of its independent association with frailty, which is defined by a decline in functional reserves and susceptibility to stress. By using frailty evaluation to determine biological age, it is possible to foresee future issues in older persons and develop individualized treatment plans. Frail older persons are specifically viewed as malnourished, anorexic individuals who should be subject to more lenient treatment standards, even though the most recent guidelines have recognized the notion of frailty and offered suggestions tailored to this population.

Based on the study of Tamayo et al. (2024), Primary Health Care (PHC) is the cornerstone of its integrated approach to treating non-communicable diseases (NCDs). However, hospital-centered acute care has been the main focus of clinical management for non-communicable diseases (NCDs) in the Philippines. Patients typically seek treatment at hospitals when their symptoms become unbearable at home or when their complications begin to affect their daily activities. This strategy is costly and has little effect in lowering the burden of diabetes and hypertension. Only doctors are qualified to perform the majority of primary care services. To address the demand for basic health care, over 60,000 primary care doctors are required. There are currently just 3.9 physicians for every 100,000 people. In 2020, four out of ten Filipinos passed away without ever seeing a doctor.

On the other hand, one nurse for every 20,000 people is the optimal nurse-to-population ratio. With an average of two nurses in a rural health unit and 8.6 nurses per 100,000 people in 2017, there were enough nurses to achieve the national criterion. The desired doctor-to-population ratio of one doctor for every 20,000 people is far from being achieved.

In a studied by Tamayo et al. (2023), Stakeholders generally supported giving BHWs Diabetes-self Management and Education (DSME) assignments, according to a study by Tamayo et al. (2023). Some forms used in response to the shortage of health workers in public health; for example, patient education is sometimes delegated to Barangay Health Workers (BHW) after they have received formal training and have received sufficient supervision. The growth of BHWs' responsibilities should be backed by sufficient training, pay, supervision, and both monetary and non-monetary rewards. This provides a solid foundation for implementing a task-shifting policy that assigns Barangay Health Workers. BHWs supplement other

healthcare professionals because of their insufficient education and experience. Building on their significant social capital, BHWs must be acknowledged as health professionals who can improve community health service delivery rather than just being "volunteers." These results offer some initial support for the acceptability of work shifting to BHWs in treating diabetes mellitus. The study emphasizes how crucial it is for the health system to institutionalize task shifting to foster sustainability and acceptance.

Based on. the of study of Maria (2020),Significant reductions in glycated hemoglobin are the main goal of task-shared interventions for diabetes control, which include both pharmaceutical and non-pharmacological lifestyle therapies. (HbA1c) was noted in both pharmaceutical and non-pharmacological treatments when given by higher-level medical professionals. It has been widely established that diabetes self-management education and support are effective in achieving glycaemic control. Additionally, wealthy settings have hosted diabetes self-management education sessions. They make use of medical specialists such as nurses, licensed diabetic educators, and pharmacists. Since the health systems in Low- and Middle-Income Countries (LMIC) have traditionally been organized around vertical disease management programs, doctors have typically played a key part in the treatment delivery process. As a result, in low- and middle-income countries, doctors are overworked and the duties of other healthcare professionals are unclear. Lastly, doctors and policymakers in low- and middle-income countries should think about task-sharing programs that involve non-physician healthcare workers when planning diabetes therapy for patients. Non-pharmacological strategies for medication and lifestyle adherence are also required to attain the best possible control of diabetes. Diabetics may find it easier to control their blood sugar levels if potential solutions are prioritized according to the availability and experience of medical professionals. Using an integrated approach to team-based care, it is imperative to reorganize and assign tasks for non-physician healthcare professionals and ensure they receive sufficient training and supervision to manage chronic non-communicable disease conditions, including diabetes, effectively.

Carandang et al. (2023), concluded that their is a correlation was found between the length of diabetes mellitus and the onset of cognitive impairment. Our findings supported international research findings, which found that the length of diabetes predicted cognitive dysfunction.Poor educational attainment did not predict cognitive impairment, in contrast to a research by Blanquisco et al. Cognitive impairment in people with Type II diabetes has been linked to insulin resistance and blood glucose abnormalities. The smoking and cholesterol profiles of patients with cognitive impairment and those with normal cognition were comparable. Patients with Type II diabetes may experience cognitive impairment due to a variety of causes, including aging, obesity, and high blood pressure. These could be brought on by inflammation, damage to the blood-brain barrier, or dysfunction of the vascular endothelium.

Emphasized by Sandoval et al. (2024), In the Philippines, the national prevalence of diabetes increased from 4.6% in 2003 to 6.0% in 2008. Diabetes mellitus is costly to treat, thus interventions that try to stop it from developing are essential in underresourced communities and would have a big effect on public health. In San Juan, Batangas, Philippines, a multi-phase, extensive diabetes study is now in progress. Phase I focused on learning what people with diabetes did, thought, and knew. Just 1% of respondents believed diabetes to be a severe condition, and the average knowledge score was just 43%, demonstrating a knowledge gap about the disease. Socioeconomic factors in the community influenced the prevalence values and contributed to volunteer bias, illustrating how these realities affect scientific research in rural areas. The results of a Phase III DMSE revealed that participants who received the intervention had lower hemoglobin A1C (HbA1c) values and a higher percentage of people reaching HbA1c <7%. Additionally,

more diabetics in the intervention group routinely checked their feet, indicating a shift in health-related behavior.

Synthesis

Diabetes Mellitus was development and putting thorough but practical community interventions into place can significantly enhance patients' quality of life. This studied has significant shortcomings. This study's period of intervention lasted for a mere six months. We'll take full use of community services' benefits in the future to raise the caliber of community health services and encourage health education.

Regretfully, Type II diabetes can also be determined by socioeconomic situation, with lower income levels being connected to a higher chance of the illness. This issue may be resolved only through the involvement of governmental stakeholders. They give high-risk, low-income people free consultations and instruction, for example, a helpful solution considering the socioeconomic variable. Although there isn't a miracle treatment that can assist those with a family history of diabetes to avoid getting the diagnosis entirely, these high-risk individuals can still benefit from the preventative actions mentioned above.

With the support of health systems, local communities could effectively use community-based programs that could influence health outcomes across a broad spectrum of care settings. Community-based diabetes prevention programs have been extensively studied in the research literature and have been shown to positively affect people with high-risk factors. Nurses, psychologists, and dietitians collaborate with peers to effectively conduct peer education, an essential feature of community-based programs. Since more and more individuals worldwide need greater access to diabetes prevention programs, community-based initiatives for conditions like Type II diabetes provide a foundation for creating more preventative initiatives inside the healthcare system.

Although community-based programs work well on a smaller scale because they focus on specific populations, it's also crucial to consider large-scale diabetes prevention initiatives. These require the development of frameworks that involve health information technologies, hospital-community collaboration, and community support.Prevention initiatives should focus on ensuring patients follow through with lifestyle modifications, implementing innovative compensation schemes that encourage program execution, and rewarding outcomes based on efficiency. Furthermore, there should be strong efforts to identify the population most at risk of developing Type II diabetes mellitus.

Many diabetes patients often lack awareness or have anxiety about consequences arising from uncontrolled blood glucose, even though effective glycemic control is closely tied to proper nutrition and medication compliance. Moreover, many of the study's diabetic participants lacked adequate glycemic control knowledge. They drank at social gatherings, religious rites, and traditional celebrations. The results of this investigation align with the literature, indicating a deficiency in comprehension regarding diabetes and its associated consequences.

Theoretical Framework

Sister Callista Roy contributed three concepts to nursing theory: human being, nursing, and adaptation. The overall category of adaptation encompasses four modes: self-concept, role function, physiological, and interdependence. Maintaining the physical body is the responsibility of the physiological mode. This covers necessities for human survival, such as food, drink, air, and proper temperature control. The function of the self-concept mode is essential for mental upkeep. This paradigm incorporates the individual's perceptions of their physical and personal identities. The role function mode places a strong

emphasis on social integrity. This talks about how people adjust to the various role changes that happen throughout their lives. Social integrity is another topic covered by the interdependence mode. This mode addresses the harmony between interdependence and independence in a person's relationship with others. Nursing supports patient adaptability in all four modes of health and illness, according to Roy's paradigm. A two-level assessment is the first step in taking action. First, nurses determine whether maladaptation is present or not. Second, the nurse's attention is directed to the stimuli, which causes the patient to behave maladaptively. As part of their nursing care plan, the nurse encourages adaptation by making changes to the surroundings, specific components of the patient system, or both. Nurses are not machines. You may be sure that the care you provide to your patients will be the best you can given their circumstances if you implement Roy's Adaptive Model of Nursing into your practice (Roy, 1970, quoted by Gonzalo, 2024).

The fundamental idea of the Self-Care Deficit Nursing Theory, which is based on Dorothea E. Orem's Contribution to Nursing Theory, is that all patients want to take care of themselves and that by practicing as much self-care as they can, they can heal more quickly and thoroughly. Encourage self-care as much as possible. Challenges in patients with diabetes if they follow a healthy lifestyle and schedule for follow-up consultation, control of weight, balanced diet advice, importance of exercise and checking of blood glucose, and, importantly, nonadherence to anti-diabetic medication. The main contexts in which this idea is used are primary care, rehabilitation, and other environments that support patients' autonomy. These include things like air, water, food, exercise, rest, and avoiding hazards. Orem's concept has the advantage of being easily adaptable to various nursing scenarios and patients. Patients and nurses may collaborate to make sure that patients receive the greatest treatment possible while still being able to take care of themselves because its ideas and principles are universal and simple to modify to fit various situations. Nurses can apply Dorothea Orem's philosophy to care for patients and ease the transition from a hospital or full-time care facility to their home because of her dedication and hard work (Orem 1971 quoted by Hartweg, 2022).

The Behaviour System Model of Nursing (Johnson, 1968, quoted by Gonzalo, 2024) served as the foundation. The two main systems that comprise a human being are the biological and behavioral systems. The four main concepts are outlined with the aim of promoting "the efficient and effective behavioral functioning in the patient to prevent illness." Medicine is primarily concerned with the biological system, while nursing concentrates on the behavioral system. The patient's behavior is directly influenced by their environment and internal experiences. The environment of the patient and society are interwoven. In order to maintain stability and control, health is a conscious adaptive response to both internal and external stimuli. The responses cover the social, emotional, mental, and physical domains.. When the nurse can evaluate the patient's subsystems for balance during the evaluation phase, that is the ideal time to apply the behavioral system model. A nurse plays a vital role when they help a patient comprehend the difficulties of controlling diabetes and the necessity of taking preventative measures to avoid subsequent complications like renal failure and blindness. Johnson's hypothesis states that maintaining one's health is a deliberate adaptive reaction to stability and comfort in the face of both internal and external stressors. Promoting balance in each patient is the main goal of nursing. Maintaining equilibrium within the patient's behavioral system during disease is the nursing profession's principal focus, even if it is concerned with the structured and integrated whole.

Maslow's hierarchy of needs was highly applicable and essential in nursing when dealing with a patient's care plan in several ways—for example, 1. Patients with diabetes mellitus recognize their needs as nurses utilize Maslow's hierarchy to identify and rank patients' needs. Nurses can adjust their treatment plans

based on which level of need (physiological, safety, belongingness, esteem, and self-actualization) a patient is currently focusing on. Better patient outcomes, for instance, may result from attending to a patient's physiological needs (such as food, water, and rest) before addressing higher-level needs. 2. Holistic Care Approach: Nursing addresses social, psychological, and emotional requirements and medical conditions. A holistic approach to patients with diabetes mellitus is encouraged by Maslow's hierarchy, which pushes nurses to consider all facets of a patient's well-being. 3. Encouraging Patient Motivation to promote a healthy lifestyle to other patients with diabetes mellitus and engagement in all activities of barangay, especially on a healthy lifestyle and compliance with the treatment regime. Nurses can encourage patients to participate in their treatment by helping them understand where they stand in the hierarchy. For example, patients may be less likely to follow treatment regimens if they have concerns about safety or a sense of belonging. Meeting these needs can promote collaboration and trust. 4. Promoting Emotional and Psychological Health: Nurses are essential in helping patients with their emotional needs. The Maslow model assists nurses in recognizing and addressing emotional and psychological needs that may affect recovery and general well-being, such as the need for self-esteem and a sense of belonging. 5. Self-Care and Professional Development: The self-care and professional development of nurses are also impacted by Maslow's hierarchy. Nurses can sustain their well-being and efficacy by knowing their needs and motivations. 6. Ethical Considerations: By highlighting the significance of honoring and meeting patients' basic needs, Maslow's hierarchy informs ethical considerations in nursing. It helps nurses make choices that uphold their patients' worth, independence, and well-being.

Change theory (Lewins, 1940, cited by Burrow, 2022) has three components: unfreeze, change, and refreeze. The theory is particularly relevant in nursing due to the constant need for adaptation and improvement in patient care services. Unfreeze involves preparing the organization for change by creating awareness of the need for change and addressing resistance. Unfreezing encompasses communicating the rationale for change to staff and highlighting benefits for patient outcomes and nursing practice. Change (Transition), in which actual change is implemented, involves new behaviors identifying challenges like access to healthcare and pharmacological management, challenges and communication, health education and getting awareness of their condition, and practices to achieve the desired improvement. Multidisciplinary teams implement changes such as introducing new Nursing Interventions or revising New Nursing care based on clinical guidelines. These stages require clear communication, training, and support for staff to ensure successful adaptation. Refreeze stage aims to stabilize and reinforce behaviors or practices to make them a permanent part of organizational culture. Nurses reinforce the change by monitoring its effectiveness and collecting feedback from staff and patients to make necessary adjustments to ensure sustainability. They integrate the new practices into a daily routine and provide an ongoing Information Education Campaign (IEC). Lewin's theory introduced changes that improve patient outcomes, enhance patient safety protocols, and implement evidence-based nursing interventions. In Nursing Education, Lewin's theory can be used to facilitate curriculum change and update teaching methodology of integrating new knowledge and skills in nursing programs for clients with diabetes mellitus. This theory enhances patient-centered care by adapting practices to meet patients' changing needs and preferences, significantly improving communications between the healthcare team and the client.

Social Cognitive Theory by Bandura (1960 cited by Hassani 2023). Studied show that patients with higher education levels have better judgment and decision-making skills while engaging in caring behaviors. As a result, disease self-care is more accessible for patients with higher education levels. In contrast, it is

more challenging for those with lower education levels in terms of financial challenges to augment medication maintenance and challenges of transportation for consultation and availability of maintenance medication. Furthermore, patients receiving insulin had mean scores much higher than those receiving oral medication; this suggests that individuals using insulin or pills were less likely to need insulin or drugs to treat the condition. They had to take pills or inject insulin since they knew their blood sugar levels and didn't want to risk developing long-term diabetic problems.

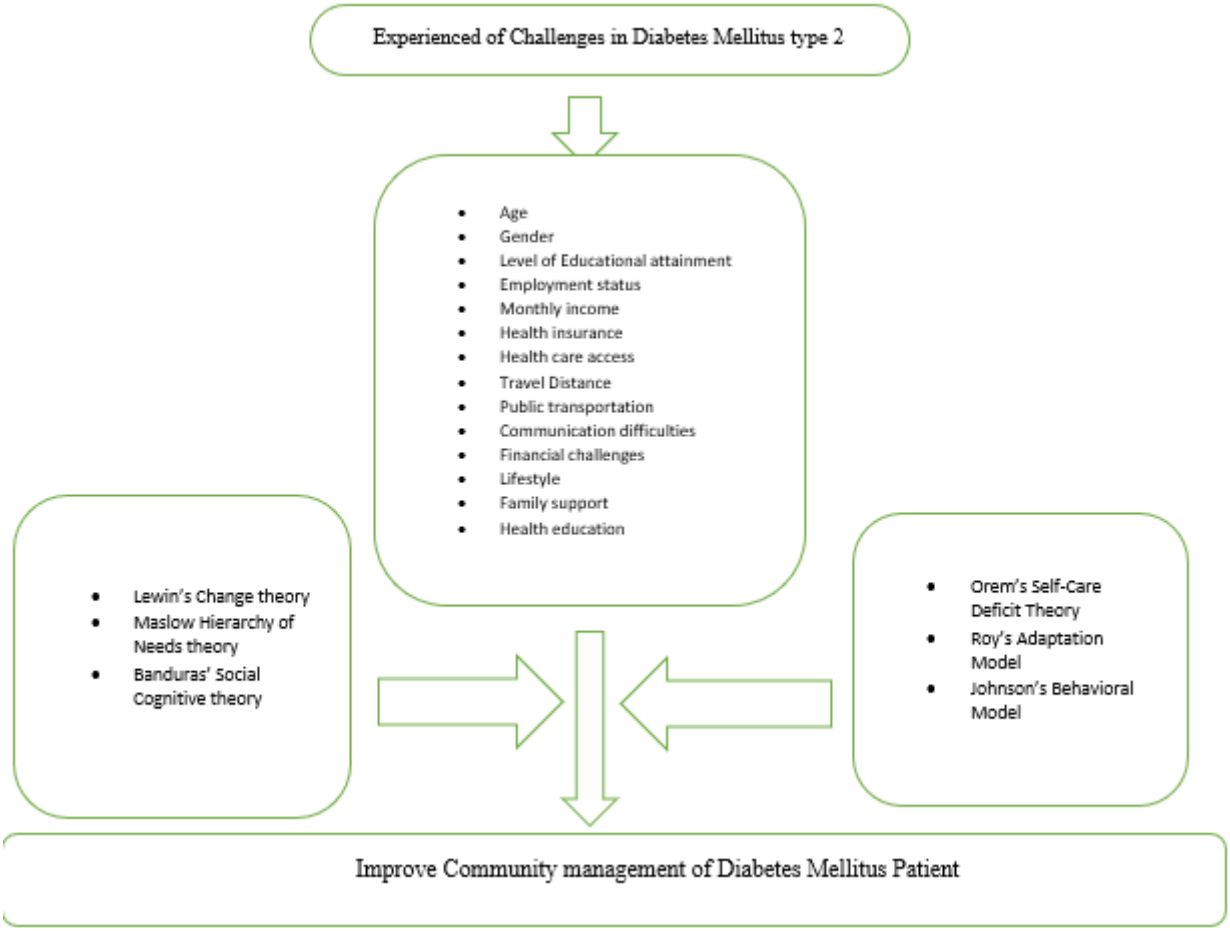

Figure 2.1.. The Theoretical Framework

Conceptual Framework

Considered the difficulties in caring for a patient with diabetes mellitus, combining nursing theories such Orem's Self-Care Deficit Nursing Theory, Johnson's Behavioral Model, and Roy's Adaptation Model can offer a thorough and organized method of the patient. For example, the Roy Adaptation Model is very helpful for managing chronic illnesses and providing preventive treatment. The Roy Adaptation Model can be used by nurses who deal with patients managing chronic diseases like diabetes. This theoretical framework helps understand how people with Type II diabetes can adjust to the relational, social, emotional, and physical difficulties the disease presents, as explained by Roy's Adaptation Model. Physiological, Interdependence, role function, and self-concept are the four adaptive modes that nurses may help patients focus on in order to better manage their diabetes. With its emphasis on both personal growth and outside assistance, this model offers a well-rounded approach to managing chronic illnesses.

Nurses support patients with Type II diabetes in maintaining their health, enhancing their quality of life, and avoiding complications by providing information, emotional support, and practical treatments. By this theory, nurses may help patients control their symptoms, retain their responsibilities in society, and keep connected with their support networks. Lewin's Theory of Change implies three categories in managing diabetes patients. The first step is Unfreezing, which involves identifying the need for change, such as recognizing the importance of managing diabetes effectively. The second step is Changing, where new behaviors and habits are implemented, such as dietary changes, regular exercise, and monitoring blood glucose levels. Lastly, Refreezing is the process of establishing these new behaviors as regular practices to ensure long-term adherence and stability for patients with diabetes mellitus. Orem's Theory of Self Care is particularly vital and significant in managing diabetes mellitus because it emphasizes the role of patients in managing their health and the importance of education and support from healthcare providers, family and loved ones, and people surrounded by patients. In Maslow's Hierarchy of Needs in diabetes care, healthcare providers can offer a holistic and patient-centered approach that addresses the full spectrum of needs, leading to better health outcomes and improved quality of life for individuals with diabetes.In addition, it provided a structural approach for the healthcare team to effectively manage change and improve patient care practices for future research.

Research Paradigm

A structured approach to research study design, the Input-Process-Output (IPO) model is a conceptual framework that is used to analyze and understand the relationships between various variables and factors inside a system or problem. It is a graphical representation of the flow of information, activities, and consequences in a workflow or process

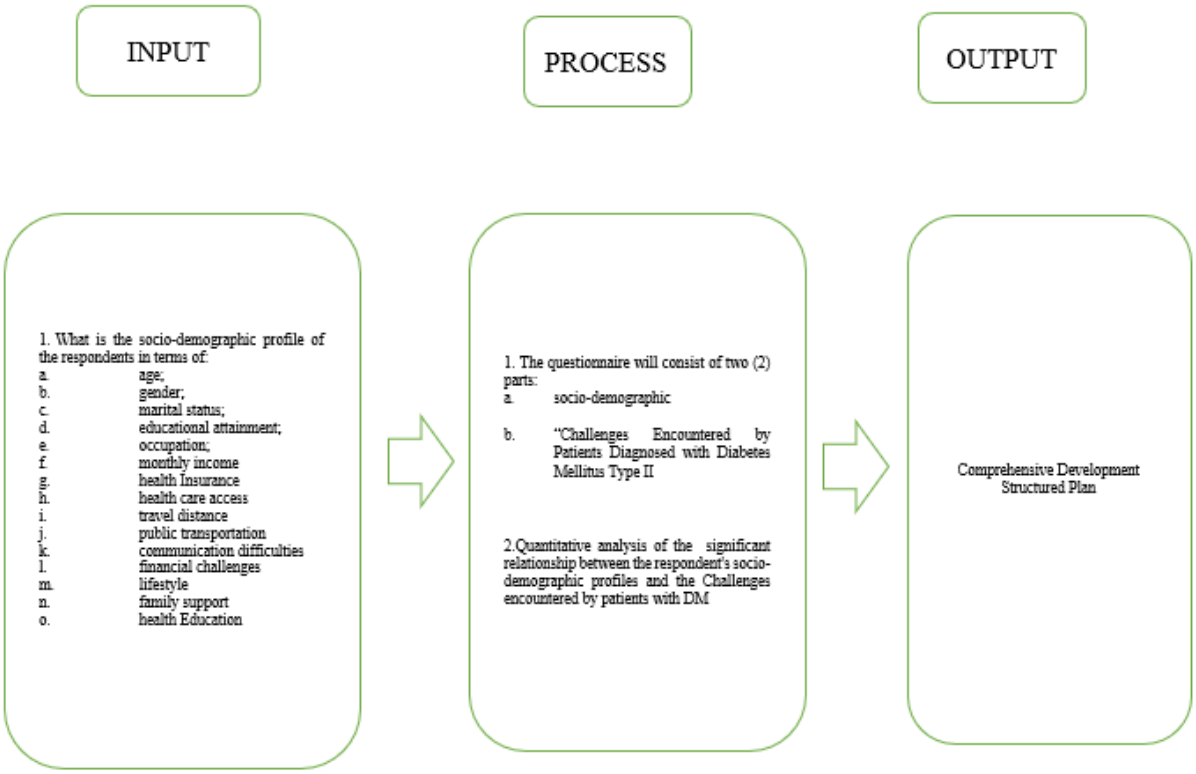

Figure 2.2. The Research Paradigm

The graphic above shows the relationships between the variables that were investigated using the Input-Process-Output (IPO) model. The sociodemographic characteristics of patients with diabetes mellitus in ten randomly chosen rural barangays in Puerto Princesa City serve as the input variables. The procedure would include the difficulties in overseeing the treatment of patients with diabetes. The results of the study served as the foundation for a strategic compliance initiative.

CHAPTER 3
METHODOLOGY

This chapter presented the research design, locale, participants, instrumentation, data collection, analysis procedure, and ethical considerations that the study utilized.

Research Design

The studied "Challenges Encountered by Patients Diagnosed with Diabetes Mellitus Type II among Selected Rural Barangay in Puerto Princesa: Basis for Development Structured Plan" utilized a correlational research design. The purpose of this study was to watch, explain, and record elements of a situation as it naturally arises. Establishing cause-and-effect linkages or changing variables is not part of this kind of research. Rather, it seeks to present an accurate image of traits, actions, circumstances, and occurrences. This method was essential for providing an accurate and detailed understanding of various phenomena. It is a valuable tool in the early stages of research, offering insights that can inform future experimental studies and practical decision-making.

Research Participants

The researcher would employ a purposive sampling method to select participants for the study. A total of 100 participants will be chosen based on specific inclusion criteria from 10 rural barangays in Puerto Princesa City, namely Bahile, Salvacion, Sta. Cruz, Maryugon, Manalo, Macarascas, Bacungan, Lucbuan,Tagabinet, and Buenavista.

To ensured the relevance and reliability of the findings, participants must meet the following inclusion criteria. They must be clinically diagnosed with Type II Diabetes Mellitus by a licensed medical professional and must have been residents of the selected rural barangays in Puerto Princesa for at least six months. Additionally, they must be 21 years old and above and provide informed consent to participate in the study. Respondents should also be mentally and physically capable of answering survey questions and participating in interviews. Furthermore, they may be undergoing medical management, whether pharmacologic or non-pharmacologic, or have a history of seeking treatment for Type II Diabetes Mellitus. Lastly, they must have experience in accessing healthcare services related to diabetes management within the study area.
A total of 100 participants was included in the survey interviews.

Research Instruments

To meet the study's goals, Challenges to Care of Patients with Diabetes in Rural, Underserved Areas were used. The structured questionnaire divided into two (2) sections: socio-demographic questions and Challenges in Diabetes Management.
Part 1 of the questionnaire included socio-demographic questions such as age, sex, highest educational

attainment, civil status, employment status, gross monthly income, and medication/maintenance.
Part 2 of the questionnaire is a 35-item self-assessment tool, scored on a 5-point Likert scale (1—Strongly Disagree, 2—Disagree, 3—Neutral, 4—Agree, 5 – Strongly Agree). Six (6) Challenges in managing patients with Diabetes Mellitus (1) Challenges in Health Insurance (questions 1–3); (2) Challenges in Health Access (questions 4–8); (3) Challenges in Travel Distance (questions 9–12); (4) Challenges in Public Transport (questions 12–15); (5) Challenges in Communication Difficulties (question 16-20); (6) Financial Challenges (questions 21-25); (7) Challenges in Lifestyle (question 26-30); (8) Challenges in Family Support (question 31-35); and (9) Challenges in Health Education (question 36-39).
In addition, a self-reported questionnaire and an introductory letter outlining the research's subject, intent, goals, and the data-collecting tool were also included with a certification from 2 physician who validated a pilot testing that conducted in City Health Bayan Center with 10 corresponding patients who answered the questioner during OPD consultation,

Data Collection Procedure

Before any data collection operations could start, this research needed the Ethics Committee's certification, validation and evaluation, and panelists' approval of the thesis proposal. Prior to beginning the study, the researcher will obtain a letter of authorization from the dean. Following authorization, the researcher will ask the barangay captains of the chosen rural barangays in Puerto Princesa City, Palawan, for their acceptance and assent. Upon receiving the necessary approvals, the researcher coordinated with volunteer barangay health workers (BHWs) only to assist in identifying eligible participants. However, it is emphasized that barangay health workers and nurses will not be involved in administering the questionnaires, conducting interviews, or obtaining informed consent. Their role is limited to community coordination without compromising participant privacy.
The primary data collection method was self-administered paper-based questionnaires, designed to gather sensitive and personal information about the challenges faced by individuals diagnosed with diabetes mellitus. The use of self-administered questionnaires is appropriate for collecting data on private and delicate topics such as health behaviors, lifestyle, and emotional difficulties. For participants who require assistance in understanding or completing the questionnaire, structured researcher-assisted interviews will be conducted, ensuring that those with literacy or physical challenges are still able to participate.
Each interview or survey was expected to last approximately 10 to 15 minutes, depending on the complexity of the questions and the participant's pace. Questionnaires or interview guides used to ensure consistency in data collection. If the participant provides explicit consent, audio recording devices may be used to accurately capture responses during researcher-assisted interviews. Otherwise, the researcher will manually record answers to maintain data accuracy and confidentiality.
All data collection was conducted face-to-face and took place in private, neutral venues within the barangays (e.g., barangay halls, community centers). No data collection will be conducted in clinics or during check-ups, to protect participants' privacy and ensure a neutral and comfortable environment. Importantly, nurses will not supervise, assist, or be present during the data collection process, and they will not be involved in scheduling or facilitating interviews. Their role is limited to providing general non-identifiable insights on the overall situation of diabetes patients in the community if necessary for background information, but not as participants or informants of private data.
Moreover, no photos or any form of identifying evidence will be collected from participants, in compliance with ethical standards of anonymity and confidentiality.

For participants to be eligible for the research-assisted survey, specifically targeting 100 patients diagnosed with diabetes mellitus type II (10 from each selected barangay they must meet the following requirements 1.) possess a verified diagnosis of hypertension as recorded in their medical history or outpatient department (OPD) records; 2.) be at least 21 years old to guarantee legal consent and cognitive capacity to finish the survey; and 3. have used antidiabetic drugs for a minimum of three months before the survey to provide a realistic evaluation of the difficulties faced by individuals with diabetes mellitus.4.) Must regularly visit the OPD for diabetes-related consultations within the last two months and be a patient of the chosen northern barangay in Puerto Princesa; 5.) After being briefed on the study's purpose and methodology, participants must voluntarily consent to participate and sign the informed consent form. Because this was a purposive sampling study, there will be no computation of the total population, confidence level, or margin of error, and the results will not be used for generalization but rather for a deeper understanding of the unique challenges faced by diabetic patients in rural barangays. Participants must be able to read and understand the survey language (such as English or Filipino) to ensure accurate comprehension of the questions.

Data Analysis Procedure

Applying statistical and analytical methods to the data allowed for the extraction of insightful information and conclusions. To ascertain the association between the variables that make managing patients with diabetes mellitus more difficult, statistical analysis would be performed on the quantitative data gathered from the questionnaire..

The study would use statistical methods: (1) Descriptive analysis: This will calculate frequency, central tendency, and percentage. (2) Frequency table and percentage: The data will be organized from the lowest to the highest value. A weighted mean will be used to evaluate and compile the overall average of the combined groups. Responses will be measured using a 5-point Likert scale. Additionally, (3) the Chi-square test will be used to ascertain whether any differences between the expected and observed data are the result of chance or point to a relationship between the two.

Ethical Considerations

Because they protect the rights and welfare of study participants, ethical considerations are crucial to the conduct of research. In this method of study, the researcher will place a high value on honesty and transparency, ensuring that information is provided openly. Participants must fully understand their involvement and any potential risks before giving consent. The investigator will implement strategies to protect subjects from potential physical and psychological harm. In addition, the researcher will adhere to the ethical standards specific to their discipline or field.

This study entitled "Diabetes Mellitus Challenges among Selected Rural Barangays in Puerto Princesa City: Basis for Comprehensive Community-Based Promotion Program" CHO's Nursing Service includes a substantial research component. Prior to approval, it will be examined by Palawan State University's Board of Ethics Committee. Following ethics committee approval, it will be sent to the dean of the graduate school to obtain permission for the researcher to conduct the study. Additionally, it will require consent from the Medical Officer of the City Health via each ethics committee as well as from many esteemed barangay commanders. The confidentiality of any data gathered for the study will be preserved, and ethical standards will be followed. This entails protecting participants' privacy and refraining from sharing any identifying details without permission. All things considered, the researcher must give

participants' rights, welfare, and anonymity top priority when conducting this study due to ethical concerns. The researcher acknowledges that having diabetes or firsthand experience with the illness, as well as personal or professional relationships with some participants, may introduce bias in the study. To manage these potential conflicts of interest and maintain objectivity, a co-investigator or faculty adviser with no connection to the participants will oversee the research process.

Standardized data collection tools were used, and where possible, an independent data collector gathered information to reduce bias. All data will be anonymized and de-identified, with secure codes used to maintain confidentiality. The researcher will also keep a reflexive journal to document potential biases and ensure critical self-assessment.

The Palawan State University Research Ethics Committee (PSU RERC) will monitor COI management and provide guidance if needed. Furthermore, any potential conflict of interest and measures to address it will be disclosed in the final report and publications to uphold the integrity and credibility of the research.

All participants' confidential and private data were handled with the highest level of care and protection throughout the study. .After being fully informed about the study's objectives, the types of data that will be gathered, how their information will be used, stored, shared, and safeguarded, as well as any possible dangers involved in taking part, each participant will give their informed consent. Only relevant and necessary data will be collected to achieve the study objectives.

To protect participants' identities, anonymization techniques will be employed. This includes de-identifying data by removing or masking personal identifiers such as names, addresses, and other sensitive information. In cases where identifiable data must be maintained (e.g., for follow-up purposes), these will be stored separately from research data and linked only through a unique code, which will be securely stored and accessible only to a limited number of authorized personnel.

Electronic data were stored in password-protected and encrypted files within a secured computer system.. If there are any hard copies, they will be kept in a locked cabinet in the researcher's secure office. Only authorized personnel such as the Principal Investigator, Co-Investigator, and designated Data Encoder will have access to these data. All authorized personnel will be trained in handling sensitive and confidential information. Additionally, this data will be accessible to the Palawan State University Research Ethics Committee (PSU RERC) for compliance and monitoring purposes, if needed. Data would be archived securely for five (5) years after the completion of the study. After this period, all electronic data will be permanently deleted, and physical copies will be shredded and properly disposed of to ensure total confidentiality.

These measures aimed to ensure that participants' rights to privacy and confidentiality are fully protected in line with ethical standards.

The primary researcher will be the one to thoroughly explain the terms of the informed consent to the participants age bracket of 21 and 60 up in order to get their consent. To maintain confidentiality, informed consent will be sought in a calm, private setting within the outpatient department (OPD) of the Designated Barangay Health Center and Northern Satellite Clinics . During the participant's scheduled for OPD visit, the conversation will take place prior to the survey being given, giving them enough time to ask questions and think about their options. The researcher will explain the study's objectives, procedures, potential risks, and benefits in a clear and intelligible manner.. Before signing the consent form, participants will be urged to clarify any doubts and ask questions. Prior to gaining written consent, a verbal confirmation of comprehension will be required. The researcher will actively discuss consent with the participant to enable informed decision-making; consent will not be self-administered.

Should a participant request the presence of a family member during the interview, this will be allowed to provide emotional support. However, the process of discussing and signing the informed consent form will be conducted privately between the researcher and the participant, without the presence of any family member or healthcare provider.

In order to ensure an ethical and successful study, the researcher, participants, healthcare providers, and participants' families are usually involved in the selection process. However, healthcare providers should not be directly involved in inviting participants to take part in a study on the difficulties faced by people with diabetes mellitus.

To ensure the safety and well-being of participants, the study was implemented with medical oversight involving healthcare professionals who will monitor the health status of participants throughout the research process and address any health concerns that may arise. Every participant will be asked for their informed consent, clearly disclosing potential risks, including the possibility of psychological distress such as emotional discomfort from sharing personal experiences, stress related to discussing diabetes management, and anxiety over health-related issues. Emergency response plans will be established to address any adverse reactions or complications that may occur during the study.

In addition, regular health check-ups will be conducted to monitor participants for any negative health impacts resulting from their involvement in the research. Blood sugar monitoring will also be included as part of the study to assess participants' current health condition and to correlate this data with their personal experiences. This procedure is necessary to obtain accurate and relevant insights into the difficulties faced by individuals living with diabetes mellitus. Prior to participation, pre-study screening will be conducted to ensure that only individuals who are physically and emotionally fit to participate will be included, thereby minimizing potential risks.

Should any participant experience emotional or psychological distress, appropriate psychological support will be made available through counseling services, mental health resources, or referrals to qualified professionals. The study will be completely voluntary, and participants will be made aware of their freedom to leave at any moment without incurring any fees or losing any advantages.. Furthermore, strict confidentiality will be maintained to protect the privacy and personal health information of all participants.

The immediate advantages of participating in research on the difficulties experienced by individuals with diabetes mellitus are varied and significant, including medical attention, education, emotional support, and the opportunity to contribute to scientific knowledge. Participants will receive medical attention through regular health assessments and monitoring conducted by healthcare professionals, which may assist in identifying and addressing potential health concerns. They will also benefit from educational interventions, such as information on diabetes management, proper nutrition, and self-care practices, which are intended to enhance their understanding of the disease and empower them to effectively manage their condition.

In addition, emotional support were provided through access to counseling services, mental health resources, and referrals to appropriate professionals for participants who may experience psychological distress while discussing their experiences. Moreover, consistent with the commitment stated on page 49 of the study, participants will be given access to resources and skills that they might not otherwise have, including self-management tools, educational materials, and connections to healthcare and community support services. These benefits aim to improve the quality of life of participants, strengthen their capacity to manage diabetes, and ensure that their involvement in the study leads to meaningful and practical outcomes that extend beyond the research itself.

Chapter 4
PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

The statistical data gathered to answer the study's research questions is thoroughly examined in this chapter. It provides a clear understanding of the results by presenting, analyzing, and interpreting the data. The statistical test results are also examined and discussed, providing information about their significance and applicability to the main goals of the study.

Respondents' Demographic Profile

The demographic profile of the diabetes mellitus patients who took part in this study and lived in Puerto Princesa City's rural barangays is summarized in the following tables. Important characteristics including age, sex, civil status, greatest degree of education, employment status, and monthly income are included in this data. This study used descriptive statistics, such as frequency distributions, percentages, and rankings, to effectively display the statistical data that was collected

Table 1.a
Respondents' Demographic Profiles in terms of Age

Respondents' Age	Frequency (f)	Percentage (%)	Rank
21 – 25 years old	1	1.00	9th
26 – 30 years old	4	4.00	7.5th
31 – 35 years old	4	4.00	7.5th
36 – 40 years old	6	6.00	6th
41 – 45 years old	10	10.00	4th
46 – 50 years old	11	11.00	3rd
51 – 55 years old	16	16.00	2nd
56 – 60 years old	9	9.00	5th
61 years old and above	39	39.00	1st
TOTAL	**100**	**100.00**	

The demographic profile of patient respondents diagnosed with diabetes mellitus, as presented in Table 1.a, reveals significant insights into the age distribution of individuals affected by this condition. The data indicates that the largest proportion of respondents, accounting for 39%, falls within the age group of 61 years and older, ranking first among the age categories. This finding suggests that diabetes mellitus predominantly affects older adults in this population, which highlights that age is a significant risk factor for developing diabetes.

Following this group, the next highest percentages are observed in the 51 to 55 years age bracket (16%) and the 46 to 50 years group (11%). Together, these three age categories encompass a substantial majority of the respondents, underscoring the trend that diabetes is more prevalent as individuals age. In contrast, younger age groups, such as those between 21 and 30 years old, show significantly lower frequencies, with only 5% of respondents in this category.

The results of this study coincide with Zhang et al. (2024) who reported that the prevalence of diabetes increases significantly with age. This also corroborates with Perng (2023) who underscored a strong correlation between age and diabetes prevalence. Their findings reinforced the idea that older age is a significant factor in diabetes prevalence and associated health risks

Table 1.b
Respondents' Demographic Profiles in terms of Sex

Respondents' Sex	Frequency (f)	Percentage (%)	Rank
Male	33	33.00	2nd
Female	67	67.00	1st
TOTAL	**100**	**100.00**	

Table 1.b examines the distribution of the demographic profiles of the respondents with regard to their sex. The results of the analysis indicates that 67% of the respondents are female, while 33% are male. This finding suggests a higher prevalence of diabetes among women in this population, which is consistent with various studies that have documented gender differences in diabetes prevalence and management. The finding indicates that women may be more susceptible to developing diabetes due to a combination of biological, social, and behavioral factors. This conforms with the study of Jimeno et al. (2021) who posited that women are more likely to be diagnosed with diabetes compared to men, highlighting the need for gender-sensitive approaches in diabetes prevention and management. This finding is also aligned with Gisinger et al. (2023) whose finding echoed that while diabetes prevalence increases with age for both sexes, women often develop diabetes at a younger age compared to men, which can lead to a higher burden of disease over their lifetime.

Table 1.c
Respondents' Demographic Profiles in terms of Civil Status

Respondents' Civil Status	Frequency (f)	Percentage (%)	Rank
Single	5	5.00	3rd
Married	84	84.00	1st
Separated	1	1.00	4th
Widowed	10	10.00	2nd
TOTAL	**100**	**100.00**	

As depicted by Table 1.c, the demographic profile of patient respondents diagnosed with diabetes mellitus reveals significant insights regarding their civil status. The data shows that a substantial majority of respondents, 84%, are married, making this the most common civil status among the participants. This is followed by widowed individuals at 10%, single respondents at 5%, and separated individuals at only 1%. This finding aligns with the research conducted by Tzeng and Kuo (2020), which indicated that married individuals tend to report higher rates of diabetes compared to their single counterparts. This suggests that the dynamics of shared lifestyles and health behaviors within marriages may play a crucial role in

influencing health outcomes. This emphasizes that married couples may engage in similar dietary patterns and physical activity levels, which can either mitigate or exacerbate the risk of diabetes.

Furthermore, the results also corroborate with Barlow and Wright (2022), who stressed that married individuals exhibit distinctive health management behaviors that significantly impact their diabetes prevalence. This pinpoints that the presence of a supportive partner can facilitate positive health behaviors, while, conversely, shared unhealthy habits can lead to increased risks.

Table 1.d
Respondents' Demographic Profiles in terms of Educational Attainment

Respondents' Education Level	Frequency (f)	Percentage (%)	Rank
Elementary Graduate	25	25.00	2nd
High School Graduate	69	69.00	1st
Certificate / Diploma Course	4	4.00	3rd
College Graduate	2	2.00	4th
TOTAL	**100**	**100.00**	

Table 1.d illustrates the distribution of the demographic profile of patient respondents diagnosed with diabetes mellitus when they group according to their educational attainment. Among the 100 respondents, the majority, 69%, are high school graduates, making this the most common educational level among the participants. This is followed by elementary graduates at 25%, certificate or diploma course holders at 4%, and college graduates at a mere 2%.

The predominance of high school graduates suggests that a significant portion of the population diagnosed with diabetes may have limited access to higher education, which is often associated with better health literacy and health outcomes. This indicates that individuals with higher educational attainment tend to have better knowledge of diabetes management, including dietary practices and adherence to medication regimens. This is congruent to Trani et al. (2024) who argued that lower educational levels were correlated with poorer health outcomes among diabetes patients. Furthermore, this also conforms with the results of the study of Ng et al. (2020), who demonstrated that higher educational attainment is linked to lower rates of diabetes complications and better overall health management.

Table 1.e
Respondents' Demographic Profiles in terms of Employment Status

Respondents' Employment Status	Frequency (f)	Percentage (%)	Rank
Permanent	4	4.00	5th
Temporary	30	30.00	2nd
Contract of Service	6	6.00	4th
Job Order	12	12.00	3rd
Unemployed	48	48.00	1st
TOTAL	**100**	**100.00**	

Table 1.e reveals the demographic profile of patient respondents diagnosed with diabetes mellitus as pertain to their employment status. Based on the analysis, it indicates that a significant majority, 48%, are unemployed, making this the most prevalent employment status in the group of respondents diagnosed with diabetes. This is followed by temporary employment at 30%, job order positions at 12%, contract of service at 6%, and permanent employment at only 4%.

The high unemployment rate among respondents raises important implications for diabetes management and overall health outcomes. Unemployment can lead to financial instability, which may hinder access to necessary healthcare services, medications, and healthy food options. This coincides with Trani et al. (2024) who underscored that individuals with diabetes who are unemployed often experience higher levels of stress and poorer health outcomes due to the lack of resources and support systems. This is also consistent with Tan (2020) who highlighted that unemployed individual with diabetes faced significant barriers to accessing healthcare, which negatively impacted their disease management and increased the risk of complications.

Table 1.f
Respondents' Demographic Profiles in terms of Monthly Income

Respondents' Monthly Income	Frequency (f)	Percentage (%)	Rank
Less than P10,000.00	83	83.00	1st
P10,001.00 – P20,000.00	15	15.00	2nd
P20,001.00 – P30,000.00	2	2.00	3rd
TOTAL	**100**	**100.00**	

Table 1.f presents the demographic profile of patient respondents diagnosed with diabetes mellitus in terms of their monthly income. The data reveals that a significant majority, 83%, earn less than P10,000.00, making this the most common income bracket among the respondents. This high percentage indicates that many individuals are likely living below the poverty line, which can severely limit their access to healthcare services, nutritious food, and necessary diabetes management supplies. Following this, 15% of respondents earn between P10,001.00 and P20,000.00. While this group has slightly more financial flexibility, it still faces significant challenges in accessing quality healthcare and maintaining a healthy lifestyle. Meanwhile, only 2% of respondents fall within the income range of P20,001.00 to P30,000.00.

The results of the analysis indicates that lower income levels are often correlated with poorer health outcomes in individuals with diabetes. This supports the study of Campos and Palacios (2021) who posited that patients with limited financial resources encountered significant barriers in accessing healthcare, resulting in inadequate management of their diabetes and higher rates of complications. Similarly, this coincides with Hansen et al. (2019) who have shown that individuals with lower socioeconomic status are more likely to experience diabetes-related complications due to reduced access to healthcare and healthy lifestyle options.

Challenges Encountered by Patients Diagnosed with Diabetes Mellitus

The following tables illustrate the challenges faced by patients diagnosed with diabetes mellitus in the rural barangays of Puerto Princesa City, focusing on several key parameters: (a) health insurance, (b) healthcare access, (c) travel distances, (d) public transportation, (e) communication difficulties, (f)

financial challenges, (g) lifestyle, (h) family support, and (i) health education. Additionally, to evaluate these challenges across the various parameters, descriptive measures, including mean ratings, were utilized.

Table 2.a
Challenges Encountered by Diabetes Patients
In terms of Health Insurance

Statement	Mean	Descriptor
1. *I find it difficult to obtain health insurance coverage for diabetes care.*	3.92	Agree
2. *I skip diabetes treatments or medications due to a lack of insurance coverage.*	3.79	Agree
3. *I think it's too challenging to understand the benefits and limitations of your health insurance plan concerning diabetes management.*	3.91	Agree
Overall Mean Rating	**3.87**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*
Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.a outlines the challenges encountered by diabetes patients in relation to health insurance as described by their mean scores. It can be gleaned in the analysis that the statement with the highest mean score, 3.92, is "I find it difficult to obtain health insurance coverage for diabetes care," which reflects a substantial barrier faced by patients. This implies that many individuals with diabetes struggle to secure adequate insurance coverage, which is essential for effective disease management. This supports the findings of Housni et al. (2024) who echoed that individuals with diabetes often struggle to obtain adequate health insurance coverage, which is crucial for managing their condition effectively.

Following closely, the statement "I think it's too challenging to understand the benefits and limitations of your health insurance plan concerning diabetes management" has a mean score of 3.91. This indicates that patients not only face barriers in obtaining coverage but also encounter challenges in navigating their insurance plans. This highlights the need for better education and resources to help patients understand their health insurance options, as a lack of knowledge can prevent them from utilizing available benefits effectively. This finding corroborates with Holtz et al. (2021) suggesting that many diabetes patients find it challenging to comprehend the benefits and limitations of their health insurance plans. This lack of understanding can prevent them from utilizing available resources effectively, which is critical for managing diabetes.

Conversely, the statement, "I skip diabetes treatments or medications due to a lack of insurance coverage," has a mean score of 3.79. This finding reveals the direct impact of insurance challenges on treatment adherence. This also indicates that patients may sacrifice necessary medications or treatments due to financial constraints linked to inadequate coverage.

Interestingly, the overall mean rating for the challenges encountered by diabetes patients concerning health insurance is 3.87, categorizing it as a major challenge. This rating reflects a significant degree of difficulty experienced by patients in accessing and understanding their health insurance coverage related to diabetes care. Likewise, this high mean suggests that many individuals feel overwhelmed by the complexities of obtaining adequate health insurance and navigating their benefits. Moreover, the major challenge highlighted by the mean rating points to systemic issues within the healthcare and insurance systems that need to be addressed. This suggests that healthcare providers and insurance companies may need to implement more straightforward policies and clearer communication to help patients understand their insurance options.

Nurses should advocate for patients facing denial of insurance coverage for essential diabetes supplies, medications, or treatments, and refer patients to social workers or patient assistance programs when insurance coverage is inadequate.

Table 2.b
Challenges Encountered by Diabetes Patients
In terms of Healthcare Access

Statement	Mean	Descriptor
1. I have difficulty accessing healthcare providers knowledgeable about diabetes management in your area.	3.83	Agree
2. I receive regular check-ups and diabetes screenings as recommended.	3.75	Agree
3. I feel there is a lack of educational resources about diabetes management in your community.	3.72	Agree
4. I struggle to find reliable information about diabetes management and treatment options.	3.83	Agree
5. I have limited or no access to diabetes education programs or support groups in your area.	3.81	Agree
Overall Mean Rating	**3.78**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*
Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.b outlines the challenges diabetes patients face regarding healthcare access. It is worth noting that the analysis revealed that the statement with the highest mean score, 3.83, is "I have difficulty accessing healthcare providers knowledgeable about diabetes management in your area" This finding highlights a critical issue that many patients find it challenging to locate qualified healthcare professionals who can offer appropriate care for their condition. This implies that limited access to knowledgeable providers can result in poor diabetes management and an increased risk of complications. This supports the study of Paltzat et al. (2023), who found that many diabetes patients struggle to find healthcare providers who are knowledgeable about diabetes management. They further argued that this lack of access can lead to

inadequate care and poor health outcomes, emphasizing the need for better training and resources for healthcare professionals.

Auxiliary to this, the statement "I have limited or no access to diabetes education programs or support groups in your area" follows closely with a mean score of 3.81. This suggests that patients often lack essential educational and support resources vital for effective diabetes management. This absence of educational programs can impede patients' understanding of their condition and necessary lifestyle changes which may complicate their health conditions further.

Likewise, the statement "I struggle to find reliable information about diabetes management and treatment options?" garnered a mean score of 3.83. This statistic reveals that the difficulty in accessing trustworthy information can lead to misinformation and poor decision-making regarding treatment options, exacerbating the challenges patients face in managing their diabetes effectively. Meanwhile, the statement "I receive regular check-ups and diabetes screenings as recommended" was agreed by the respondents having a mean score of 3.75. This stresses that many patients are not receiving the preventive care they need. This highlights the notion that regular check-ups are crucial for monitoring diabetes and preventing complications, and difficulties in accessing these services can lead to deteriorating health outcomes.

In addition, the statement "I feel that there is a lack of educational resources about diabetes management in your community" has a mean score of 3.72. This reflects a broader issue of inadequate community resources, which can leave patients feeling unsupported in their management efforts. This implies that there is a need for community programs aimed at providing targeted education and resources for diabetes patients. The result of this study coincides with Chaves et al. (2021) who demonstrated that the gaps in the available information can hinder effective disease management since patients may not have access to the necessary tools and knowledge to manage their condition effectively

The overall mean rating of 3.78 for the challenges faced by diabetes patients regarding healthcare access categorizes it as a major challenge. This score highlights the significant obstacles patients encounter in obtaining essential healthcare resources and support for effective diabetes management. Further, the results suggest that many patients face considerable barriers that limit their ability to receive care from knowledgeable providers and access vital educational resources. This pinpoints that insufficient access to qualified healthcare professionals can result in poorly managed diabetes and a higher risk of complications.

Nursing implications should ensure smooth referrals and follow-ups, especially for rural or underserved patients with limited access to endocrinologists or diabetes educators.and empower patients to manage their diabetes effectively despite limited access to healthcare professionals by teaching home glucose monitoring, medication adherence, and dietary management.

Table 2.c
Challenges Encountered by Diabetes Patients
In terms of Travel Distances

Statement	Mean	Descriptor
1. I find it difficult to travel long distances for regular check-ups and diabetes treatment.	4.00	Agree
2. I need to travel far to receive specialized diabetes care.	3.94	Agree

3. I struggle to attend diabetes education sessions or support groups due to the travel distance required.	3.81	Agree
4. I believe the distance to healthcare facilities affects your overall diabetes management.	4.14	Agree
Overall Mean Rating	**3.94**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*
Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.c analyzes the challenges diabetes patients face related to travel distances. The results of the analysis revealed that the statement with the highest mean score of 4.14, "I believe the distance to healthcare facilities affects your overall diabetes management," underscores a critical concern. This finding suggests that long travel distances can significantly hinder effective diabetes management, as patients may delay or decline necessary medical visits. This implies that geographic barriers can lead to poorer health outcomes and complicate the management of diabetes. This supports the study of Smith and Jones (2020) found that long travel distances significantly hinder patients' ability to access diabetes care and management services. They further posited that patients living farther from healthcare facilities were less likely to attend regular check-ups and receive timely treatment, leading to poorer health outcomes.
Additionally, the statement "I find it difficult to travel long distances for regular check-ups and diabetes treatment" received a mean score of 4.00. This indicates that many patients struggle with the logistics of traveling which can create additional stress and lead to missed appointments. This is parallel with Brown (2019) who emphasized that geographic barriers including travel distances can negatively impact diabetes management.
Likewise, the statement "I need to travel far to receive specialized diabetes care," has a mean score of 3.94. This reflects that patients often face significant distances when seeking specialized treatment, which can deter them from pursuing necessary care. This indicates that healthcare systems need to consider the distribution of specialized services to ensure that patients can access them without excessive travel burdens.
Interestingly, the statement "I struggle to attend diabetes education sessions or support groups due to the travel distance required" scores 3.81, indicating that the distance to educational resources and support networks also poses a challenge. This lack of access to vital education and peer support can impede patients' ability to manage their condition effectively. This is similar with Johnson and White (2023) who underscored that patients who lived farther from educational resources were less likely to participate and attend diabetes education sessions, which negatively affected their ability to manage their diabetes effectively.
The overall mean rating of 3.94 for the challenges related to travel distances faced by diabetes patients categorizes this issue as a major challenge. This score reflects the significant impact that distance has on patients' ability to access necessary healthcare services and support for effective diabetes management. This suggests that many patients experience substantial obstacles when it comes to traveling for their regular check-ups, specialized care, and educational sessions. The high rating indicates that geographic

barriers can lead to delayed or missed appointments, which are critical for maintaining optimal diabetes management. Moreover, the findings imply a pressing need for healthcare systems to address these travel-related challenges. The fact that patients feel the distance to healthcare facilities affects their overall management of diabetes points to the necessity for more accessible services. This could involve increasing the number of local healthcare providers, offering telehealth options, or establishing mobile clinics to bring care closer to patients.

Encourage policies that fund rural health outreach and diabetes prevention programs. Schedule multiple services in a single visit (lab work, consultation, and education) to minimize the frequency of travel.

Table 2.d
Challenges Encountered by Diabetes Patients
In terms of Public Transportation

Statement	Mean	Descriptor
1. I believe that the lack of public transportation in your area affects your ability to attend healthcare appointments for diabetes treatment.	3.97	Agree
2. I feel that public transportation in my area is unaffordable for regular health visits.	3.81	Agree
3. I have difficulty accessing diabetes education programs or support groups using public transportation	3.82	Agree
Overall Mean Rating	**3.87**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*

Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.d presents the challenges encountered by diabetes patients in terms of public transportation, highlighting significant barriers that affect their ability to access healthcare services.

The highest-rated statement, "I believe that the lack of public transportation in your area affects your ability to attend healthcare appointments for diabetes treatment," received a mean score of 3.97, indicating strong agreement among respondents. This finding underscores the critical role that accessible public transportation plays in enabling patients to attend necessary healthcare appointments. This implies that without reliable transportation, patients may miss vital treatment sessions, leading to poor diabetes management and increased risk of complications. This analysis proves that study of Agarwal et al. (2019) who have shown that inadequate transportation options significantly hinder access to healthcare services, particularly in rural areas where facilities may be located far from patients' homes.

In addition, the statement, "I feel that public transportation in my area is unaffordable for regular health visits," garnered a mean score of 3.81, also reflecting agreement. This suggests that the cost of transportation is a significant barrier for many patients, potentially limiting their ability to seek regular medical care. The financial burden of transportation can prevent patients from attending appointments,

which is critical for effective diabetes management. Studies have indicated that economic factors, including transportation costs, are major obstacles for diabetes patients in the Philippines, contributing to disparities in health outcomes (Shrestha et al., 2024).

Likewise, the statement "I have difficulty accessing diabetes education programs or support groups using public transportation," received a mean score of 3.82. This highlights another layer of challenge, as access to education and support is essential for effective diabetes management. The inability to participate in educational programs can lead to a lack of knowledge about disease management, further complicating patients' health. Research has shown that access to diabetes education is often limited by transportation issues, which can hinder patients' ability to learn about self-care practices and support networks (Jimeno et al., 2021).

The overall mean rating of 3.87 for the challenges related to public transportation faced by diabetes patients indicates that these issues are considered a major challenge. This score suggests that many patients encounter significant barriers when trying to access healthcare services, which is crucial for managing their condition effectively. This indicates that respondents generally agree that transportation issues affect their ability to attend healthcare appointments, access treatment, and participate in educational programs. This further reflects that without adequate public transportation, patients may struggle to receive necessary care, leading to potential health complications and poorer management of their diabetes. This finding validates the study of Nang et al. (2019) who illustrated that transportation-related challenges significantly impact diabetes patients' access to healthcare services.

Assessment of Transportation Barriers that include transportation accessibility in patient assessments, especially for appointment adherence and medication pickup. And connect patients to community transportation services, such as non-emergency medical transport like barangay utility vehicle services

Table 2.e
Challenges Encountered by Diabetes Patients
In terms of Communication

Statement	Mean	Descriptor
1. I experience difficulties communicating with my healthcare providers about managing your diabetes.	3.69	Agree
2. I have trouble understanding medical instructions or information related to your diabetes treatment.	3.88	Agree
3. I feel that mu healthcare providers do not listen to your concerns and needs regarding diabetes management.	3.74	Agree
4. I think my healthcare provider is approachable when discussing diabetes care in my area?	3.94	Agree
5. I find it difficult to ask questions and get clear answers from your healthcare providers about diabetes management?	3.78	Agree

Overall Mean Rating	**3.81**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*

Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

The challenges encountered by diabetes patients in terms of communication are highlighted in Table 2.e, which reveals significant barriers that affect their ability to manage their condition effectively. The statement with the highest mean score, "I think my healthcare provider is approachable when discussing diabetes care in my area," received a score of 3.94, indicating strong agreement among respondents. This suggests that, despite other communication challenges, patients feel that their healthcare providers are generally approachable. This implies that an approachable provider can encourage patients to seek help and ask questions. This is parallel with Yalçın et al. (2025) who indicated that patients often feel their concerns are not adequately addressed, which can lead to poor adherence to treatment plans and suboptimal health outcomes.

Moreover, the statement "I have trouble understanding medical instructions or information related to your diabetes treatment" received a mean score of 3.88. This indicates that many patients struggle with comprehending the information provided to them, which can lead to confusion and mismanagement of their diabetes. This suggests that healthcare providers need to ensure that their communication is clear and accessible, potentially using simpler language or visual aids to enhance understanding. The result of this study highlighted that unclear communication can result in confusion and mismanagement of diabetes, supporting the finding that patients have trouble comprehending medical information (Rus et al., 2025).

Added to this, the analysis indicates that the statement “I feel that my healthcare providers do not listen to my concerns and needs regarding diabetes management," scored 3.74, reflecting a notable concern among patients. This suggests that some patients may feel dismissed or unheard, which can undermine their confidence in managing their condition. This clearly stresses that healthcare providers must actively engage with patients, validating their concerns and involving them in their care plans to foster better outcomes.

Interestingly, the statement "I find it difficult to ask questions and get clear answers from your healthcare providers about diabetes management," received a mean score of 3.78. This indicates that patients may feel hesitant or unsure about seeking clarification, which can hinder effective communication. This necessitates that providers should create an environment that encourages questions and ensures that patients feel comfortable discussing their concerns.

Conversely, the statement, "I experience difficulties communicating with my healthcare providers about managing your diabetes," scored 3.69. This suggests that difficulties in communication can lead to misunderstandings about treatment plans, medication adherence, and patient engagement in self-care practices. Therefore, healthcare providers should still prioritize enhancing communication strategies to ensure that patients feel fully supported and empowered in managing their diabetes.

The overall mean rating of 3.81 for the challenges encountered by diabetes patients in terms of communication signifies that these issues are regarded as a major challenge. This score indicates that many patients experience significant barriers when attempting to communicate effectively with their healthcare providers, which is crucial for managing their diabetes.

Nurses should assess communication needs by evaluating each patient's literacy level, language preference, and any sensory impairments. This information can be used to tailor communication approaches and materials effectively. When explaining diabetes management, simplify medical terminology and provide educational materials that include visuals, diagrams, or culturally relevant examples to support understanding. Additionally, it is important to encourage patient participation by creating a welcoming environment that promotes open dialogue and invites questions. Supporting shared decision-making can significantly enhance patient engagement and build trust.

Table 2.f
Challenges Encountered by Diabetes Patients
In terms of Financial Challenges

Statement	Mean	Descriptor
1. I struggle to afford the cost of diabetes medications and supplies.	3.76	Agree
2. I believe that financial barriers prevent me from following my prescribed diabetes treatment plan.	3.9	Agree
3. I find it difficult to afford a healthy diet and exercise program to manage your diabetes.	3.82	Agree
4. I have to make difficult financial decisions between diabetes care and other essential needs.	3.79	Agree
5. I have access to financial assistance programs for diabetes care in your community.	3.75	Agree
Overall Mean Rating	**3.80**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*
Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.f outlines the financial challenges encountered by diabetes patients, revealing significant barriers that impact their ability to manage their condition effectively. The overall mean rating of 3.80 categorizes these financial challenges as a major concern, indicating that many patients struggle with the costs associated with diabetes care.

The statement with the highest mean score, "I believe that financial barriers prevent me from following my prescribed diabetes treatment plan," received a mean of 3.90. This finding underscores the critical impact of financial constraints on patients' adherence to treatment regimens. This supports with Zhang et al. (2024) who posited that financial barriers can lead to reduced medication adherence and poorer health outcomes for diabetes patients, as individuals may prioritize other expenses over their healthcare needs.

Following closely, the statement "I find it difficult to afford a healthy diet and exercise program to manage your diabetes" scored 3.82. This highlights the importance of nutrition and physical activity in diabetes management, yet indicates that many patients face financial obstacles in accessing healthy food options and exercise programs. This is parallel with Cho et al. (2019) who demonstrated that lower socioeconomic

status is associated with poorer dietary choices and reduced physical activity, further complicating diabetes management.

Moreover, the statement "I have to make difficult financial decisions between diabetes care and other essential needs" received a mean score of 3.79, reflecting the tough choices patients must make regarding their healthcare. This finding aligns with research indicating that many individuals with chronic conditions often face trade-offs between healthcare costs and other essential living expenses, which can lead to compromised health outcomes (Tan, 2020).

In conjunction, the statement "I struggle to afford the cost of diabetes medications and supplies" scored 3.76, indicating that the financial burden of medications and supplies is a significant concern for patients. Numerous studies have documented that high out-of-pocket costs for diabetes medications can lead to non-adherence, resulting in increased complications and healthcare costs in the long run. Meanwhile, the statement "I have access to financial assistance programs for diabetes care in your community" received a mean score of 3.75. While this score suggests that patients are aware of available assistance, it also indicates that access to these programs may not be sufficient to alleviate their financial burdens. Research has shown that while financial assistance programs exist, many patients remain unaware of them or face barriers in accessing these resources (Campos & Palacios, 2022).

In summary, the findings from the analyses highlight the substantial financial challenges faced by diabetes patients, with an overall mean rating of 3.80 indicating that these issues are a major concern. This mean score reflects a pervasive struggle among patients to manage the financial aspects of their diabetes care, suggesting that financial burdens significantly hinder their ability to adhere to prescribed treatment plans and maintain their health.

Table 2.g
Challenges Encountered by Diabetes Patients
In terms of Financial Challenges

Statement	Mean	Descriptor
1. I engage in physical activities (e.g., walking, exercise, sports) to reduce the risk of development of DM.	3.66	Agree
2. I don't regularly take diabetes medications as prescribed.	3.8	Agree
3. I have irregular appointments with a diabetes healthcare provider.	3.8	Agree
4. My eating, exercise, or smoking habits interfere with your ability to adhere to your treatment plan.	3.8	Agree
5. My inability to adhere to your treatment plan caused by stress, worry, or depression.	3.56	Agree
Overall Mean Rating	**3.80**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*

Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.g presents a detailed analysis of the financial challenges encountered by diabetes patients. The statement with the highest mean score, "I don't regularly take diabetes medications as prescribed," received a mean of 3.80. This finding suggests that financial constraints significantly impact medication adherence among diabetes patients. This supports the study of Jimeno, et al. (2023) who emphasizes that high costs for medications can lead to non-adherence, which in turn increases the risk of complications and poor health outcomes. This stresses that patients may prioritize other financial obligations over their diabetes medications, leading to inconsistent treatment and worsening health.

Following closely, the statements "I have irregular appointments with a diabetes healthcare provider" and "My eating, exercise, or smoking habits interfere with your ability to adhere to your treatment plan," both also scored 3.80. Irregular appointments can hinder effective diabetes management, as consistent monitoring and professional guidance are crucial for maintaining optimal health. This conforms with Barlow and Wright (2022) who highlighted that regular healthcare visits are associated with better glycemic control and reduced complications. Additionally, the analysis also recognizes on the interference of lifestyle habits with treatment adherence highlights the complex interplay between financial stress and health behaviors.

The statement "I engage in physical activities (e.g., walking, exercise, sports) to reduce the risk of development of DM" scored 3.66, indicating that while patients recognize the importance of physical activity, financial barriers may still limit their ability to engage in such activities consistently. Research supports the notion that physical activity is essential for diabetes prevention and management, yet many patients face challenges in accessing safe and affordable exercise options.

Interestingly, the statement "My inability to adhere to my treatment plan caused by stress, worry, or depression" received a mean score of 3.56. This finding underscores the psychological burden that financial challenges can impose on diabetes patients. Stress and mental health issues can significantly affect a patient's ability to manage their diabetes effectively. Studies have shown that individuals with diabetes who experience high levels of stress or depression are more likely to struggle with adherence to their treatment plans, leading to poorer health outcomes.

Further analysis also revealed that the overall mean rating of 3.80 indicates that the financial challenges faced by diabetes patients are perceived as a major concern. This score reflects a significant level of agreement among patients regarding the difficulties they encounter in managing their diabetes due to financial constraints. This mean rating suggests that many patients struggle with various aspects of their diabetes care, from medication adherence to regular healthcare appointments. This score highlights the pervasive impact of financial barriers on their ability to follow prescribed treatment plans effectively.

Nursing Implications on Financial Status Incorporate financial screening into nursing assessments to identify cost-related barriers early. Inquire about patients' ability to afford medications, glucose testing supplies, appointments, and dietary expenses. Inform patients about government subsidies, medication discount cards, and nonprofit programs that provide free or reduced-cost diabetes supplies. Collaborate with healthcare teams to prescribe cost-effective alternatives, such as switching from brand-name to generic antidiabetic medications. Monitoring for Non-Adherence must be vigilant for signs of medication non-adherence due to cost and address these issues without judgment. Encourage open communication so that patients feel comfortable discussing their financial stress.

Table 2.h
Challenges Encountered by Diabetes Patients
In terms of Family Support

Statement	Mean	Descriptor
1. My family members did not encourage me to follow my diabetes care plan (e.g., diet, medication, exercise)	3.71	Agree
2. When I feel discouraged about managing your diabetes, I feel comfortable talking to a family member for support	3.84	Agree
3. My family members help me monitor my blood sugar levels (e.g., reminding you or assisting with using devices)	3.93	Agree
4. My family members involved in my diabetes-related medical appointments (e.g., attending with me or helping me visit the Satellite Clinic)	3.89	Agree
5. My family members did not encourage me to follow my diabetes care plan (e.g., diet, medication, exercise)	4.03	Agree
Overall Mean Rating	**3.84**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*
Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.h presents the challenges encountered by diabetes patients in terms of family support, with an overall mean rating of 3.84, indicating that these challenges are perceived as a major concern. This score reflects a significant level of agreement among patients regarding the role of family support in managing their diabetes.

The statement with the highest mean score, "My family members help me monitor my blood sugar levels (e.g., reminding me or assisting with using devices," received a mean of 3.93. This suggests that many patients feel supported by their family members in actively managing their diabetes, particularly in monitoring blood sugar levels. The involvement of family in diabetes management is crucial, as studies have shown that social support can lead to better self-management behaviors and improved health outcomes for individuals with diabetes (Whittemore et al., 2019). This reflects that family members who assist in monitoring blood sugar can help reinforce adherence to treatment plans, thereby reducing the risk of complications associated with diabetes.

Conversely, the statement with the lowest mean score, "My family members did not encourage me to follow my diabetes care plan (e.g., diet, medication, exercise)," received a mean of 3.71. This indicates that while patients may feel some level of encouragement, there is still a significant perception that family support is lacking in motivating adherence to diabetes care plans. The lack of encouragement from family can lead to feelings of isolation and decreased motivation, which are detrimental to effective diabetes

management. This corroborates with Werner et al. (2024) whose findings revealed that emotional and motivational support from family members is essential for patients to adhere to their diabetes management plans, as it can significantly influence their self-efficacy and overall health outcomes.

Conversely, the overall mean rating of 3.84 in Table 2.h indicates that challenges related to family support are perceived as a major concern among diabetes patients. This high score reflects a substantial recognition of the critical role that family dynamics play in managing diabetes effectively. This stresses that patients generally feel that while they do receive some support from family members, there are significant gaps in encouragement and motivation for adhering to their diabetes care plans.

Encourage family involvement during health education sessions, particularly in areas such as diet planning, medication schedules, and recognizing signs of complications. Promote shared responsibility, especially for pediatric, elderly, or disabled patients. Educate family members on the basics of diabetes, lifestyle changes, and how they can support the patient's emotional and physical needs. Address any myths or misinformation that family members may have that could interfere with the patient's care. Encourage positive reinforcement and emotional support to help the patient stay motivated. Additionally, demonstrate cultural sensitivity and respect for the family's role. Recognize and honor cultural differences in family structure, roles, and expectations regarding illness and caregiving. When possible, adapt care plans to align with culturally accepted family practices.

Table 2.h
Challenges Encountered by Diabetes Patients
In terms of Healthcare Education

Statement	Mean	Descriptor
1. The accessibility of the healthcare facility affects my ability to take medicine and attend follow-up consultations.	3.87	Agree
2. I feel that my healthcare provider fails to clearly explain my treatment plan?	3.74	Agree
3. I am motivated to learn more about diabetes and improve your self-management?	3.93	Agree
4. I believe diabetes can affect your eyesight, wound healing, and kidneys	4.16	Agree
Overall Mean Rating	**3.77**	**Major Challenge**

Legend for the Mean Rating: *Strongly Disagree: 1.00 – 1.79; Disagree: 1.80 – 2.59; Neutral: 2.60 – 3.39; Agree: 3.40 – 4.19; Strongly Agree: 4.20 – 5.00*

Legend for the Overall Mean Rating: *No Challenge: 1.00 – 1.79; Minor Challenge: 1.80 – 2.59; Moderate Challenge: 2.60 – 3.39; Major Challenge: 3.40 – 4.19; Extreme Challenge: 4.20 – 5.00*

Table 2.h outlines the challenges encountered by diabetes patients in terms of healthcare education. The overall mean rating of 3.77 indicates that these challenges are perceived as a major concern. This score reflects a significant level of agreement among patients regarding their difficulties in understanding and accessing their diabetes care.

The statement with the highest mean score, "I believe diabetes can affect your eyesight, wound healing, and kidneys," received a mean of 4.16. This suggests that patients are aware of the serious complications associated with diabetes, which is crucial for motivating them to engage in self-management practices. Understanding the potential health risks can lead to greater adherence to treatment plans and preventive measures. This result confirms the study of Ferreira et al. (2024), who noted that increased awareness of diabetes complications is linked to improved self-management behaviors, as patients who recognize the risks are more likely to take proactive steps in managing their condition.

Conversely, the statement with the lowest mean score, "I feel that my healthcare provider fails to clearly explain my treatment plan," received a mean of 3.74. This indicates that while patients generally agree that their providers may not communicate treatment plans effectively, the level of concern is still significant. Poor communication can lead to misunderstandings about medication adherence, dietary restrictions, and the importance of regular follow-ups, ultimately affecting health outcomes. This is substantiated by the findings of Ferreira et al. (2024), who highlighted that effective communication between healthcare providers and patients is essential for successful diabetes management, as it enhances patient understanding and engagement in their care. Hence, when patients do not fully grasp their treatment plans, they may struggle with adherence, which can lead to complications and increased healthcare costs.

Likewise, the overall mean rating of 3.77 in Table 2.h indicates that challenges related to healthcare education are perceived as a major concern among diabetes patients. This score reflects a significant level of agreement among patients regarding the difficulties they encounter in understanding and accessing their diabetes care.

Nursing implicates to Evaluate each patient's understanding of diabetes, including medication use, blood sugar monitoring, and lifestyle management. Utilize simple screening tools or engage in conversations to identify any literacy or educational gaps. Also Individualized Education Plans that Tailor education to meet each patient's cognitive level, language, and cultural background. Use personalized teaching strategies, such as visual aids, models, and interactive tools. use of Clear, Simple Language.Avoid medical jargon and explain concepts in everyday terms (e.g., "blood sugar" instead of "glucose level"). Use the "teach-back" method to ensure the patient understands the information. Provide Promotion of Self-Management Skills that Empower patients to take ownership of their care by teaching practical skills such as insulin administration, blood glucose monitoring, foot care, and meal planning. Reinforce the importance of adhering to treatment and recognizing potential complications early. Including Ongoing Education and Follow-Up that provides continuous education rather than just one-time instruction to help reinforce knowledge and adapt to changing health needs. Offer follow-up calls, educational materials, or referrals to certified diabetes educators. Including Accessibility of Educational Resources that ensure that patients have access to educational materials in various formats (pamphlets, videos, apps) and languages. Refer them to local diabetes education classes or virtual programs if available. In addition that Family and Community Involvement that involve the family members in education sessions to foster a supportive environment. Collaborate with schools, workplaces, and community centers to deliver broader diabetes education.

Relationship between the Profiles and the Challenges Encountered

The following table illustrates the significant relationship between the socio-demographic profile of diabetes mellitus patients and the challenges they encounter in rural barangays. This analysis aims to

explore how various socio-demographic factors, such as age, sex, education level, marital status, income, and employment status, influence the difficulties faced by these patients in managing their diabetes. To determine the existence of this relationship, a chi-square test of independence was employed, utilizing a significance level of 0.05.

Table 3
Relationship between Profiles and Challenges Encountered

Barriers	Demographic Profiles					
	Age	Sex	Marital Status	Education Level	Employment Status	Income
Health insurance	0.082	0.126	0.061	0.013**	0.003**	0.014**
Healthcare access	0.108	0.174	0.092	0.002**	0.018**	0.003**
Travel distances	0.008**	0.067	0.173	0.02**	0.009**	0.001**
Public transportation	0.003**	0.105	0.206	0.023**	0.002**	0.002**
Communication	0.173	0.192	0.073	0.004**	0.018**	0.026**
Financial challenges	0.204	0.573	0.084	0.009**	0.001**	0.000**
Lifestyle	0.000**	0.006**	0.003**	0.002**	0.016**	0.007**
Family support	0.002**	0.127	0.000**	0.058	0.004**	0.009**

Legend: ***Significant at 0.05 level of significance*

The analysis depicted by Table 3 reveals a complex relationship between the demographic profiles of patients diagnosed with diabetes and the various challenges or barriers they face in managing their condition. Each barrier shows distinct patterns of significance across different demographic factors, highlighting the multifaceted nature of diabetes management in diverse populations. It can be gleaned in the analysis that the barriers related to health insurance demonstrate significant correlations with education level ($p = 0.013$) and income ($p = 0.003$). This suggests that patients with lower education levels and income are more likely to encounter challenges in obtaining health insurance, which is critical for accessing diabetes care. This finding validates the study of Tan et al. (2019) who highlighted that older adults often face significant barriers in accessing healthcare services due to mobility issues and transportation challenges. This also conforms with Polonsky and Henry (2016) who demonstrated that patients with limited education may avoid seeking necessary care due to cost concerns (Polonsky & Henry, 2016).

On the same vein, significant relationships were also found for healthcare access with education level ($p = 0.002$), income ($p=0.003$), and employment status ($p = 0.018$). These findings imply that patients with lower education and those unemployed may struggle more to access healthcare services, which could exacerbate their diabetes management difficulties. This support recent studies highlighting that employment status significantly affects healthcare access, with unemployed individuals facing more barriers to obtaining necessary care (Shen et al., 2023). Similarly, the findings also corroborate with

(Brown et al., 2019) who underscored that lower income is strongly correlated with poorer access to healthcare services, which can exacerbate diabetes management challenges. They further echoed that patients with low income often receive less frequent care and have higher rates of complications

Meanwhile, travel distances present a significant barrier particularly for older patients ($p = 0.008$) and those with lower education ($p = 0.020$). This indicates that older adults may face greater challenges in traveling to healthcare facilities, which can hinder their ability to attend follow-up appointments and receive regular care. This highlighted that geographical barriers significantly affect healthcare utilization among rural populations, leading to gaps in diabetes management. This corroborates with Antunes et al. (202) who posited that older patients are more affected by travel distances to healthcare facilities, making it difficult for them to receive regular care.

Conversely, the analysis also revealed that public transportation barrier is significantly associated with age ($p = 0.003$) and education level ($p = 0.023$). This suggests that younger patients and those with higher education levels may find it easier to navigate public transportation systems, while older adults may struggle. This underscores the importance of accessible public transportation for ensuring that all patients can reach healthcare facilities without unnecessary hardship.

Furthermore, communication barriers show significant associations with education level ($p = 0.004$) and employment status ($p = 0.018$). This shows that patients with lower education levels may experience difficulties in understanding medical advice, which can significantly impact their self-management of diabetes. This highlights that effective communication between healthcare providers and patients is crucial for adherence to treatment and overall health outcomes. This result concides with Davies et al. (2022) who argued that patients with lower education levels often struggle to understand medical advice, which can significantly impact their self-management of diabetes.

Additionally, financial barriers are significantly related to education ($p = 0.009$) and employment status ($p = 0.001$). This suggests that unemployed patients or those with lower education levels are more likely to face financial difficulties, which can lead to inadequate diabetes management. This supports the study of ElSayed et al. (2023) who revealed that unemployed patients or those with lower education levels are more likely to face financial difficulties.

Moreover, lifestyle factors show strong significance across several demographic profiles as indicated by their p-values lower that the threshold of 0.05. This indicates that younger patients and those with higher education levels and stable finances are better equipped to adopt healthy lifestyles, which is essential for effective diabetes management. This underscores that lifestyle modifications, such as diet and exercise, are critical in managing diabetes and preventing complications. This supports the study of Meleis (2018) who emphasized that financial constraints can limit access to healthy food options and opportunities for physical activity, which are essential for effective diabetes management.

Notably, the results also revealed that family support is significantly associated with age ($p = 0.002$), marital status ($p = 0.000$), and education level ($p = 0.004$). This indicates that older and married patients may receive more familial support, which can positively influence their diabetes management. This highlights that strong family support is crucial for encouraging adherence to treatment plans and improving health outcomes.

CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The findings summary, study conclusions, suggestions for additional research, and dissemination strategy

are all included in this chapter.

The purpose of this study was to look into the difficulties that people with diabetes mellitus experience. Additionally, it sought to determine the major demographic variables that impact the barriers that have been identified, including health insurance, access to health care, travel distances, public transportation, communication difficulties, financial challenges, lifestyle, family support, and health education. These variables included age, sex, civil status, highest educational attainment, employment status, and income.

The analysis involved responses from 100 purposefully selected patients diagnosed with diabetes mellitus, all residing in specific rural barangays of Puerto Princesa City. Data collection was conducted using questionnaires designed by the researchers, which were divided into two primary parts. A 5-point Likert scale was used in the second segment to gauge the degree of difficulty these patients were having managing their diabetes, while the first component collected comprehensive data regarding the participants' sociodemographic profiles.

Descriptive statistics, such as frequency counts, percentages, and ranks, were used to describe the sociodemographic characteristics of the respondents in order to answer the study questions. To assess how severe the obstacles they encountered were, means were computed. Inferential statistics were used for a more thorough examination of the connections between demographic characteristics and the difficulties faced. In particular, the associations between individual profiles and the particular difficulties found were investigated using the chi-square test of independence.

Summary of Findings.

Respondents' Demographics Profiles

Age Distribution: The demographic profile of patients diagnosed with diabetes mellitus indicates that the majority, 39%, are aged 61 years and older, highlighting older adults as the most affected group. This trend continues with 16% in the 51 to 55 age range and 11% in the 46 to 50 range. The data clearly shows that diabetes prevalence increases with age, emphasizing that age is a significant risk factor for developing diabetes.

Sex Distribution: Analysis of the respondents' sex reveals that 67% are female, compared to 33% male. This suggests a higher prevalence of diabetes among women, which may be attributed to various biological, social, and behavioral aspects. The results highlight the necessity of gender-sensitive strategies for managing and preventing diabetes because women may have particular difficulties because of the illness.

Civil Status: A significant majority of respondents, 84%, are married, making marriage the most common civil status. This finding suggests that married individuals may share lifestyle habits that influence their health, potentially leading to higher diabetes rates. The dynamics of shared health behaviors within marriages can either mitigate or exacerbate diabetes risks, highlighting the importance of family support in managing the condition.

Educational Attainment: The educational profile indicates that 69% of respondents are high school graduates, followed by 25% with elementary education. This prevalence of lower educational attainment suggests limited access to higher education, which is often linked to better health literacy and outcomes. The data implies that educational level significantly affects knowledge and management of diabetes, with lower education correlating with poorer health outcomes.

Employment Status: The analysis shows that 48% of respondents are unemployed, representing the largest employment category. This high unemployment rate raises concerns about financial stability and

access to healthcare, which can hinder diabetes management. The necessity for support networks for unemployed people with diabetes is underscored by the fact that unemployment can result in worse health outcomes and elevated stress levels.

Monthly Income: The income data reveals that 83% of respondents earn less than P10,000.00, suggesting that many live below the poverty line. This financial limitation severely restricts access to healthcare services, nutritious food, and essential diabetes management supplies. The low-income levels are associated with poorer health outcomes, indicating that financial Resources are essential. in effective diabetes management and overall health.

Challenges Encountered by Patients Diagnose with Diabetes Mellitus

Health Insurance Challenges: The analysis reveals that obtaining adequate health insurance coverage is a significant barrier for diabetes patients, with many individuals struggling to secure the necessary coverage for effective disease management. Additionally, patients face challenges in understanding the benefits and limitations of their health insurance plans, highlighting the need for improved education to help them navigate their options. Overall, the mean rating categorizes these insurance-related challenges as a major concern, indicating systemic issues that require attention.

Healthcare Access Challenges: Patients encounter substantial difficulties in accessing healthcare providers who are knowledgeable about diabetes management. The lack of access to essential diabetes education programs and support groups further complicates their ability to manage their condition effectively. The overall mean rating indicates that these access challenges are significant obstacles, limiting patients' ability to receive appropriate care and support.

Travel Distance Challenges: Long travel distances to healthcare facilities significantly hinder diabetes management, with many patients experiencing delays or declines in medical visits due to geographic barriers. The logistics of traveling for regular check-ups and specialized care create additional stress and missed appointments. The overall mean rating categorizes travel distance as a major challenge, emphasizing the need for more accessible healthcare services.

Public Transportation Challenges: Inadequate public transportation emerges as a critical barrier affecting patients' ability to attend healthcare appointments. Many patients express concerns about the lack of reliable and affordable transportation options, which can lead to missed treatment sessions. The overall mean rating classifies these transportation-related challenges as significant, indicating that without adequate public transport, patients may struggle to receive necessary care.

Communication Challenges: While many patients feel that their healthcare providers are approachable, significant barriers still exist in understanding medical instructions and information related to diabetes treatment. This lack of clarity can lead to confusion and mismanagement of their condition. The overall mean rating signifies that communication challenges are a major concern, underscoring the need for healthcare providers to enhance their communication strategies.

Financial Challenges: Financial constraints pose a major concern for diabetes patients, with many struggling to adhere to their prescribed treatment plans due to the costs associated with diabetes care. Issues such as affording a healthy diet and necessary medications significantly hinder effective management. The overall mean rating reflects a pervasive struggle among patients to manage the financial aspects of their diabetes care.

Family Support Challenges: Family dynamics play a crucial role in diabetes management, with many patients recognizing the importance of support from family members. However, there are noticeable gaps

in encouragement and motivation, which can lead to feelings of isolation. The overall mean rating indicates that challenges related to family support are significant, highlighting the need for improved emotional and motivational support from family members.

Healthcare Education Challenges: Patients express significant difficulties in understanding and accessing information related to their diabetes care. Although many people are aware that diabetes can lead to catastrophic consequences,, concerns remain about the clarity of communication regarding treatment plans. The overall mean rating categorizes healthcare education challenges as a major concern, emphasizing the necessity for better educational resources and clearer communication to enhance patient engagement in their care.

Conclusion

The following conclusion was drawn from this investigation's findings to provide some context:

Health Insurance: The analysis reveals significant correlations between educational level, employment status and income with health insurance challenges. Patients with lower education levels and income face greater difficulties in obtaining adequate health insurance coverage, which is essential for managing diabetes effectively.

Healthcare Access: The relationship between educational level, employment status and income and healthcare access is notable, as unemployed patients encounter significant barriers in finding knowledgeable healthcare providers. Additionally, education level also plays a critical role, with lower-educated patients struggling to navigate healthcare systems.

Travel Distances: There is a significant association between patients' age, educational level, employment status, and income with the travel distance challenges they encounter. Many of these patients struggle with traveling long distances to access healthcare facilities, which can significantly hinder their ability to manage their diabetes effectively.

Public Transportation: A significant relationship exists between patients' age, educational level, employment status, and income and the challenges they face regarding public transportation. These factors affect their access to transportation options, which in turn impacts their ability to attend healthcare appointments.

Communication: Education level, employment status, and income are closely interconnected factors that significantly influence communication challenges faced by patients. Individuals with lower educational attainment frequently struggle to understand complex medical instructions and treatment plans, which can lead to confusion and mismanagement of their health. Moreover, patients who are unemployed or have lower incomes may experience additional stressors that affect their ability to focus on and comprehend medical information.

Financial Challenges: Education level, employment status, and income are closely linked to the financial challenges encountered by diabetes patients. Individuals who are unemployed or have lower income levels are more likely to face substantial financial barriers that impede their ability to follow treatment plans effectively.

Lifestyle Factors: All identified demographic profiles were significantly associated with lifestyle challenges faced by diabetes patients. Factors such as age, education, employment status, and income collectively influence the ability of individuals to adopt healthy lifestyles. Access to nutrient-dense food and opportunities for physical activity—two things that are crucial for successful diabetes management—are severely hampered by financial limitations.

Family Support: The profiles of age, marital status, employment status, and income significantly shape the dynamics of family support for individuals managing diabetes. Each of these demographic factors plays a crucial role in determining the level and type of support patients receive from their families, which can profoundly impact their ability to manage their condition effectively.

Recommendations

Following the analysis of the study's data and conclusion, the following actions are highly advised in order to make use of the findings.

1. Hospital administrators should implement comprehensive training programs for healthcare staff focused on effective communication strategies tailored to diverse patient demographics. By emphasizing the importance of clear, jargon-free instructions and the use of visual aids, administrators can enhance patient understanding and engagement.
2. Community nurses play a vital role in diabetes management, and they should prioritize building strong relationships with patients to foster trust and open communication. Regular home visits and community outreach programs can help assess the unique challenges faced by patients in their environment.
3. Policymakers should advocate for initiatives that address the social determinants of health impacting diabetes management. This includes supporting programs that enhance access to affordable, nutritious food and promoting physical activity through the development of community spaces. Policies that provide financial assistance for low-income individuals managing chronic conditions can also alleviate some of the barriers to effective diabetes management, ultimately leading to better health outcomes for the population.
4. Local Government Units (LGUs) should develop and expand community health programs specifically targeting diabetes prevention and management. This includes organizing regular screening events, educational workshops, and support groups that focus on lifestyle modifications. By actively engaging the community, LGUs can raise awareness about diabetes and encourage healthier behaviors among residents.
5. LGUs should work towards improving access to healthcare services for diabetes patients, particularly in underserved areas. This can be achieved by establishing mobile health clinics, subsidizing transportation costs for patients traveling to healthcare facilities, and ensuring that healthcare services are affordable and accessible. Increased access will help patients receive timely care and better manage their condition.
6. Local governments should continuously invest in creating and maintaining safe public. Parks, walking trails, and recreational facilities are examples of places where people can be active. Organizing community fitness events, such as fun runs, group exercises, and sports leagues, can further encourage residents to engage in regular physical activity. Promoting an active lifestyle is crucial for diabetes management and overall community health.
7. LGUs should launch health education campaigns that specifically focus on diabetes awareness, risk factors, and management strategies. Utilizing various media platforms—such as social media, local newspapers, and community bulletin boards—can effectively reach a broader audience. These campaigns should emphasize the importance of regular health check-ups, healthy eating, and active living to empower residents in managing their health.

8. Patients should emphasize candid dialogue with their medical professionals regarding their challenges related to diabetes management. Engaging in discussions about financial constraints, education levels, and support systems can help providers tailor treatment plans to better fit individual needs. Additionally, patients are encouraged to seek support from family members and community resources, such as diabetes support groups, which can provide valuable guidance and encouragement in managing their condition.
9. Future researchers should focus on investigating the impact of social determinants on diabetes management across diverse populations. Longitudinal studies could provide deeper insights into how demographic factors influence health outcomes over time. Additionally, exploring the effectiveness of various interventions aimed at improving communication and support systems for diabetes patients can help identify best practices that can be scaled and implemented in healthcare settings.
10. Numerous parties involved, such as community organizations and nonprofits, o create programs that address the multifaceted challenges faced by diabetes patients. By pooling resources and expertise, these organizations can develop initiatives that promote education, access to healthy food, and opportunities for physical activity. Engaging the community in these efforts can foster a supportive environment that encourages healthier lifestyles and better management of diabetes.

Program Title: **"Proposed Development Structured Plan for Challenges Encountered by Patients Diagnosed with Diabetes Mellitus Type II among selected Rural Barangay in Puerto Princesa,**
Program Objective:. To improve Type II Diabetes Mellitus patients' access to healthcare, illness management, and quality of life in a few selected rural barangays in Puerto Princesa by developing a methodical strategy to deal with their problems

Core Area	**Policy Objective**	**Procedures**	**Implementation Timeline**		**Monitoring and Evaluation**
			Months/years	**Key actions**	
1. Challenges Health Insurance	1.Make Diabetes-Related Health Services More Accessible Make sure that necessary diabetes care services, such as routine checkups, laboratory testing (such as HbA1c), and consultations with endocrinologists and dietitians, are adequately covered by health insurance policies. 2. Increased Coverage for Diabetes Supplies and Medications To lessen the financial burden on patients, require full insurance coverage for glucose monitoring equipment, anti-diabetic drugs (such as insulin and	1. Advocacy and Literacy in Health Insurance Take action by launching community-based	Phase 1 Months 1–2: Phase 2 3-4 months	Stakeholder consultation and planning Education and insurance	• percentage rise in diabetes individuals' participation in health insurance percent

	oral hypoglycemics), and other diabetes-related supplies.	education initiatives on diabetes care coverage and health insurance rights. Result: More people enrolling in insurance and better knowledge. 2. Improved Benefit Inclusion and Coverage Take action: Work with legislators and commercial insurers/ PhilHealth to increase benefits	Phase 3 5-8 months Phase 4 9-12 months	literacy campaign launch Benefit expansion and insurance help desk implementation Policy lobbying, monitoring, and assessment	age rise in claims for treatments connected to diabetes decrease in out-of-pocket costs Contentment of patients with insurance services Health results (e.g., blood glucose levels under control)

		to include: Frequent testing for renal function, lipid profiles, and HbA1c Important drugs and insulin Equipment for self-monitoring (glucometers, test strips) Consultations with diabetes educators and nutritionists Result: Better illness control and less financial strain. 3. Help Desks for Rural			

		Health Insurance Action: Install insurance help desks in the barangays to assist patients with enrollment, claim filing, and coverage clarification.			
2. Challenges in Health Care access	Determine the precise obstacles that the target rural areas face while trying to receive healthcare. Expand the local accessibility of vital diabetic services. Use telehealth and mobile solutions to fortify the healthcare delivery system. Increase the ability of local healthcare professionals to treat diabetes. Encourage collaborations between stakeholders in public and private healthcare.	1 1. Posts on Community-Based Diabetes Health Take action by setting up diabetes monitoring stations at the barangay level, manned by qualified	Phase 1 Phase 2 Phase 3	Evaluation of needs and mapping of stakeholders Establish health posts and train CHWs	number of people that mobile clinics have seen Regularity of each patient's diabetes examinations Medication

		community health workers (CHWs). Result: Enhance regular monitoring, early diagnosis, and community-based health education. 2. Diabetes Clinics on the Go Action: Deploy mobile health units to visit remote barangays on a rotating schedule for consultations, screenings, and follow-	Phase 4	Introduce telehealth services and mobile clinics. Launch educational initiatives and assess results.	availability at nearby health facilities Number of medical professionals with diabetes care training Improvements in the complication rates and HbA1c levels of patients Patient satisfaction with service quality and accessibility

		ups. Outcome: Reduce geographic obstacles and offer healthcare directly to people. 3. Integration of Telehealth for Expert Access Take action by establishing teleconsultation platforms in rural clinics to link patients with educators, nutritionists, and endocrinologists. Result:			

		Offer specialized treatment without requiring travel. 4. Building Local Capacity and Training Action: Train local nurses, midwives, and CHWs in diabetes care management, including blood sugar monitoring, foot care, and lifestyle counseling. Result: Make use of knowledgeable local staff to guarante			

		e continuity of service.			
3.Challenges in Travel distance	Examine how travel distance affects adherence to diabetes treatment. Create barangay-level local diabetes care centers. Provide digital and mobile solutions to address the access gap to healthcare. Decentralize basic diabetic services to lessen the need for patient transportation. Enhance routine illness monitoring and follow-up with patients in rural areas.	1.Take action by establishing community-based wellness facilities in key barangays that are furnished with: Testing for blood sugar monitoring of blood pressure Basic distribution of medications Lifestyle education and counseli	Phase 2 1 moths Phase 2 2-4 months Phase 3 5-8 months Phase 4 5-9 months	survey and mapping of distant Barangay establish telehealth systems and wellness centers launch mobile Clinic routes track results and expand effective strategies	. 50% fewer follow-up appointments were missed in six months. Patient access to local services has increased, with 70% of barangays using them. Blood sugar checks should be performed at least once a month. 85% of patient

		ng Result: Makes routine diabetes monitoring accessible locally. 2. Mobile Medical Facilities Take action: Set up mobile diabetes clinics that travel prearranged routes in isolated barangays, providing: Lab services (lipid profiles, HbA1c) consultations with doctors			s are satisfied with local services. 30% fewer hospitalizations for diabetes within a year •

		Refills for medications Result: Regularly provides treatment directly to remote areas. 3,Assistance with Transportation for Patients at High Risk Take action: Offer barangay ambulance assistance or conditional transportation subsidies to elderly or high-risk patients who			

		require hospitalization. Result: Guarantees that vital patients receive care without experiencing financial hardship.			
4.Challenges in Public Transportation	Examine how travel distance affects adherence to diabetes treatment. Create barangay-level local diabetes care centers. Provide digital and mobile solutions to address the access gap to healthcare. Decentralize basic diabetic services to lessen the need for patient transportation. Enhance routine illness monitoring and follow-up with patients in rural areas.	1.Diabetes Wellness Centers in Barangays Take action by establishing community-based wellness facilities in key barangays that are furnished with: Testing	Phase 1 1 months Phase 2 2-4 months Phase 3 5-7 months	Community assessment and planning establishment of telemedicine centers and barangay service points The mobile	1 50% less appointments were missed in six months as a result of transportation-related problems. 80% of diabetes patients participate in

		for blood sugar monitoring of blood pressure Basic distribution of medications Lifestyle education and counseling Result: Makes routine diabetes monitoring accessible locally. 2. Mobile Medical Facilities Take action: Set up mobile diabetes clinics that travel prearranged routes in isolated baranga	Phase 4 6-8 months Phase 5 9-12 months	health van's deployment coordinating the shuttle system with LGUs Assessment and expansion of services	barangay-based care. 85% of patients are satisfied with the local and mobile services. Follow-up visit frequency: monthly or on a prearranged basis Improvement in medication adherence 60% more timely refills

		ys, providing: Lab services (lipid profiles, HbA1c) consultations with doctors Refills for medications Result: Regularly provides treatment directly to remote areas. 3. Points of Dispensing Medication Locally Take action: Distribute insulin and diabetic drugs under supervision by collaborating			

		with rural pharmacies and barangay health workers (BHWs). Result: Patients may get their monthly prescription refills without having to go far. 4. Kiosks for Telecons ultation Action: Set up mobile applications or kiosks in barangay health stations so that diabetes specialists may be consulted virtually on a			

		scheduled basis. Result: Preserves access to higher-level treatment while minimizing the need for travel. 5. System for Delivering Medication Take action: Collaborate with rural pharmacies or barangay health workers (BHWs) to provide registered patients with home-based medicine and supply			

		delivery. Result: Provides treatment continuation without requiring travel.			
5,Challenges in Communication Difficulties	Determine the kinds and reasons why people with type 2 diabetes have trouble communicating. Create educational resources that are acceptable for both language and culture. Teach healthcare professionals how to communicate effectively. Establish other routes of contact for patients who are difficult to reach. Track advancements in patient comprehension and adherence.	1. Creation of Visual and Multilingual Educational Resources Action: Use straightforward language and graphics to create diabetes education pamphlets, posters, and films in regional	Phase 1 1 months Phase 2 3-4 months Phase 3 5-7. months Phase 4 8-9 months Phase 5	Evaluation of communication barriers and creation of materials Employee education and experimental projects introduction of	90% of patients say they comprehend their treatment plan. 40% improvement in medication adherence More than 1,000 copies of translated and localized educational

		dialects (such as Cuyonon and Tagbanua). Result: Increased understanding of illness management guidelines. 2. Communication Education for Healthcare Professionals Take action by holding seminars for rural health personnel regarding: Listening actively Providing layman's phrases for	10-12 months	mobile messaging and multilingual resources Adding PWD communication resources Observation and assessment	materials were provided. 50% decrease in missed appointments as a result of poor communication Over 85% of patients are satisfied with the communication they get from their providers.

		medical terms Making use of body language and visual assistance Result: Improved trust and communication between the patient and the practitioner. 3. Employing Community Health Interpreters Take action: Find and educate baranga y health workers or local volunteers to serve as "health translato			

		rs" during consultations. Result: Overcoming language and cultural barriers. 4. Health Education using Mobile Devices (Low Bandwidth Tools) Take action: Create voice or SMS messaging platforms to send: Medication and check-up reminders Health suggestions and nutritional guidance			

		Result: Care continuity despite restricted internet access. 5. Communication Accessible for People with Disabilities (PWDs) Take Action: Offer: Diabetes education materials for the blind and visually impaired in big print or braille Basic instruction in sign language for			

		employees Result: All diabetic patients will receive inclusive treatment.			
6,Challnges in Financial Challnges	Determine the precise financial obstacles that diabetes patients in the target area face. Expand the availability of free or heavily discounted drugs and tests. Create local funding programs and connections with federal assistance. Encourage self-management techniques rooted in the community to reduce long-term expenses. Track the results of patient interventions including financial assistance.	1. Availability of Free or Reduced Cost Drugs Action: Arrange for the provision of necessary diabetic supplies and medications at rural health facilities in coordination with DOH, LGUs, and PhilHeal	Phase 1 1-2 months Phase 2 3-4 moths Phase 3 6-8 months	Resource mapping and barrier assessment Collaborate with LGUs and start the insurance enrollment process for patients.	80% of diabetes patients receive free medications within six months. 40% decrease in the average monthly out-of-pocket costs per patient Total number of patient

		th. Result: Lower out-of-pocket costs for prescription drugs. 2. Enrollment in Barangay-Based Diabetes Packages Action: Help patients sign up for government health insurance programs (Malasakit Center, PhilHealth, etc.). Result: Increase the coverage of diabetes	Phase 4 9-12 months	Start initiatives for mobile clinics and discounted medications. Create diabetic savings groups in your town. Analyze financial savings and patient health results.	s signed up for insurance plans plus 500 fresh signups Regular blood glucose monitoring has increased by 60%. Hospitalizations for uncontrolled diabetes have decreased by 30% in just one year.

		treatment services for financial protection. 3. Diabetes Savings Fund for the Community Action: Start a microsavings club where participants make modest monthly contributions to help cover one another's diabetes-related costs. Result: Establish an emergency assistance system that is			

		handled locally. 4. Local Collaborations with Nonprofits and Pharmacies Take action: Establish contracts for patient assistance programs (PAPs) or bulk buy discounts with nearby pharmacies. Result: Offer testing kits and prescription drugs at a reduced cost. 5. Free Services Offered			

		by Mobile Clinics Take action: Run mobile clinics in isolated locations that provide free examinations, screenings, and simple laboratory testing. Result: No longer have to pay for consultations or transportation. 6. Low-Cost Management Education in the Community Encourage affordable			

		nutrition (such as nutritious local veggies), physical activity, and at-home blood glucose testing. Result: Encourage prevention and lessen reliance on expensive care.			
7, Challenges in Lifestyle	Determine which particular lifestyle choices make the target demographic less able to control their diabetes. Inform patients and their families about diabetes-friendly exercise and nutrition. Encourage community-based initiatives to encourage healthy behaviors. Include peer groups and healthcare professionals in behavioral support. Keep an eye on how lifestyle modifications affect glycemic management.	1. Program for Community-Based Lifestyle Education Take action: Hold frequent meetings in the barangay halls to	Phase 1 1-2 months Phase 2 3-4 moths	Planning and a baseline lifestyle survey Peer support groups and educati	Target Indicator Outcome Participants' daily physical activity has increased by 70%. 60% improvement

		discuss: Diabetes diet (cheap, locally sourced foods) routines for physical activity Controlling stress Result: Improve behavior modification and health literacy. 2. Support Groups for Diabetes Wellness Take action by setting up monthly peer meetings with qualified baranga y health	Phase 3 6-8 months Phase 4 9-12 months	onal seminars are launched beginning of programs for meal planning and physical activity Rollout of digital support and family involvement Observation and monitoring of behavior	in the intake of processed or sugary meals 80% of patients participate in monthly support group sessions. Within six months, enrolled patients' HbA1c levels reduce by 1% to 2%. 85% of patients reported an improvement in their quality of life.

		professionals as the facilitators. Talk about your experiences. Encourage one another. Provide reminders for follow-up. Result: Encourage responsibility and lessen loneliness. 3. Program for Physical Activity in "Healthy Barangay" Take action by			

		starting gardening clubs, zumba classes, or daily or weekly neighborhood walking groups. Result: Encourage physical exercise in an affordable and culturally appropriate manner. 4. Tools for Culturally Sensitive Meal Planning Take action: Make meal plans that are simple to follow and include			

		local veggies, lean meats, and classic, healthful meals. Result: Make eating healthily feasible and reasonably priced. 5. Campaign for Family Involvement Take action: Encourage supporting roles (e.g., combined walks, healthy cooking) and involve family members in diabetic sessions.			

		Result: Better lifestyle adjustments at the household level. 6. Reminders & Coaching for a Mobile Lifestyle Take action by sending voice or SMS messages with advice, recipe suggestions, and inspirational sayings that are appropriate for rural areas. Result: Strengthen knowledge outside of clinic			

		appointments.			
8. Chaallenges in Family Support	Determine the target community's obstacles to family support for diabetes patients. Emphasize to family members the value of their involvement in diabetes care. Promote cooperative care planning and decision-making at home. Establish community engagement initiatives and family-based support networks. Analyze gains in emotional stability and health outcomes.	1. Workshops for Family Education Take action: Hold interactive meetings every month on: Basic diabetic knowledge How families may assist with medicine, exercise, and food management Recognizing indications of difficulti	Phase 1 1-2 months Phase 2 3-4moths Phase 3 5-7months Phase 4 8-9 months Phase 5 10-12 months	Find gaps in family engagement by conducting a community survey. Start the training and education programs Set up peer groups, counseling, and recognition initiatives.	75% improvement in the percentage of diabetes patients who report significant family support 80% of families who attend diabetes education sessions HbA1c or blood glucose improvement in people receiving support: a 1-2 percent decreas

		es Result: Increase family member s' knowled ge and abilities. 2. Modules for "Family as Health Partner" Training Take action: Educate a chosen group of family member s to become diabetes partners at home who help with: Planning meals routines for physical activity monitori		Make it a practic e to include familie s in clinic and home visits. Observ ation, assess ment, and improv ement	e in HbA1c 60% or more of patient s bring a family membe r to the clinic in less than six months . 70% of patient s felt less stress linked to their diabete s.

		ng of blood sugar Result: Promote shared accountability for care. 3. Peer discussions and family counseling Take action by providing peer support sessions or group therapy where patients and their families may talk about: Support on an emotional level Resolving conflicts Clarity of role			

		Result: Improve connections and lessen stress when providing care. 4. Acknowledgment and Rewards for Helpful Families Take action: Start a campaign called "Model Diabetes Support Family" to showcase families that are exhibiting effective support techniques. Result: Encourage			

		involvement and acknowledge hard work. 5. Including Family Members in Medical Visits Action: Involve patients' families in the following activities and encourage them to attend every clinic visit: Taking the doctor's recommendations to heart Monitoring development Result:			

		Increased comprehension and implementation at home. 6. Home Visits and Barangay Health Workers' Assistance Action: When CHWs or nurses do home visits, incorporate family-focused advice. Result: Handle issues unique to each home and provide tailored assistance.			

9.Challenges in Health Education	Determine the community's present level of diabetes awareness. Create and provide specialized educational initiatives on managing complications, diabetes care, and prevention. To increase the reach of education, make use of multimedia resources and community health workers. Encourage behavior change by providing ongoing, useful, and culturally appropriate education. Track advancements in diabetes-related health outcomes and knowledge.	1. Assessment of Diabetes Literacy Take action: To evaluate preexisting knowledge, attitudes, and assumptions, conduct surveys or interviews. Result: Determine which particular knowledge gaps need to be addressed. 2. Sessions for Community Diabetes Education	Phase 1 1-2 months Phase 2 3-4months Phase 3 5-7months Phase 4 8-9 months	Evaluation of baseline knowledge and creation of materials Launch of a community session and training for health workers IEC distribution and the launch of Health Institutional collaborations	Improvement of at least 70% in diabetes knowledge scores (pre-test versus post-test) percentage of patients that participate in at least one educational session: 80% BHWs in target barangays that have received 100% training as educators Self-care and medica

		Take action by holding frequent group meetings at health facilities or baranga y halls that cover: What is diabetes ? Sympto ms, indicator s, and issues A healthy diet and regular exercise Monitori ng blood sugar and taking medicati ons as prescrib ed Result: A rise in general	Phase 5 10-12 month s	and peer educati on Observ ation and assess ment	tion adhere nce have improv ed by 60%. 30% fewer hospita l stays and ER visits within a year as a result of proble ms

		knowledge and awareness. 3. Creation of Culturally Appropriate IEC Resources Take action: Use straightforward language and visual aids to produce brochures, posters, and movies in regional dialects. Result: Regardless of reading level, make sure information is			

		accessible. 4. Diabetes Education Provided by Barangay Health Workers Take action: Educate local health professionals to provide continuous group and individual instruction. Result: Continue instruction by using dependable community members. 5. Program for Peer			

		Education and Testimony Take action: Ask people with diabetes to offer their advice and success stories. Result: Increased relatability and engagement. 6. Education in Mobile Health (mHealth) Take action: Every week, send out brief films, audio messages, or SMS			

		reminders to reinforce important diabetes lessons. Result: Offer ongoing assistance and education. 7. Combining Church and School Programs Take action: Work with educational institutions and places of worship to spread awareness about diabetes at events. Result: Increase			

		awareness among the community.			

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