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COMMUNICATION INTERVENTIONS FOR PUBLIC KNOWLEDGE, PREVENTION AND MANAGEMENT OF DIABETES MILLETUS AMONG VULNERABLE-AGE IN ABAKALIKI, EBONYI STATE

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Abstract
Diabetes Mellitus (DM) is one of the most prevalent chronic diseases worldwide, representing an important cause of mortality and morbidity. The purpose of this study was to evaluate the communication interventions for public knowledge, prevention/management of diabetes mellitus among older adults in the urban areas of Abakaliki, Ebonyi State. The study was anchored on Health Belief Model. Three research questions were formulated to guide the study. Findings showed that Diabetic patients in the urban areas of Ebonyi State do not adopt preventive measures against Diabetes as communicated to them by physicians; the strategies of preventing diabetes communicated to patients on admission and out patients have positive correlation with preventing the diseases; the older adults with Diabetes in Ebonyi State are not adequately communicated on the strategies to adopt to prevent the disease. The study recommended that patients with Diabetes should endevour to adopt the preventive measures they are communicated in order to reduce/prevent the risks of the disease; physicians and healthcare givers should explore strategies that are technology based to improve physician-patient communications. There is a need for more health communicators for the wellbeing of the diabetic patients, not only in urban areas but also in rural areas.

Keywords: *Communication, Diabetes, Intervention, Management, Prevention.*

Introduction
The Socio-economic stability of any society is weakened if the health status of the masses is not adequately checked, monitored and managed. Diabetes Mellitus (DM) is one of the most prevalent chronic diseases worldwide, representing an important cause of mortality and morbidity Chérrez-Ojeda, Vanegas, Calero, Plaza, Cano, Calderon, Valdano, Gutierrez and Guevara, (2018). Health is a state of complete physical, mental and social well-being World Health Organization (WHO 2021). Health and wellness contribute to the growth of any society, little wonder the popular saying that health is wealth.

The major aim of health communicator is to impart knowledge pertaining to diseases and to increase the confidence among the patients.Diabetic patients if not communicated with a proper way, can lead to various complications like, neuropathy, nephropathy, retinopathy, hyperlipidemia, diabetes foot ulcers, infections etc.Uloko, A.E., Musa, B. M., Sada, K.B.

(2018). All these complications adversely effect on the life style and quality of life of the diabetes patients. Proper health communication and counseling improves the quality of life of the diabetes patients. Diabetes mellitus is common among the aged people. Older adults who are over 65 years are more likely to encounter diseases related to aging, however, both the young and the very old are likely to be medically vulnerable. Diabetes mellitus is one of such diseases which pose health challenge to older people. Chérrez-Ojeda et al.(2018). Diabetes Mellitus prevalence in African communities is increasing with the ageing of the population and lifestyle changes. Approximately 422 million adults worldwide were estimated to have diabetes in 2014, and this number is expected to rise to 700 million people by 2025 (WHO, 2016).

This projection is due primarily to the growing prevalence of diabetes mellitus, which closely follows populations that are aging, overweight, obese and that engage in unhealthy lifestyles (Paiva, Abreu, Azevedo, and Silva, 2019). Over 1.5 million people die of diabetes each year and diabetes globally ranks 6th as a cause of death WHO, (2021). Diabetes also represents one of the leading causes of disability, which results from associated complications, including acute myocardial infarction, stroke, blindness, renal failure, and lower limb amputations. Disease and Injury Incidence and Prevalence Collaborators (DIIPC 2017). To reduce the morbidity and mortality burden, both the Chronic Care Model and the World Health Organization's Innovative Care for Chronic Conditions emphasize the need for patient centered care and self-management support for people with chronic illnesses Bodenheimer& Wagner(2002).

Consequently, several experts have proposed clear communication and health literacy curricula for health professionals globally Bodenheimer and Wagner, (2002); Paiva, Abreu, Azevedo, and Silva, (2019), including Nigeria which has the highest population in African continent. Diabetes Mellitus (DM) has in the recent years becomes a major public health challenge globally. DM according to the Editors of encyclopaedia Britannica is a disorder of carbohydrate metabolism characterized by impaired ability of the body to produce or respond to insulin and thereby maintain proper levels of sugar (glucose) in the blood. Diabetes Mellitus is deadly though these outcomes are not due to the immediate effects of the disorder they are instead related to the diseases that develop as a result of chronic diabetes mellitus; which includes diseases of large blood vessels (macro-vascular diseases, including coronary heart disease and peripheral arterial disease) and small blood vessels (micro-vascular disease, including retinal and renal vascular disease) as well as diseases of the nerves. This disease can be caused by inherited and or acquired deficiency in the production of insulin by the pancreas or due to the ineffectiveness of the non-communicable diseases of public health concern worldwide.

Patient-centered communication between patients with diabetes and the providers who care for them is paramount to fill the gap between recommendations and clinical practice. Therefore, it is important to involve both patients and providers in the dialogue about effective patient-centered communication to develop new or to improve on existing people-centered health services WHO (2016). The literature from communication theories provides recommendations for effective patient-centered communication in the following dimensions: fostering healing relationships, making decisions, exchanging/gathering and providing information, responding to emotions, and enabling patients' self-management of disease and treatment related behaviour. Uloko, A.E., Musa, B. M., Sada, K.B. (2018). It is against this backdrop that this study investigates communication interventions for public knowledge, prevention and management of Diabetes Mellitus among vulnerable age in Abakaliki, Ebonyi state with a view to making recommendations that are in tandem with the best global healthcare practices.

Statement of the Problem

It is evident from the literature that the incidence of diabetes mellitus is increasing and that although there is evidence that the complications can be preventedUloko et al (2018), there are still patients who lack the knowledge about the risk factors and skills to prevent, manage/ curb the condition. According to World Health Organisation (WHO, 2021), Nigeria is currently the most affected country in Africa-and over four million Nigerians are living with either the type 1 or type 2 diabetesAchigbu E., Oputa, R,Achigbu, K., Ahuche, U. (2015) and their findings show that more than 50% of the persons with diabetes in the country are unaware that they have the disease, while the rest are total novice on how to manage the condition..

Though there have been campaigns and studies aimed at enlightening the public on dangers of coming-down with DM, and the knowledge and perception of DM, the researcher have not seen any study on the evaluation of communication interventions for public knowledge, prevention and management. In view of the increasingly high incidence of complications in diabetic patients Moodley & Rambiritch,(2007), it would be valid to assess the knowledge, prevention and management of Diabetes Miletus among vulnerable age inAbakaliki,Ebonyi State.

Study Objectives

The general objective of the study is to evaluate the extent of the success of patient-centered communication of Diabetes Mellitus with regard to public knowledge of the disease, prevention and management among vulnerable age inAbakaliki,Ebonyi State. To achieve this objective, the following specific objectives will be addressed:
1. to ascertain the extent of the knowledge that aged adults in Abakaliki are communicated on the risks of Diabetes mellitus
2. to identify the extent the knowledge level of the older adults with Diabetes mellitus in Abakaliki
3. to evaluate the communication strategies used to inform adult/aged people in Abakaliki about the risks and treatment of Diabetes mellitus,

Research Questions
1. to what extent are the aged adults in Abakaliki informed of the preventive measures against the risks of Diabetes mellitus?
2. to what extent is the aged adults in Abakaliki have the knowledge of prevention and management of Diabetes mellitus?
3. what are the communication strategies used to inform adult/aged people in Abakaliki about the risks and treatment of Diabetes mellitus?

Study Significance

This study will be of significance in providing information regarding the evaluation of communication interventions for public knowledge, prevention and management of DM to Media Scholars and Media Educators.With adequate communication interventions on the disease, the patients and family members will now be on the knowand it will assist them to cultivate a positive view of the disease and its treatment, particularly those members with a negative view of the disease. Furthermore, the general public will understand the risk factors of diabetes and how to curb it to the minimal through the data that will be gathered. Also, the study will provide up-to-date literature for researches in this area to consult for further studies.

Scope/Limitations of the Study

This study covers the adults in Ebonyi State aged 45 years and above. This age range where Diabetes mellitus is prevalent (Uloko et al.2018). The study was limited by the inability of some of the victims of diabetes mellitus to respond to the items in the questionnaire because of their critical health conditions. There was also the challenge of gaining access to the six selected hospitals for the study: Alex Ekwueme Federal University Teaching Hospital, Mile Four Hospital,Holy Trinity Maternity, Nneji Maternity, Browns Hospital & Maternity and Felix Memorial Hospital all located within Abakaliki Urban, Ebonyi State of Nigeria.

Literature review
Conceptual Review

Overview of Diabetes Mellitus
Diabetes is a condition which results from the body's inability to regulate blood glucose level. Two major types of diabetes are type 1 and type 2. Type 1 is insulin-dependent, as it occurs when the body is unable to produce enough insulin. Type 2 occurs when the body is not able to effectively use insulin even when enough insulin is produced. American Diabetes Association (2019). Diabetes can cause severe medical complications including cardiovascular, ocular, and renal disorders. It can lead to serious damage to vital organs in the body, resulting in disabilities and sometimes even death. Diabetes was reportedly the 7th leading cause of death worldwide, affecting 463 million people worldwide in 2019 by the International Diabetes Federation. (International Diabetes Federation 2019.) Diabetes poses an enormous financial burden on patients and their families. The direct costs mainly include hospital-inpatient care, medical supplies and physician appointment visits. The indirect costs related to increased absenteeism, decreased productivity at work, and low productive capacity due to diabetes-related disability.

Type 1 diabetes currently has no safe and effective preventive measures. Insulin is the only main treatment for this type of diabetes. On the other hand, many risk factors for type 2 diabetes are controllable. Most prevention strategies include lifestyle changes such as improved diet, increased physical activity, and weight loss. These self-management aspects require knowledge and awareness among diabetic patients. Innovative mobile health apps, telemedicine, and web-based systems are used to educate and motivate diabetic patients during self-management practice. In addition to educating and motivating diabetic patients, recent technologies have simplified and automated much of the work that goes into diabetic care. Tracking technologies, for example, monitor a blood glucose level continuously, which significantly reduces the burden of managing the condition. Furthermore, ICT based intervention facilitates a network of care among healthcare providers to achieve therapeutic objectives. It helps to minimize medical errors and provide competent care and treatment to diabetic patients. However, it is worth noting that the use of ICTs in diabetes care and management is limited by technical challenges, familiarity with the system, subject to malfunction, and security and privacy concerns.

Among chronic diseases, diabetes mellitus exerts the need for high-quality therapeutic education, offering theoretical and practical support to the patients in order to allow decisions based on the acquired knowledge, skills and abilities. Existing evidence showed the role of education for diabetes self-management in achieving metabolic control and short-term weight loss.Active involvement in disease control must be intended, as to induce increased adherence and compliance to treatment. The concepts presented within the education sessions are important, although the means of communicating them are as important as the former .American Diabetes Association (2015). Consequently, successful interaction in the relationship dietologist-diabetic patient implies the physician to assume twelve crucial abilities:

empathy, use of open-ended and closed-ended questions, practice of active listening, use and identification of nonverbal indices, keeping silent, time management, summarizing, use of common language, clarifying responsibilities, action planning, evaluation of patient's understanding, making decisions together with the patient WHO (2016). This is because the patient is not a passive receiver of the medical act, but he/she builds the relationship with the physician and the disease based on a common ground of received information and his/her own set of values Adeleke&Ayenigara (2019).

Physician-Patient Communication
Patient-centered communication comprises exploring the disease, assessing the patient as a whole, establishing a common ground, implementing secondary and tertiary prevention, consolidating the physician-patient relationship, as well as realism. Therefore, providers of medical services should be aware of the impact the disease exerts on the patient in front of them Adeleke&Ayenigara (2019).

Considering the needs of modern patient, physician-patient communication becomes an essential ability in the new patient-centered approach. Methods for improving patient's adherence to treatment comprise a superior efficiency of the physician-patient relationship by gaining one's trust and highlighting the physician's concern towards the patient. Focusing on the patient (in his own perception) also correlated with a high standard of medical care quality patient WHO, (2016).
An inefficient communication within the medical team and between the physician and the patient may sometimes lead to major medical errors. Causes of inefficiency or barriers in the physician-patient communication comprise inexistent or dysfunctional communication channels, non-transmitted information (or misinterpreted information when the former two factors exist and are correct), and the physician's poor communication style Manning (2006).

Moreover, patient-centered communication is based on moral fundaments requiring physicians to enhance the biomedical approach of patients with the exact purpose of taking them into care, making them feel understood, analyzing their needs, perspectives and expectations. This way, the patients' involvement in understanding their illnesses and the assumption of responsibilities for decisions that may affect their lives are extended; some researchers reported an inverse correlation between this communication style and the number of required or performed diagnostic tests .Adeleke&Ayenigara (2019).

Communication Strategies for Diabetic Patients
The Centre for Disease Control and Prevention (CDCP) in America awareness campaign provides the public information campaigns on prediabetes, type 1and 2 diabetes prevention, and diabetes management which give people the information they need to safeguard and improve their health (CDCP, 2022). In the case of Nigeria, the Center for Disease Control and Prevention also uses multimedia channels to communicate diabetes patients and people predisposed to diabetes.

According to currently, there is no gold standard regarding communication. Adeleke&Ayenigara (2019), strategies and/or public awareness campaigns on Diabetes Mellitus. The researchers identify the five different vulnerable groups within the identified studies: migrants, ethnic groups such as African Americans, people with low socioeconomic status, older people, and people in need of care. The study found three categories of

communication strategies as follows: adapted diabetes prevention programmes, community health workers, and technical approaches. Findings show that there are different approaches for preventive interventions for DM. Some of these approaches were already adapted to known barriers. Specific approaches have been proposed, that physicians providing medical care today should adopt in order to benefit from the advantages of optimal communication. These techniques include encouraging the patient to express concerns freely and uninterrupted, identifying and clarifying those aspects the patient is concerned about (even though insignificant from a medical viewpoint), or development of a simple and transparent communication style, lacking the medical jargon (Breuing, et al., 2021).

Other strategies refer to knowledge and implementation of verbal and nonverbal communication techniques, focusing on the patients and approaching them through the impact the disease might have on their family, on life and its quality, on the treatment duration and effect, on the need for changing and adapting to a different lifestyle. All these strategies allow building a stable therapeutic relationship between physicians and patients and reduce misunderstanding of the transmitted information or omission of relevant information Chérrez-Ojeda et al., (2018)

Chérrez-Ojeda et al., (2018) in their study addressed the question "What Kind of Information and Communication Technologies Do Patients with Type 2 Diabetes Mellitus Prefer? An Ecuadorian Cross-Sectional Study" The researchers conducted an anonymous cross-sectional survey on type 2 diabetes mellitus. A chi-square test for association and adjusted regression analyses were performed.The purpose of the study is to assess the frequency of use of information and communication technologies and patterns of preference among Ecuadorian patients with diabetes. The mean sample age studied is 57.7%. The study finds that SMS is the most frequently used ICT (66.0%). The Internet was used by 45.2% of patients to obtain information about diabetes. SMS and email were rated as the most useful ICTs for receiving information (64.5% and 28.1%, resp.) and asking physicians about diabetes (63.8% and 26.1%, resp.). It also find that patients were also interested in receiving disease information (82.4%) and asking physicians about diabetes (84.7%) through WhatsApp. Adjusted logistic regressions revealed that individuals aged 55 years or younger, those with superior degree level, and those with long diabetes history preferred email for receiving information and asking physicians about diabetes compared to those above 55 years, those with low education level, and those with short diabetes history, respectively. The study concludes that understanding preferences of ICTs among patients with diabetes could facilitate application development targeted towards specific requirements from patients.

Existing evidence shows that physicians are not able or do not intend to assess psychosocial problems or preoccupations of the patients in approximately 50% of cases, where medical history results in insufficiently relevant information; e.g., the patient seems to be interrupted by the physician 18 seconds after describing the symptoms Uloko et al (2018) patients are confronted with misunderstanding of the physician's message. Researches where patients actively participated during consultation showed an improvement in parameters used for diseases such as diabetes or hypertension Grigorescu et al(2015). A targeted analysis searching for solutions to improve the communicative interaction in both doctors and patients, as to obtain an optimal medical care (and thus, patient satisfaction), brings up a communication adaptation theory asserting that people look to adapt and change communication styles and approaches in order to match the interlocutor's ones Breen. Zhang, Seblega, (2009).

Communication Interventions and Diabetes Mellitus

The process of disseminating information through the communications media where the aim is to effect actions, such as a change of policy, or to alter the public's view of an issue is communication interventions. Diabetes Mellitus (DM) is a group of diseases that affect how one's body makes use of blood sugar (glucose). When we talk about the media we mean those technological devices used in information dissemination. In this context, the mass media include both conventional and social media otherwise known as new media technologies. The technologies through which this communication takes place include a variety of outsets such as radio, television, newspaper, twitter, whatsapp, facebook, billboard, flyers etc.

The media can play an important role in raising the profile of diabetes spreading knowledge and understanding of the disease and attracting additional resources to diabetes research and care. Society expects the mass media to serve the people's interest. So, it is expected that all media messages should not only entertain and inform, but should also educate the people. In such times the hopes of the society encompass the idea of creating a forum for discussion, serving as watchdog to the society, helping to empower the society, educating the people about the potential health risks, physical and health literacy, and persistently advocating for the betterment of the society. This function the media effectively carries out through Agenda setting on sensitive issues of public importance. The role of the media to the society cannot be over-emphasized, they help the masses to interpret and contribute to advocacy and awareness creation on different issues including health which are ongoing in the society. Little wonder some of the earliest media researchers, like Harold Lasswell and Deflur believed that the functions of the media to the society includes among others, Surveillance, Correlation and allowing the society to work in harmony.

Considering all these tasks and responsibilities placed in the hands of the media, it is penitent to add that the media should be at the forefront in the fight against the prevalence of diabetes mellitus in our society. However, when we use the newspaper, radio, television, the internet, facebook and other media outlets to advocate and elicit knowledge on the management and avoidance of diabetes mellitus and other health related emergencies, we have effectively utilized the media to the desirable gain. The importance of effective communication among public is particularly critical during crises. During such times, the news media play an important role in amplifying or attenuating the public's perception of risk and serve as a key link in the risk communication process, Uloko et al. (2018).

Health education is an important constituent of public health and health promotion. Health education aims for positively influencing the health behaviour of people by informing and instructing common populace about risk factors and their chances of vulnerability of and disease especially diabetes mellitus, Uloko et al. (2018) Across the globe public health advocacy activities focus on health education to influence health behaviour of the target audience. Being an important social organisation mass media has wide reach and access that can influence the public by improving their health education, communication and knowledge level. Mass media play crucial role in disseminating health information and increasing advocacy about diabetes mellitus. Media is instrumental in bringing behavioural changes in knowledge, beliefs and attitudes about the risk factors of diabetes mellitus.

Empirical Review
Moodley and Rambiritch (2007) assessed the level of knowledge about diabetes mellitus among diabetic patients in a primary healthcare setting. The study is a descriptive study involving patients visiting three primary healthcare clinics in KwaZulu-Nata. The authors state that diabetes mellitus is a global disease with an extreme effect on the quality of life of affected

patients. The study notes that in the past, South Africans diagnosed with diabetes mellitus were predominantly from the affluent urban community but now, due to westernization of the rural community, it is fast becoming prevalent in the rural African population.

The study finds that knowledgeable patients receiving regular counselling are more likely to maintain better glycaemic control; that patients are not sufficiently equipped with the knowledge to comprehensively manage their disease. The authors opine that knowledge of diabetes is essential for primary healthcare and other diabetic patients in order to prevent comorbidities, which may compromise their lifestyles as well as increase the burden on public health care. The study recommends that there is need for an increase in the awareness of diabetes management and its complications in the primary healthcare sector, there should be continuing education on diabetes mellitus and its complications for primary healthcare providers and this should be accompanied by a regular assessment of their diabetic knowledge. Screening for diabetes is important, but equally crucial is patient education and counselling.

The study is related to the present study in its objectives and purpose. However, the setting is different as the knowledge of the people of South Africa about diabetes cannot be the same because of the differences in the level of education, culture and social life. In addition, the study fails to consider the role the media play in creating awareness of Diabetes mellitus. This implies that there is justification to engage in a study like this which focuses on the part communication plays in creating public knowledge, prevention and management of Diabetes Miletus among vulnerable age.

Breuing et al., (2021) explored "Communication strategies in the prevention of type 2 diabetes and gestational diabetes in vulnerable groups: a scoping review." The study employed a scoping review as the research method. The authors states that the global prevalence of diabetes is nearly 9%, with an upward trend in type 2 diabetes mellitus (T2DM) and gestational diabetes (GDM) and notes that although evidence shows that vulnerable groups are affected disproportionally, these groups are difficult to reach in terms of preventive measures. The researchers identify the following five different vulnerable groups within the identified studies: migrants, ethnic groups such as African Americans, people with low socioeconomic status, older people, and people in need of care. The study identified three categories of communication strategies as follows: adapted diabetes prevention programmes, community health workers, and technical approaches. Findings show that there are different approaches for preventive interventions for T2DM. Some of these approaches were already adapted to known barriers. The study recommends that communication strategies should be adapted to barriers and facilitating factors to increase participation.

Specific approaches have been proposed, that physicians providing medical care today should adopt in order to benefit from the advantages of optimal communication. These techniques include encouraging the patient to express concerns freely and uninterrupted, identifying and clarifying those aspects the patient is concerned about (even though insignificant from a medical viewpoint), or development of a simple and transparent communication style, lacking the medical jargon. Other issues refer to knowledge and implementation of verbal and nonverbal communication techniques, focusing on the patients and approaching them through the impact the disease might have on their family, on life and its quality, on the treatment duration and effect, on the need for changing and adapting to a different lifestyle. All these strategies allow building a stable therapeutic relationship between physicians and patients and reduce misunderstanding of the transmitted information or omission of relevant information (Diab, 2012).

Samjhana, G. and Pratim, P. (2020) investigates "Use of information and communication technology in diabetes management". The authors state that living with chronic conditions like diabetes requires a lot of changes in one´s daily life from modifications in nutrition, medication and many more. Samjhana and Pratima, (2020) argue that the new emerging information and communication technologies have contributed in many ways to the management of diabetes among patients and health care providers. The aim of this study is to examine the use of ICT in diabetes self-care and management. The purpose of study is this to improve knowledge among diabetic patients and health professionals on ICTs interventions in the care process. The method selected to conduct the study a descriptive literature review. The data analysis used is qualitative analysis and it is done by using thematic analysis. The study finds that involving the diabetic patient in self-management of their condition improves their quality of life and prevents many acute complications; the education and skills developed using various communication and technologically advanced devices in care management enhance the knowledge regarding their disease condition and measures to prevent complications. The study is related to the present study in subject matter – information and communication in the management of diabetes. However, the study is narrowed to digital communication patient-physician relations.

Grigorescu, Lăcătuşu, Botnariu, Popescu, Popa, Onofriescu and Mihai (2015) explore "Communication as a key issue in the care of diabetes mellitus". The authors state that the physician-patient communication has an essential role in establishing and supporting the relationship between these two partners. Moreover, modern medicine highlights the patient-centered approach. Publications assessing the impact of an efficient physician patient communication on medical care results in diseases such as diabetes and hypertension have revealed a positive correlation between patient's satisfaction about the communication with the physician and values of blood pressure, glaciated hemoglobin and pain intensity. Interventions needed in both doctors and patients for developing communication abilities were paid special attention in order to achieve an appropriate improvement in their communicative interaction during periodical appointments. In the field of diabetes mellitus, the medical challenge is to improve patients' knowledge about medical care; this aim is achieved only by therapeutic education, using high-quality communication techniques Grigorescu et al, (2015).

Theoretical Framework
This study was anchored on the Health Belief Model (HBM). This model was developed in the early 1950s by social scientists at the U.S. Public Health Service to help in understanding the reasons why people fail to adopt disease prevention strategies or screening tests for the early detection of disease LaMorte, (2019). Later uses of HBM were for patients' responses to symptoms and compliance with medical treatments. The HBM suggests that a person's belief in a personal threat of an illness or disease together with a person's belief in the effectiveness of the recommended health behaviour or action will predict the likelihood the person will adopt the behaviourLaMorte,(2019).

The HBM is based on two behavioural components of health-related behaviour. These are: 1) the desire to avoid illness, or conversely get well if already ill; and, 2) the belief that a specific health action will prevent, or cure, illness (LaMorte, 2019). By implication, HBM focuses on two aspects of individuals' representations of health and health behaviour: threat perception and behavioural evaluation (Abraham & Sheeran, 2015). HBM is related to this study in that the model the main focus of the model is on individual's perception and analysis of threat or real dangers that a disease can make the individual to suffer. The conclusion the individual

reaches from the perception and analysis determines the response to the protective measures against disease like diabetes mellitus.

Methodology

Descriptive survey design was employed for this study. This design helped the researcher to describe the data gathered in the course of the study and infer the implications of the data. In collecting the data, the researcher used questionnaire. The questionnaire was structured to enable the researcher get the required data to answer the research questions.

The area of study was Abakaliki Urban. Abakaliki is the capital of Ebonyi State, Nigeria. The residents of the area are mostly business men and civil servants. The urban area covered include Azuiyokwu, Ishieke, College of Agriculture (CAS). These three areas were selected because they serve as host to the six selected hospitals from where the patients studied were drawn from.

The research population for this study included the diabetic patients that receive treatment in the following hospital: Alex Ekwueme Federal University Teaching Hospital, Mile Four Hospital, Felix Memorial Hospital, Holy Trinity Maternity, Nneji Maternity and Browns Hospital and Maternity. The total population of the registered nursing diabetic patients in the hospitals was 386. This population included those on admission and out patients. Purposive sampling was used to gather data from the respondents. This technique was used because it allowed the researcher to identify the target population who were people with diabetes. Identifying this target population was necessary in order to get the right information from the experiences of the patients. The patients on admission were administered the questionnaire with the help of the nurses in the hospital who served as the research assistants. One research assistant was used for each hospital. The out patients were administered the questionnaire on the days they had appointments with their doctors.

No statistical formula was used to determine the sample size. This was because the population was within the size that could be studied as the sample of the study. The researcher therefore employed the census method which involved studying the entire population. However, Bourley's proportional representation formula was used to determine the proportion of the sample population that was administered the questionnaire in each selected hospital.

The researcher used test-retest method to measure the reliability of the instrument. The data that were collected from the respondents were presented in Tables of frequency. The Tables indicated response categories, and the simple percentages. The data were interpreted descriptively and the implications of the data distribution were drawn out and used to arrive at the findings of the study. The findings of the study were then discussed with reference to the data.Literatures that were referred to in the study were used to support the findings.

Results

The data obtained from the survey were presented and analysed in this section using frequency tables and descriptive statistics. The data were presented sequentially according to the way they appear on the questionnaire. Thereafter, the specific items relating to the research questions were analysed and the results were used to test the research hypotheses.

In line with the sample size of the study, the researcher distributed 386 copies of the questionnaire to 386 participants. The data relating to the retrieval of the completed questionnaires are summarised in Table 1.

Table 1: Presentation of the Retrieval Rate of the Data

Description	No of responses	Percentage of responses

Total number of Questionnaires Administered	386	100%
Total number of invalid returned questionnaires	4	1%
Total number of valid returned questionnaires	381	98.7%
Total number of questionnaires unaccounted for	5	1%

Source: Field survey (2023).

The data suggest that female respondents exceeded the male counterparts by twenty-eight (28) persons which indicate that more female than men were reached with the questionnaire. This variation is merely accidental as the study did not target any gender in particular. Rather, the questionnaires were randomly distributed with respect to gender and the situation was more a matter of who was available and willing to be a participant in the study.

While the study did not target any group in particular with respect to marital status, the fact that more of 'married' individuals completed the questionnaire reflects the environment in which most of the questionnaires were distributed, hospital.

The data shows that all the respondents have minimum formal education and more. This places them in the position to and so could read and understand the items in the questionnaire. We can therefore have high level of confidence in the correctness of the data obtained and the results therefrom.

Table 2: Age of the Respondents

Description	No of responses	Percentage of responses
45Yrs -60Yrs	241	64.4
61Yrs –85 Yrs	142	36.6
86Yrs– above	3	0.8
Total	**386 100**	

Source: Field survey (2023).

This age range is older adults and is regarded as vulnerable to disease. The study targeted older adults. Since this age group has been weakened by old age, they could easily suffer from diabetes because of their weak liver that could not convert excess sugar in the blood to glucose.

Presentation of Data Relating to the Main Questions

Table 3: How often are you exposed to information on Diabetes Mellitus by healthcare providers?

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Regularly	71	18.4	18.4	18.4
Sometimes	234	60.6	60.6	79.0
Daily	35	9.1	9.1	88.1
Once a week	31	8.0	8.0	96.1
Monthly	15	3.9	3.9	100.0
Total	**386**	**100.0**	**100.0**	

Source: Field survey (2023).

None of the participants indicated that he/she never been communicated about Diabetes Mellitus. This means that the respondents are adequately exposed to the information on the disease.

Table 4: Does the information you get about diabetes helps you to know better how to care for your health?

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	146	37.8	37.8	37.8
Undecided	62	16.1	16.1	53.9
No	178	46.1	46.1	100.0
Total	**386**	**100.0**	**100.0**	

Source: Field survey (2023).

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Table 5: Does the information from healthcare workers on diabetes mellitushelp youto prevent the disease?

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	146	37.8	37.8	37.8
Undecided	62	16.1	16.1	53.9
No	178	46.1	46.1	100.0
Total	**386**	**100.0**	**100.0**	

Source: Field survey (2023).

The above Table suggest that the communications between healthcare workers and older people with diabetes do not help them to prevent the disease. This information indicates that there is need to improve health communication or give healthcare workers more training on how to communicate with the patients with diabetes.

Discussion of Findings
The demographic variables analysed in this study gender, age, marital status and educational levels had significant effects in the decision-making processes of the respondents with regard to their understanding of communications relating to the prevention and management of diabetes mellitus. With respect to marital status, the fact that more married people 315 (81.6%) as against the those that were single, divorced and widowed indicated that more males than women were prone to diabetes in the environment the questionnaire were administered. All the respondents where educated, hence the understood the items in the questionnaire and were able to give reasonable answers that led to reliable findings. The distribution of the age of respondents showed that those between the ages of 45-85 (100%) showing that older people are admitted more in hospitals as people with diabetes. Data provided evidence that shows that older adults are vulnerable to diabetes. Education was also found to enhance the knowledge of patients on ways of improving the health condition of diabetic patient.

The study found that diabetic patients taking medical care in the investigated hospitals able to understand the strategies to employ in other to reduce the risks of diabetes mellitus. This finding is supported by the finding of the study conducted by Grigorescu et al., (2015) which found that physician-patient communication has positive correlations with changing the attitudes of

older adults to guide against risky health behaviours that cold result to or worsen the condition of patient with diabetes.

The study also found that patients on admission in the study area were not satisfied with the communication between physicians and patients. This finding is supported by the data in Table 5which showed that 178(46.1%) of the patients were not satisfied with physician patients communication. Finding from the study by Breuing et al., (2021) supports this finding.

The researcher found that patients do not adopt the preventive measures that physicians communicate to them because they do not gain enough knowledge of diabetes disease through their communication with physicians. This is similar to the finding of the study by Moodley and Rambiritch (2007) which showed that patients are not sufficiently equipped with the knowledge to comprehensively manage their disease. Grigorescu et al., (2015) also showed that physicians are not able or do not intend to assess psychosocial problems or preoccupations of the patients in approximately 50% of cases, where medical history results in insufficiently relevant to information.

Conclusion

Based on the findings of the study, it has become imperative to re-examine the relationship between healthcare givers and the older adults with diabetes mellitus in order to improve the communication between the two partners. Diabetes is a killer disease with no known medical cure. However, the risks of diabetes could be reduced through effective communication that provides patients with the strategies to help reduce the effects of the disease. Improved diets, physical exercises and avoidance of food with higher sugar content could help the older people to survive diabetes mellitus.

Recommendations

The study recommends that:
1. Patients with diabetes mellitus should endevour to adopt the preventive measures they are communicated in order to reduce or prevent the risks of diabetes Miletus.
2. Physicians and other healthcare givers should explore new strategies that are technology-based to improve physician patient communications and healthcare givers should give adequate attention to older adults with diabetes mellitus.
3. Media practitioners should advocate for increased awareness on DM and the need for improved care for persons with diabetes by allotting more time to health programmes.

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