

TACKLING THE GROWING CASES OF DIABETES AMONG YOUNG ADULTS THROUGH SOCIAL MEDIA-BASED TELE-COUNSELLING ON FOOD-INTAKE

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Abstract

The incidence of diabetes is continuously growing worldwide. Nigeria is no exception, as the early debut of diabetes has been recorded among young adults. This study examined the growing cases of diabetes among young adults through social media-based tele-counselling on food intake. The study adopted the survey method to retrieve data from respondents using a free online Google form link. An online self-administered questionnaire was adopted to collect data for this study. Findings showed that telemedicine counselling approaches initiate and sustain health education and promotion. Findings also showed that telemedicine counselling approaches reduce disparities in diabetes patients' healthcare delivery system. It is recommended that the use of social media for telemedicine counselling approaches in the treatment plans of patients with diabetes must be initiated and sustained in Nigeria. More attention must be given to the classless nature of social media-based telemedicine counselling

approaches for patients of diabetes, and therefore, its use must be made to be more user-friendly between the rich and the poor, literate and illiterate patients of diabetes.

Keywords: Growing Cases, Diabetes, Young Adults, Social Media, Tele-counselling, Food intake

Introduction

Diabetes is growing at an alarming rate globally (Bang et al., 2022). The incidence of diabetes among young adults is becoming alarming in Nigeria. Diabetes is a prevalent disease of this age, also named the plaque of our time (Yildirgan, 2022). The global prevalence of diabetes reached 10.5% in 2021, and of these cases, 537 million young adults live with diabetes, which is an increase of 16% from 2019 (Guo et al., 2019). Diabetes has become a chronic, severe, non-communicable disease after cerebrocardiovascular disease (Guo et al., 2023). Diabetes mellitus is one of the major health problems in the world (Aazza et al., 2024). Cases of diabetes and its complications have overwhelmed Nigeria's healthcare system (Das et al., 2024). The incidence of diabetes mellitus has been increasing, prompting the search for non-invasive diagnostic methods (Lee et al., 2024). Patients with diabetes suffer from metabolic disorders in carbohydrates, fat, and proteins associated with hyperglycemia (Prabhu et al., 2024). Preventing and controlling type 2 diabetes remains a constant challenge (Ong et al., 2023). Type 2 diabetes changes the structure and performance of various body organs such as the eyes, heart, kidney, brain, nerves, and blood vessels and increases the risk of infections (Paunica et al., 2023). The level of global diabetes has caused economic, social, and health burdens in many nations of the world. For instance, the global cost of diabetes in 2015 was 1.3 trillion US dollars, equivalent to 1.8% of global GDP (Sofyan et al., 2023).

Diabetes-induced losses, especially in the labour market, are massive, and this stresses the importance of initiating measures aimed at controlling the prevalence of diabetes among young adults in Nigeria. Reducing the number of new cases and implementing measures to improve the quality of life and the economic empowerment of diabetic patients become imperative (Sofyan et al., 2023). Granado-Casas et al. (2022) maintain that lifestyle management is a cornerstone for care and includes diabetes self-management education and support, medical nutrition therapy, physical activities, smoking cessation counselling and psychological care. Management of nutritional therapy is one of the important steps diabetic patients can take to prevent the gravity of the disease (Joshua et al., 2023). Most victims of diabetes lack knowledge of eating healthy foods, fruits and vegetables to prevent becoming

diabetic. Due to illiteracy, poverty and unemployment among young adults in Nigeria, the rising cases of diabetes continue to soar. Besides, young people have been shown to prefer eating junk foods, fried and processed foods, which are found to be primarily responsible for type 1 diabetes. Consequently, in what ways do social media-based telemedicine counselling approaches help tackle the growing cases of diabetes among young adults in Nigeria? And what factors have 'effectivised' social media-based telemedicine counselling approaches, rather than face-to-face consultations, to promote adherence to healthy food intake in young adults in Nigeria? These call for systematic investigations.

Literature Review

Theoretical Framework

Recent technological advancements in information and communication technology have given birth to a new healthcare information exchange system method. Information and Communication Technologies, as Anaeto Onabajo and Osifeso (2012) maintain, have the potential to transform any environment by giving birth to new social orders and pop culture. In short, media technology could simultaneously be a channel and a message to a media audience. New information and communication technologies have bridged the distance between healthcare givers and seekers. Tele-counselling on food intake by health professionals has erased physical visits to health facilities by patients with diabetes and also cancelled the need to attend to a large number of patients through physical contact at health facilities by medical professionals. This study is anchored on technological determinism theory.

This theory was propounded by McLuhan in 1962. The theory ascribes technological innovations to changes in the healthcare delivery system (Ani, 2023). The basic assumption of this theory is relevant and applicable to this study because medical professionals and diabetes patients are now digital natives, as they embrace information and communication technologies or digital tools and devices in the sharing of relevant healthcare information systems. The theory assumes that technology is of utmost importance for any society to attain development. Technological determinism theory assumes that media technology influences

how individuals in a society think, feel and act (Nwafor et al., 2023). The assumptions of this theory imply that media audiences learn and think the way they do because of their exposure to the latest media technology (Nwafor et al., 2023).

Rising Cases of Young Diabetic Patients in Nigeria

The rising cases of diabetes mellitus in Nigeria are linked to urbanisation, industrialisation, socio-economic development and environmental factors such as dietary routine and lifestyle (I. U. et al., 2023). There has been sustained growth of diabetes in sub-Saharan Africa, and Nigeria is no exception (Uzoma et al., 2023). Diabetes is highly prevalent in Nigeria. 11.2 million Nigerians, that is 1 out of every 7 Nigerians, are patients of diabetes, and this poses a serious economic burden on the nation (Ifedayo, 2023). Many cases of diabetes are undiagnosed as a result of poverty, illiteracy and passive habits of diabetic patients (Ogbole and Harold, 2023). The high incidence of diabetes mellitus in Nigeria demands serious research attention to produce more efficacious antidiabetic agents (Ajao et al., 2023). Diabetes mellitus is a health condition that can involve people of all ages. In the last three decades, the number of diabetes patients has risen four times worldwide (Amanullah et al., 2022). While type 2 diabetes is inextricably linked to obesity, other factors associated with type 2 diabetes are smoking, quality of sleep, family history and hypertension (Barlow and Mathur, 2023).

The global prevalence of diabetes has reached a crisis level, affecting more than half a billion young adults worldwide (Barlow and Mathur, 2023). Currently, 90% of diabetic patients have Type 2 diabetes (Guo et al., 2023). Type 2 diabetes is the most common type in young adults (Elsayed et al., 2023). The paucity of diabetes specialists in developing countries like Nigeria has made it essential for primary care physicians to control the disease (Michael et al., 2023). Diabetes mellitus is a chronic medical disease that leads to significant morbidity and mortality worldwide (AlHaqwi et al., 2023). Diabetes is a metabolic syndrome that poses a serious threat to global health (Oyebamiji et al., 2024). It is one of the leading causes of death and disability globally and affects people irrespective of age, sex, country and occupation (Ong et al., 2023). The global diabetes crisis is estimated to reach 643 million

cases by 2030 (Barlow and Mathur, 2023). Therapeutic failure, poor quality of life and high economic costs have been linked to increasing cases and poor adherence to medication in type 2 diabetes (Ihekoronye and Osemene, 2023).

Social Media-Based Tele-Counselling on Diabetes in Nigeria

Social media has been increasing in popularity due to its prevalent accessibility and availability, cost-effectiveness and availability of information on different spheres of life (Kwan et al., 2023). Social media is crucial in hospitals' internal and external communications, image and perceptions (Kumalasari and Sulistiadi, 2022). Social media is extremely important for everyone, including those seeking health services (Kumalasari and Sulistiadi, 2022). The use of social media for communication by hospitals provides health information to patients, tele-counselling, influences patients' visits, promotes health education, covers for limited health facilities and can reach a greater number of patients and relevant public hospitals simultaneously. Social media-based tele-counselling approaches have proved useful for networking, communication, education and information dissemination (Kwan et al., 2023). Social media has become an integral part of human existence, and its use has become increasingly intertwined with the medical profession (Wong et al., 2019). During curfews, wars and pandemics, social media has proved useful in building and sustaining communications between patients and medical practitioners.

One of the major areas in which social media enlightenment campaigns could help reduce the prevalence of diabetes is providing nutrition education about carbohydrate knowledge and blood glucose control to Nigerian young adults (Phan et al., 2022). Social media enlightenment campaigns on regulating eating patterns with proper diet control and management have shown to be an effective means to reduce the spread of diabetes in young adults in Nigeria (Intan et al., 2022). Education and enlightenment campaigns are the main principles in managing diabetes among young adults in developing nations like Nigeria (Derakhshandeh-Rishehri et al., 2022). Diabetes education and medical nutritional therapy are the two approaches to combat the widespread diabetes among young adults in Nigeria (Velazquez-Lopez et al., 2022). To prevent complications arising from diabetes and reduce the healthcare system's costs, adequate prevention and early diagnostic screening are

extremely crucial (Galiero et al., 2023). Adequate enlightenment has to be made available not only to diabetes patients but also to those who are not the patients to adjust to a healthy lifestyle. Diabetes education is crucial in disease management and care (Weitgasser et al., 2023).

Diabetes is one of the major global health challenges (Jadhav et al., 2024). Social media has proved useful in disseminating relevant health information concerns. On many fronts, conventional media have failed to perform social responsibility functions in disseminating health-related messages to people. Patient-centred diabetes education that emphasises active patients' involvement in self and shared care constitutes a substantial component of the comprehensive diabetes management approaches (AlHaqwi et al., 2023). Adherence to the Mediterranean diet has been shown to decrease type 2 diabetes among young adults (Dominguez-Riscart et al., 2022). However, scholars have yet to explore the impact of social media enlightenment campaigns against the prevalence of diabetes in Nigeria. Diabetes tele-counselling is also known as tele-diabetes or e-diabetes counselling. Information and communication technology-based diabetes counselling has shown great potential for promoting self-care and self-management in patients with type 2 diabetes (Nabovati et al., 2023). Tele-counselling is a cost-effective method that can be used to counsel diabetes patients about initiating and maintaining a healthy lifestyle (Derakhshandeh-Rishehri et al., 2022). Counselling strategies, such as motivational interviews, could be used to build eating competence (Salvia and Quatromoni, 2023). Although nutritional strategies such as low-energy, low-fat and low-carbohydrate diets have been recommended for patients with type 2 diabetes, no cure has been discovered for the disease (Forouhi, 2023). People with pre-diabetes are at high risk of progressing to type 2 diabetes, and the progression to type 2 diabetes is not dependent on ethnicity, age, tribe or sex (Gardner et al., 2023). Maintaining a healthy lifestyle is important to effective diabetes management plans (Urasaki and Le, 2022).

Nutrition and Diabetes

In developing countries like Nigeria, dietary habits and a sedentary lifestyle are the major factors contributing to the rapidly rising incidence of diabetes (Mutagwanya et al., 2022).

Besides, young adults who are addicted to alcohol, cigarette smoking and excessive eating of junk foods have been shown to face a higher risk of type 1 diabetes than young adults who consume healthy foods. In addition, there is a stark lack of dietary education, knowledge and resources in Nigeria (Deng et al., 2022). Nutrition education attempts to maintain and enhance good eating habits to achieve maximum metabolic control in people with type 2 diabetes (Pancheva et al., 2022). Nutrition is an interface between dietetics (environment) and metabolism (body), requiring individualisation based on cultural, environmental and metabolic parameters (Mechanick et al., 2020). Food nutrition education and balanced diet campaigns are scanty in the mass media in Nigeria (Walch et al., 2023). Nutritional interventions are key to type 2 diabetes control and management (Salvia et al., 2023).

Many studies have failed to examine the influence of food consumption on diabetes (Li and Shi, 2022). Nutrition has been linked with diabetes for centuries (Gunalan, 2023). Nutrition greatly impacts diabetes control and management (Dominguez-Riscart et al., 2022). Although a family-centred nutritional approach is one of the effective ways to put the increasing rate of diabetes in check, many African scholars have not explored this option (Mphasha et al., 2022). There is a higher risk of diabetes in families with income lower than the poverty line (Barlow and Mathur, 2023). Processed meat, refined grains, and fried products are positively associated with diabetes (Li and Shi, 2022). The quality of nutrition, to a very large extent, is a risk factor for diabetes. A family that perpetuates many carbohydrates in its food processes is at higher risk of becoming diabetes patients than a family that maintains a balanced diet. Nutritional therapy has been stressed for years for people affected by type 2 diabetes, and the importance of diet and nutrition has become a measure of control and prevention for type 2 diabetes (Forouhi, 2023). Among these factors, lifestyle choices, physical attributes, and family history are risk factors for developing diabetes (Abdulaziz et al., 2023). Diabetes is a metabolic disorder with no specific treatment but could be controlled by a modification in lifestyle and diet (Saleh et al., 2024). Dietary changes are required to minimise the rising cases of diabetes among young adults in Nigeria. Consumption of high-fibre and nutrient-rich foods has been shown to minimise risks of obesity and Type 2 Diabetes Mellitus.

Study tool

A Descriptive method is appropriate when a researcher intends to access the opinions, views and thoughts of a group of people concerning a research work. Hence, it was apt to adopt the survey method to retrieve data from respondents using a free online Google form link. An online self-administered questionnaire was adopted to collect data for this study. The Google form was used to construct a Likert scale format instrument. The Google form link created was shared on WhatsApp and Facebook groups purposively selected. The respondents were from different medical groups and medical associations. The sample size of this study is 211. The Google forms filled out online were sent to Facebook and WhatsApp platforms or groups of respondents across Nigeria. The message that accompanied the URL link encouraged participants to share the link further. The questionnaire was administered to the respondents between December 2023 and February 2024. Of the 211 respondents who filled out the online copies of the questionnaire, only 200 of those copies of the questionnaire were found to be useful.

Results

Table One: The use of social media for telemedicine counselling on Diabetes

Options	Frequency	Percentage
Yes	101	50.8%
No	99	49.2%
Total	200	100

Table 1 shows that most respondents use a social media platform for telemedicine counselling approaches on diabetes.

Table Two: The Use of Social media-based telemedicine counselling approaches in the promotion of adherence to treatment plans of diabetes among young adults in Nigeria

Options	Frequency	Percentage
Supervision for the Recurrence of Diabetes	40	20%

Promotion of	27	13.5%
Subsequent		
Screening of		
Diabetes		
Long-and Short- Terms	37	18.5%
Health Consultations		
Health Education	53	26.5%
and Promotion		
Management and	43	21.5%
Monitoring of the		
Healing Process		
of the Patients of		
Diabetes		
Total	200	100

Table 2 shows that 53 respondents, representing 26.5%, maintained that telemedicine counselling approaches initiate and sustain health education and promotion, while 43 respondents, representing 21.5%, averred that telemedicine counselling approaches aid effective management and monitoring of the healing process of the patients of diabetes.

Table three: Factors that "Effectivise" Telemedicine Counselling Approaches to Reduce the Growing Rate of Diabetes among Young Adults in Nigeria

Options	Percentage		
	Fre		
	que	ncy	
telemedicine counselling offers			15%
access to healthcare advisories		30	
irrespective of geographical			
locations			

telemedicine counselling improves patients' healthcare satisfaction	42	21%
telemedicine counselling reduces disparities in diabetes patients' health care delivery system	30	42%
telemedicine counselling provides health outcomes comparable to those of face-to-face encounters	30	15%
telemedicine counselling reduces inefficiency in the provision of healthcare	14	7%
Total	100	
	200	

Table 3 shows that 84 respondents, representing 42%, affirmed that telemedicine counselling approaches reduce disparities in diabetes patients' healthcare delivery system, while 42 respondents, representing 21%, maintained that telemedicine counselling approaches improve the healthcare satisfaction of patients with diabetes.

Discussions

Telemedicine counselling approaches initiate and sustain health education and promotion. Supporting these findings, Derakhshandeh-Risher et al. (2022) posit that education and enlightenment campaigns are the main principles in managing diabetes among young adults in developing nations like Nigeria. Ogbole and Harold (2023) also aver that many cases of diabetes are undiagnosed as a result of poverty, illiteracy and passive habits of diabetic patients. The high incidence of diabetes mellitus in Nigeria demands serious research attention to produce more efficacious antidiabetic agents. Diabetes mellitus is a health condition that can involve people of all ages. In the last three decades, the number of diabetes patients has risen four times worldwide. Telemedicine counselling approaches reduce

disparities in diabetes patients' healthcare delivery system. Supporting these findings, Nabovati et al. (2023) maintain that Diabetes tele-counselling is also known as tele-diabetes or e-diabetes counselling. Information and communication technology-based diabetes counselling has been shown to possess a great potential for promoting self-care and self-management in patients with type 2 diabetes and for accessing diabetic patients irrespective of social, economic or political class.

Conclusion

The use of social media enlightenment campaigns for regulating eating patterns with proper diet control and management has been shown to be one of the effective means to achieve a reduction in the widespread incidence of diabetes among young adults in Nigeria. Therefore, health professionals should always address issues that border on reducing the growing cases of diabetes among young adults and circulate them on social media. The use of social media for communication by hospitals provides health information to patients, tele-counselling, influences patients' visits, promotes health education, and serves as a means of contact for patients far from health facilities.

Recommendations

The use of social media for telemedicine counselling approaches in the treatment plans of diabetes patients must be initiated and sustained in Nigeria. More attention must be given to the classless nature of social media-based telemedicine counselling approaches for patients of diabetes, and therefore, its use must be made to be more user-friendly between the rich and the poor, literate and illiterate patients of diabetes.

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