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Practice of Diabetic Self Care Among Diabetic Farmers in University of Calabar Teaching Hospital Calabar, Nigeria

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Abstract

The study analysed the practice of diabetic self care among diabetic farmers in University of Calabar Teaching Hospital Calabar, Nigeria. One hundred and twenty (120) respondents were selected through a multi-stage sampling procedure from diabetic rural farmers attending diabetic clinic in the University of Calabar Teaching Hospital. Data collected were analyzed using descriptive and inferential statistics such as frequency, percentage, mean, standard deviation and chi-square test respectively. The study revealed that a good proportion (52.5%) of the respondents were males while 47.5% were females. The study revealed through a check list that majority (75.00%) had regular blood glucose check, 70.00 percent had contact with health care providers whenever infections occurred, while 60.83 percent had their meal plan regularly. Constraints affecting diabetic self care practice include lack of technical knowhow on the practice of self care, negative attitude towards diabetes and poor communication between agricultural extension workers, health extension workers and the rural farmers in the study area. The chi square test indicated that, there was no significant relationship between level of education and practice of self-care among diabetic rural farmers in the study area at 5% level of significance with an X^2 value of 5.99. The study calls for greater synergy between rural farmers, agricultural extension agents, health workers and diabetic clinics in the study area. This will bring hope and courage to diabetic rural farmers in the study area.

Keywords: Diabetes, Diabetic Farmers, Practice Teaching Hospital, University of Calabar.

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1. Introduction

Diabetes is one of the endocrine disorder that reach epidemic proportions among rural farmers in Nigeria and other parts of the world. It is a group of metabolic disorder where there are high blood sugar levels over a prolonged period of time and this has really affected agricultural activities among the farming population [1-3]. Nigeria has the highest population of diabetes mellitus, malaria and other diseases affecting farmers in Africa, 130 million persons with a higher population rate among young adults aged 25-30 years who are mostly farmers in the communities are suffering from diabetes mellitus [3-6]. In Cross River State, Ngwu [7] reported that the prevalence of diabetes mellitus is about 6.9% in the southern agricultural zone. The researcher further disclosed that the prevalence of undiagnosed cases among rural residents and farmers in Cross River State was also similar to studies in Northern Nigeria. The increase in severity of diabetes every year has been linked to farmers' lack of proper practice of self care. About one third of the farmers suffering from diabetes may not be aware of the practice of self care early enough. Regrettably, many farmers who are diagnosed with this condition demonstrate fear about the future and general dislike and misconceptions about the disease. Other diseases associated with diabetes mellitus include; body pains, excessive urination, weight loss amongst others [8-10].

According to the World Health Organisation WHO [11], Diabetes Mellitus, or simply put diabetes is a group of diseases characterised by high blood glucose level that results from def in the body's ability to produce or use insulin. The abnormalities of carbohydrate, fat and protein metabolism are due to deficiency action of insulin on issues resulting from insensitivity or lack of insulin. Diabetes mellitus may present characteristic symptoms such as thirst, polyuria, blurring of vision and weight loss, often, symptoms are not severe or may be absent completely [12, 13]. This study contributes new idea concerning the practice of diabetic self care observed among diabetic farmers attending University of Calabar Teaching Hospital and how the issues are handled by Agricultural Extension Workers and Health Workers in the rural communities.

According to Effiong and Aboh [14], some farmers in Cross River State are reported to have been suffering from diseases such as malaria, low blood sugar, hypertension, body pains, excessive thirst, weight loss, frequent

boils, diabetes and eye disease. Enang, *et al.* [15] reported in their study that about 7.01% of the farmers in southern agricultural zone of Cross River State are battling with diabetes mellitus, this is much higher than the internationally reported estimates for Nigeria. The researchers also stated that the prevalence of undiagnosed diabetes mellitus among residents and farmers alike in Cross River State was similar to studies elsewhere in Nigeria but much more higher than previous prevalence rate, with close to a quarter of the adult having 7% undiagnosed diabetes mellitus. The above statistics are quite worrisome and calls for concern as it constitute public health problem among farmers and the resultant effects on food crop production in Cross River State as the food basket of Nigeria. This therefore calls for all hands to be on deck to arrest this ugly trend.

The geometrical increase in diabetes year by year has been linked to farmers' lack of practice of self-care. Farmers will have the best advantage to attain and maintain risk factor control of diabetes when exposed to practice of self care. Enang, *et al.* [16], stated that lack practice of self-care among rural population may cause poor and a long term difficulty in control which may lead to the development of serious health complications such as neuropathy and nephropathy control. More than one third of the rural farm families suffering from diabetes, malaria and high blood pressure may not be aware of the practice of self care of them early, considering the insidious onset of the development and effects of these diseases [17-20]. Many who are diagnosed with these disease condition manifest fear about the future and the influence of the disease on them. Diabetes mellitus is a chronic disease thus requires sound and adequate self-care practices among sufferers to be able to contribute meaningfully to the management of their lives now and in the near future. Some rural farmers who were diagnosed and treated came back to the facility with uncontrolled blood sugar level, blood pressure without any idea of self-care practice. The question is what do you know about the practice of diabetic self-care and what do you know about self-care. These questions prompted the researchers to embark on this research.

2. Materials and Methods

This study was carried out in Cross River State where the University of Calabar Teaching Hospital is located. The state is located in the south-south geopolitical zone of Nigeria. The population of the state is estimated at 2.8million [21]. The state is divided into 18 local government areas and occupies 20.156 square kilometers. It is located in the rain forest belt of Nigeria. The state lies between latitudes 40.28' and 60.55' north of the Equator and longitudes 70.50' and 90.28' east of the Greenwich Meridian. The state has common boundaries with Benue State in the North, Akwa Ibom State and the Atlantic Ocean in the South, the Republic of Cameroun in the East, Ebonyi and Abia States in the West [22]. The University of Calabar Teaching Hospital Calabar is located in the southern agricultural zone of the state. The main occupations in the area are farming, fishing, trading and civil service based activities. The population of the study comprised all rural households in Cross River State who attended University of Calabar Teaching Hospital. The population of household farmers who are registered patients in diabetic clinic of the hospital.

The study adopted multi-stage sampling techniques. Stage one was the purposive selection of all registered rural farmers who attended diabetic clinic on Tuesdays (90 in number). The second stage was the purposive selection of all the registered rural farmers who attended diabetic clinic on Thursdays (81 in number). The third stage was the random selection of sixty (60) rural farmers who registered in the clinic for Tuesdays and Thursdays, giving a total of 120 respondents used for the study. They have however given their consent or ethical approval of participation in the study.

Data for study were collected through the administration of questionnaires. The questionnaires were administered by the researcher with the help of trained hospital volunteers. The instructions on the collection and return of the questionnaire were provided and no copy was completed in proxy. The data was analyzed using descriptive statistics such as frequency count, percentage, mean and standard deviation. The research hypothesis was tested using chi-square model.

Hypothesis of the study Ho_1: There is no significant relationship between the level of education of the diabetic rural farmers and practice of self-care in the study area.

3. Results and Discussion

3.1. Socio-Demographic Characteristics of the Respondents

The result in Table 1 showed the percentage distribution of respondents according to socio-demographic variables. The result revealed that the respondents varied widely in their socio-demographic variables, specifically, it was observed that majority of the respondents were within the age bracket of 40 years and above (34.20%) and were largely married (45.8%). The level of education of the respondent showed that majority (55%) had attended secondary level of education, 29.70% attended tertiary level of education 15% attended primary level of education, while, 3.3% had no formal education. An educated farming population is an informed population, especially in the handling of technological innovation and health care initiatives of oneself [9, 23]. The age range of the respondents indicated that the farmers were of middle and economic active age and could have effect on level of participation in agricultural activities and the practice of diabetic self care. This agrees with the works of some authors [24-26] who opined that farmers in their active age can perform any farm tasks and are able to solve their health care needs by taking initial actions on them such as; decisions on type of nutrients and health care services necessary for their health.

This study also supports the findings of Effiong and Aboh [27] who found out that rural households in Akpabuyo are not typically illiterates as being presumes in some literature. Also, Effiong, *et al.* [28] opined that a

good number of rural farmers and rural dwellers are educated and can take adequate care of their health needs. These findings are equally in line with claims of Awole and Yosief [29] that rural dwellers are not homogenous in terms of their socio demographic and political habits.

Table-1. Distribution of Respondents according to socio-demographic variables

S/N	Variables	Frequency	Percentage (%)
1	**Marital Status**		
	Single	30	25.00
	Married	55	45.80
	Divorced	7	5.80
	Widowed	16	13.30
	Separated	12	10.00
	Total	**120**	**100.00**
2	**Level of Educational**		
	No formal Education	4	3.30
	Primary education Level	18	15.00
	Secondary education Level	66	55.00
	Tertiary education level	32	26.70
	Total	**120**	**100.00**
3	**Age**		
	15-19	4	3.30
	20-24	11	9.10
	25-29	14	11.70
	30-34	17	14.20
	35-39	33	27.50
	40 & Above	41	34.20
	Total	**120**	**100.00**
4	**Religion**		
	Christianity	116	96.70
	Islam	4	3.30
	Others	-	-
	Total	**120**	**100.00**

Source: Field Survey, 2022

3.2. Practice of Diabetic Self Care among Rural Farmers

The result in table 2 shows the distribution of the respondents according to the level of practice of diabetic self-care among diabetic rural farmers in the study area. The result revealed that all the variables (except two) recorded means scores below the cut off mean of $\bar{x}$ = 2.50, which suggest that the respondents accepted all the level of practice of self-care. Specifically, the study observed that diabetic farmers had various levels of practice of self-care among them. Some were positive while others were negative. The positive levels were; meal plan activities (x=2.50), engage in daily foot care (x = 2.75), self-monitory of blood sugar (x = 2.80) and blood glucose check (x = 2.72) as well as following medicine schedule amongst others.

It was equally noted that rural farmers' level of practice of diabetic self-care recorded some negative signs in the study area. These negative responses were: engaged in regular exercises (x = 2.42) and avoiding fatty foods (x = 2.30). The implication of this result is that although diabetic rural farmers are generally prone to practice of diabetic self-care, they are still associated with some negative attitude towards some practices of self-care such as lack of regular exercises and fatty foods in their meals. In this case the diabetic farmers enjoyed the luxury of having access to the University of Calabar Teaching Hospital for self-care practices which in turn reduce the amount of ill health they experienced. This study also confirm the works of some authors [30-32] that farmers in some communities in southern Nigeria have access to medical facilities for their health challenges.

Also, exercise plays an important part in diabetics management, reduce cardiovascular risk factors, contribute to weight loss, improve well-being and provide needed energy for agricultural activities [33, 34].

Table-2. Distribution of respondents based on practice of diabetic self-care in the study area

S/N	Variable	Mean $\bar{X}$	SD
	Meal plan activities	2.50	0.63
	Engaged in daily foot care	2.75	0.82
	Have you been carrying out self monitoring of blood sugar regularly	2.80	0.77
	Have you been avoiding fatty food	2.30	0.88
	Are you engaged in regular exercises	2.42	0.62
	Go for regular blood glucose check	2.72	0.48
	Follow your medicine schedule	2.51	0.97
	Keep your scheduled appointed with health providers	3.20	0.64
	Have you been contacting your health care provider whenever you have infections	2.57	0.66

Source: Field Survey, 2022. Cut-off Mark $\bar{X} = \geq 2.50$.

3.3. Constraints of Self Care Practice

Result in Table 3 showed the distribution of respondents based on constraints associated with self care practice among rural farmers in the study area. The table revealed that lack of technical knowhow indicated the highest score (81.66%), negative attitude towards self care recorded (73.33%) and poor communication between agricultural extension workers, health workers and farmers had (66.66%), however, other variables that were thought to be constraints but rarely cause constraints based on this results were; inconveniency at farm work makes farmers unable to practice diabetic self-care effectively (38.33%) and lack of material for self-care practice (65.00%). Management of diabetes among rural farmers depend greatly on the farmers, through the farmers' ability to carry out self care with activities of farming and daily living. Thus, health education, agricultural and food nutrition education of farmers on diet and disease process, complications and implications are pertinent to achieving this. That fact is that people affected with malnutrition, diabetes and other diseases are mostly not aware of nature, risk factors and complications that may arise, this could lead to hindrance to the practices of self-care among rural farmers. Also, lack of funds, negative attitudes, lack of technical knowhow and poor communication network affects farmers' health care and agricultural development innovations [35-37].

Table-3. Distribution of respondents based on constraints associated with self-care practice among farmers in the study area

S/N	Variable	Yes (%)	No(%)
	Negative attitude towards diabetes	88(73.33)	32(26.66)
	Lack of technical knowhow	98(81.66)	22(18.66)
	Inconveniency at farm work	46(38.33)	84(70.00)
	Lack of materials for self-care practice	78(65.0)	42(35.00)
	Poor communication between farmers, health workers and extension agents	80(66.66)	40(33.33)

Source: Field Survey, 2022.

3.4. Distribution of Respondents Based on the Relationship between Level of Education and Practice of Diabetic Self-Care among Rural Farmers

The result in Table 4 showed the relationship between level of education of the farmers and their level of practice of diabetic self care. The result revealed that the tabulated X^2 (5.99) is greater than the calculated X^2 values of regular blood sugar test by the farmers (3.76), daily foot check 0.08 and the use of padded foot wears by farmers (1.60). However, calculated X^2 value is greater than tabulated X^2 for the avoidance of fatty foods (24.1). The alternate hypothesis was accepted for avoidance of fatty foods. There is a significant relationship between the level of education of diabetic farmers and the avoidance of fatty foods, implying that the avoidance of fatty foods by diabetic farmers as a self care practice is a function of the farmer's literacy level. This results agreed with the findings of Effiong and Aboh [38] that education is a key factor is health care services and in the adoption of pro-vitamin A cassava varieties and technological acceptability and applicability in Etim Ekpo Local Government Area, Akwa Ibom State, Nigeria.

Diabetic patients with higher education level are more likely to know much about self care, diabetic control, agricultural innovations and practices. The low level of self care and low agricultural productivity observed in some communities in Cross River State may be caused by illiteracy level in the area. Effiong [39], opined that better educated individuals generally, would be better exposed to self care control of non-communicable diseases innovative technologies because their attitudes would likely be favourable. Therefore, education transforms attitude towards positive change in agricultural production in the study area.

This study also agrees with the works of some authors [40, 41] that socio economic variables visa-vis education and age are among the perceived determinants of adoption of improved technological innovations and the perceived determinants of oil spillage activities in Akwa Ibom State and Ibeno Local Government Area respectively.

Table-4. Distribution of respondents based on the relationship between level of education and practice of diabetic self-care

Self Care	Yes/No	None	Low	High	Total	Chi-square	Level of Significance
Regular blood sugar check	Yes	48(41.8)	31(28.5)	11(11.3)	90	3.76	NS
	No	9(12.3)	7(9.5)	4(3.8)	30		
Daily foot care	Yes No	42(42.5) 9(8.5)	33(32.51) 6(6.5)	25(25.0) 5(5.0)	100 20	0.08	NS
Avoiding alcohol consumption	Yes No	15(12.5) 16(13.1)	40(33.3) 13(20.3)	20(16.6) 16(13.5)	75 45	5.00	NS
Use padded foot wears	Yes No	12(10.0) 22(18.3)	26(21.6) 20(16.6)	19(21.6) 20(16.6)	63 57	1.60	NS
Avoiding fatty food	Yes No	43(35.8) 7(14.2)	33(30.1) 9(11.9)	10(20.16) 18(7.9)	86 34	24.1	S

Source: Field Survey, 2022

X^2 tab @ (5% level) = 5.99, DF=2, NS= Not significant, S= Significant

Recommendations

- There is greater need to revisit the issue of communication in agricultural extension services and health extension works which is the epic centre of services to the farmers. This will consciously encourage farmers with diabetes in the arts of practice avoiding fatty foods, daily foot care and agricultural production innovation adoptions.
- To enhance effective diabetic self care, there is need for regular blood glucose check, contacts with health care providers/agricultural extension workers for advice whenever other diseases may occur.
- There is need for health extension worker in collaboration with Agricultural extension workers to physically demonstrate self care practices such as regular blood sugar check, avoiding alcohol consumption and use of padded foot wears at home, health facilities and farmers' farmland for effective compliance.

4. Conclusion

Diabetes mellitus has reached epidemic proportions in Cross River State, Visa-Vis the rural farmers in the state. This study on the practice of diabetic self-care among diabetic farmers attending diabetic clinic in the University of Calabar Teaching Hospital indicated that most farmers engaged in daily foot care, keep scheduled appointment with health care providers, carryout self monitoring of blood sugar regularly and have meal plan activities amongst others. The study also showed that the farmers' level of education has significant effects on the level of practice of diabetic self-care in the study area.

Conflict of Interest

This compendium does not have any form of conflict of interest from the authors.

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