



PERCEPTION OF SELF-CARE AND SELF-CARE PRACTICE OF DIABETIC PATIENTS ATTENDING SELECTED HOSPITALS IN OYO STATE, NIGERIA

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ABSTRACT: *Patients with diabetes require continuous self-care practice as poor self-care results in complications. This study assessed the perception of self-care and self-care practice of diabetic patients attending selected hospitals in Oyo State, Nigeria. An institutional-based cross-sectional study was employed and a total of 120 diabetic patients were selected using a systematic random sampling technique. Pretested, structured, and interview administered questionnaires were used for data collection. The collected data were analysed using IBM SPSS version 23 to generate descriptive (Mean and standard deviation) and inferential (Chi-square and correlation) statistics. The respondents had a mean perception score of 30.68 ± 7.56 . Majority 113(94.2%) of the respondents had poor self-care practices. Respondents' perception was significantly correlate with patient physical activity ($r= 0.184$; $p=0.004$); healthy eating ($r=-0.24$; $p= 0.026$); glucose monitoring ($r=0.319$; $p=0.000$); compliance with medication ($r= 0.438$; $p = 0.00$); risk reduction ($r= 0.229$; $p=0.012$) However, patient perception is not correlated with foot care ($r= 0.052$; $p=0.575$). Patient's perception of diabetes is a key determinant of self-care. It is recommended that psycho cognitive interventions are developed to help patients practice the recommended self-care practices.*

KEYWORDS: Diabetes, Perception, Self-care, Oyo State



INTRODUCTION

Diabetes is one of the leading global public health concerns, imposing a heavy global burden on public health as well as socio-economic development. Although incidence has started to decrease in some countries, the prevalence of diabetes has increased in recent decades in most developed and developing countries (Patterson, et al., 2019). The International Diabetes Federation (IDF) have estimated that 463 million adults are currently live with diabetes worldwide in the year 2019 with a projected increase to 578 million by 2030 and 700 million by the year 2045 if no effective prevention methods are adopted (IDF, 2019).

Currently, sub-Saharan Africa is estimated to have 20 million people with diabetes, about 62% are not diagnosed and the number is expected to reach 41.4 million by 2035 or an increase of 109.1% (World Health Assembly, 2013). In sub-Saharan Africa, Nigeria has the highest number of people with diabetes with an estimated 3.9 million people of the adult population aged 20-79-year-old (Dahiru, et al., 2016). The current prevalence of Diabetes among adults aged 20–69 years in Nigeria is reported to be 3% (IDF, 2019). A study conducted in Ibadan Oyo State by Odeyinka and Ajayi (2017), revealed diabetes in Ibadan Oyo state has a prevalence of 3.4%. Another study conducted by Rasaki, et al., (2017) to assess the prevalence of diabetes and pre-diabetes and associated risk factors among indigenes of Oke-Ogun geo-political zone of Oyo State showed that the prevalence of diabetes in this study was 4.6% (93.7% female, 6.3% male) and pre-diabetes 6.0% (85.0% female and 15.0% male).

Worldwide a radical increment in prevalence of diabetes was related to an increased prevalence of modifiable risk factors such as unhealthy dietary patterns, lack of physical exercise, excess body weight, and sedentary lifestyle (Kolb& Martins, 2017). These factors are highly responsible for the current increasing incidence of diabetes (Oluma, et al., 2020). Diabetes's self-care behaviours are a dynamic and cognitive practice that includes healthy eating, physical activity, monitoring blood glucose, compliance with medication, foot care and risk reduction behaviour towards the disease (American Diabetes Association Standards of Medical Care in Diabetes, 2009) All these seven behaviours positively correlate with good glycaemic control, reduction of complications and improvement in quality of life (Shrivastava,et al., 2013). Many studies have reported poor self-care behaviours (Mogre, et al., 2017; Elsous, et al., 2017; Aminde, et al., 2019). Poor self-care behaviours and medications could lead to uncontrolled diabetes and subsequently the development of diabetes complications (Kassahun, et al., 2016).

It has been observed that some diabetic patients who were seen on regular follow-up in the clinic in Oyo State still came down with poor glycaemic control despite the treatment received this is a problem that called for close attention. Self-management among people living with diabetes is still very poor and non-adherence to clinical regimen is rampant and greatly influenced by cultural beliefs. A better understanding of factors contributing to poor self-care behaviour is necessary to develop effective adherence-enhancing interventions. This study therefore assessed the perception of self-care and self-care practice of diabetic patients attending selected hospitals in Oyo State, Nigeria.



MATERIAL AND METHODS

Design and Sample

This is an Institutional-based cross-sectional design. Persons living with type 2 diabetes and receiving health care at Adeoyo teaching hospital, State hospital Saki, Moniya general hospital and Adebite cottage health clinic in Oyo state, constituted the population for the study. A total of one hundred and twenty (120) participants were selected using systematic sampling techniques. The inclusion criteria were those aged 20 years and above, have been living with diabetes for a year or more, and willingness to give informed consent to participate in the study.

Measures

Self-care practices questionnaire

This is an 11-item self-report questionnaire which consists of six domains of diabetes self-care practices. These domains include healthy eating measured by four items (e.g. I include more servings of fruits and vegetables in diet), physical activity measured by four items (e.g. I skip planned physical activity), monitoring blood glucose measured by five items (e.g. I regularly do a self-blood test to monitor my blood sugar level), foot care measured by five items (e.g. I inspect my foot daily), risk reduction behaviour measured by five items (e.g. as long as my blood sugar is in check, I still drink alcohol/smoke), and the final subscale which is compliance with medications was measured by five items (e.g. I only take my medication when my blood sugar level is high). These subscales were measured on a 3-point Likert response format ranging between 0 and 3. The mean scores on the items were computed to obtain the subscale scores for each domain. The sum of the subscales creates a composite score for total self-care. An overall internal consistency value (α) of .0.90 was obtained for this study.

Perception of Self-care

Perception of respondents' of self-care consist of twenty-six (26) questions to be measured on a 78-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). For the negatively constructed questions, strongly agree (SA) was scored 0, Agree (A) was scored 1, Disagree (D) was scored 2 and Strongly Disagree (SD) was scored 3. For the positively constructed questions, strongly agree (SA) was score 3, Agree (A) was score 2, Disagree (D) was score 1 and Strongly Disagree (SD) was score 0. A Cronbach alpha of .83 was found for the present study.

Procedure

Ethical clearance was obtained by Babcock University Health Research and Ethic Committee. The clearance letter and the proposal for this study were sent to the medical director of the selected hospitals to seek permission to use the hospitals as the study site. After the medical director of the hospital gave their permission for the data collection, the patients receiving diabetes care at the outpatients department of the diabetes unit diagnosed with type diabetes were approached. The objectives of the study were explained to the patients and those who agreed to participate in the study gave consent. The questionnaires were self-administered or interviewer-administered depending on the level of education of the participants. It took an average of 30 min for a questionnaire to be completed. The completed questionnaires were retrieved from the participants on the same day for coding and analysis. The entire data



collection was May, 2021. No incentive was provided as participation in the study was voluntary. All the ethical guidelines concerning the use of human participants in research (e.g. informed consent, confidentiality, privacy, no harm, voluntary participation etc.) were strictly adhered to in the research process.

Data analyses

Data was analyzed using the Statistical Package for the Social Sciences version 21.0 for Window (IBM SPSS). To determine the self-care related knowledge and self-care practices, two analyses were conducted. First, descriptive statistics was to generate frequency tables, mean and standard deviation. Secondly, the Pearson-moment correlation coefficient (r) was conducted to examine the relationship between the self-care practice and its domains (healthy diet, physical activity, monitoring blood glucose, foot care, risk reduction behaviour and compliance with medications), and self-care related knowledge while, chi-square was used to test the relationship between perception and socio-demographic characteristics. All test conducted were two-tailed and held statistical significance at $p < .05$

RESULTS

Respondents Perception of Self-care and Relationship with Socio-demographic Characteristics

Table 1 shows respondent's perception of self-care behaviour measured on a 78-point rating scale, showed a mean score of 30.68 ± 7.56 . Respondents' perception of self-care behaviour was further categorized into low (0-26) moderate (27-52) and high (53-78). Most 85(70.8%) of the respondents had moderate perception of self-care behaviour while about a quarter 35(29.2%) of the respondents had low perception of self-care behaviour.

There is a significant relationship between respondent's gender ($X^2 = 8.63$; $p = 0.003$); educational attainment ($X^2 = 15.49$; $p = 0.001$); ethnicity ($X^2 = 17.82$; $p = 0.00$), occupational status ($X^2 = 29.36$; $p = 0.00$); family history of diabetes ($X^2 = 6.36$ $p = 0.01$) and perception of self-care. While there was no significant relationship between respondents age ($X^2 = 5.74$; $p = 0.45$) and perception of self-care (See table 2 below).

Respondents Self-Care Practices

Regarding self-care practice domains of diabetic patient, majority of the respondents 114(95%) had low physical activities, most of the respondents 102(85%) had unhealthy eating habits, majority of the respondents 116(96.7%) had low monitoring of blood glucose, most of the respondents 87(72.5%) had low compliance with medication, majority of the respondents had low risk reduction behaviour and more than half of the respondents 70(58.3%) had low foot care behaviour. Overall majority of the respondents 113(94.2%) had low self-care practice (See, table 3). The result of the correlation analysis showed a relationship between perception of self-care and self-care practice of diabetic patients ($r = 0.40$; $p = 0.000$). These suggest that when patients perceive diabetic to be threatening, they engage in self-care practice. The result further showed that patient perception of the illness was significantly correlate with patient physical activity ($r = 0.184$; $p = 0.004$); health eating ($r = -0.24$; $p = 0.026$); glucose monitoring ($r = 0.319$; $p = 0.000$); compliance with medication ($r = 0.438$; $p = 0.00$); risk reduction ($r =$



0.229; $p=0.012$) However, patient perception is not correlated with foot care ($r= 0.052$; $p=0.575$) (See table 4 below).

DISCUSSION

This study assessed the perception of self-care and self-care practice of diabetic patients attending selected hospitals in Oyo State, Nigeria. Most of the respondents had moderate perception of self-care. The result showed that respondents' view of type-2 diabetics resulted in careful overall self-care behaviour. The respondent's perception of self-care significantly influences self-care practices. This finding is also consistent with previous findings that showed that diabetes perception significantly influenced self-care practices among persons living with type-2 diabetes (Alzubaidi et al., 2015; Sharry, Moss-Morris, Kendrick. 2011). On the contrary, Eknithiest (2018) has reported a different finding regarding, perception, and practice about type 2 diabetes mellitus among patients where it was not significant. This is logical because the respondent's view about an illness will invariably affect their practice. Also, the result showed a positive correlation between perception and the domain specific diabetes self-care practices such as respondents' physical activities, glucose monitoring and compliance to medication, and a negative correlation to healthy eating. This is consistent with earlier finding by Broadbent et al., (2011) that patients' diabetes perceptions influence their adherence to medication, diet and exercise significantly. The findings from the current findings have implications for the involvement of psychologists in the delivery of diabetes care as the cognitive and emotional representation of the illness by the patients could pose a great challenge to their engagement in diabetes self-care practices especially within the dietary and exercise domains. Respondent's perception of self-care is influenced by gender, education, ethnicity, occupational status and family history of diabetes. This finding is consistent with the finding of Melkamu, Berhe & Simegnew (2021).

Most of the respondents had low self-care practices; this finding is similar to the findings of Al-Maskari et al., (2013) and Melkamu, Berhe & Simegnew (2021). The most commonly achieved domain-specific self-care activities in this study were compliance with medication, which is consistent with previous studies (Bonger, Shiferaw, & Tariku, 2018; Tewahido & Berhane 2017). Higher levels of compliance with medication, as reported previously, could be due to the patient's perception that taking medication is an easier way to manage their illness and essential for their survival (Tewahido & Berhane 2017). Diabetes patients in the current study demonstrated a poor level of monitoring their blood glucose which is also consistent with previous reports (Gurmu, Gela, & Aga, 2018; Tewahido & Berhane 2017).

The findings from this study have some practical implications for diabetes healthcare delivery. Firstly, the significant associations found between perception and self-care practices suggests that there is the need to train healthcare providers to address the chronic care needs of persons with diabetes. Secondly, nurses and doctors should be equipped with resources to address the self-care needs of patients with diabetes in the form of information leaflets and other relevant materials to aid independent self-care. Such self-care information should include information on causes, prognosis and management strategies. Finally, since group education is generally practiced at the various diabetes units, it is recommended that individual needs should also be taken into consideration due to variations in educational levels and interpretation of the educational materials.



The study has certain limitations such as: this is hospital-based study done in cross-sectional design. It cannot be generalized to the general population as only people in a certain spectrum of disease can be available at hospital settings and causal associations cannot be made. Second, there are potential confounding factors that were not controlled for in the study such as social support.

CONCLUSION

The findings from this current study suggest that diabetes self-care practices of persons living with type-2 diabetes in Oyo state are significantly influenced by their perception. Therefore, measures should be put in place to increase patients' perception of self-care and also, healthcare practitioners should understand that how patients interpret their self-care is very significant in determining whether they will follow the recommended self-care practices or not.

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APPENDIX

Table 1: Respondents Perception Of Self-Care Behaviour

Variable	Respondents in this study; N=120 mean score of 30.68±7.56	
	Frequency	Percentage (%)
Low (0-26)	35	29.2
Moderate(27-52)	85	70.8

Table 2 Relationship between Respondents Socio-demographic Characteristics and Perception of Self-care

Socio-demographic variables for consideration	Perception of Self-care n=120		X ²	p-value
	Low (%)	Moderate (%)		
Age (in years)			5.74	0.45
42-47	0(0)	3(100)		
48-53	4(25.0)	12(75.0)		
54-59	13(31.0)	29(69.0)		
60-65	3(15.0)	17(85.0)		
66-71	9(39.1)	14(60.9)		
72-77	6(40.0)	9(60.0)		
78-83	0(0)	1(100)		
Gender			8.63	0.003
Male	30(38.0)	49(62.0)		
Female	5(12.2)	36(87.8)		
Educational attainment			15.49	0.001
Non-Formal	5(17.2)	24(20.5)		
Primary School	13(22.4)	45(77.6)		
Secondary School	17(56.7)	13(43.3)		
University Education	0(0)	3(100)		
Ethnicity			17.82	0.00
Yoruba	3(23.1)	10(76.9)		
Igbo	31(42.5)	42(57.5)		
Hausa	1(3.4)	28(96.6)		
Others	0(0)	5(100)		
Occupational status			29.36	0.000
Employed full Time	7(11.7)	53(88.3)		
Employed Part Time	0(0)	9(100)		
Currently Unemployed	16(51.6)	15(48.4)		
Retired from Active Employment	12(60.0)	8(40.0)		
Do you have a family history of diabetes?			6.36	0.01
Yes	13(19.7)	53(80.3)		
No	22(40.7)	32(59.3)		

**Table 3: Respondents Self-Care Practices**

Self-care sub-domain	Low (%)	High (%)	Mean
Physical activities	114(95.0)	6(5.0)	4.13±1.36
Healthy eating	102(85.0)	18(15.0)	4.96±1.55
Blood glucose monitoring	116(96.7)	4(3.3)	4.09±1.73
Compliance with medication	87(72.5)	33(27.5)	5.92±3.31
Risk reduction behaviour	93(77.5)	27(22.5)	6.31±1.96
Foot care behaviour	70(58.3)	50(41.7)	7.21±2.55
Overall Self-care behaviour	113(94.2)	7(5.8)	32.6±6.24

Table 4 Relationship between Perception and Practice of Self-care

Variable	Perception N=120	
	R	p-value
Self-care	0.404	0.000
Physical activities	0.184	0.004
Healthy eating	-0.24	0.026
Glucose Monitoring	0.319	0.000
Compliance to medication	0.438	0.000
Risk reduction	0.229	0.012
Foot care	0.052	0.575