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Practice to Glycemic Control among Diabetic Patients in Federal University Teaching Hospital, Owerri

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Abstract

The researchers investigated the knowledge, attitude, practices and hindrances to glycemic control among diabetic patients in Federal University Teaching Hospital, Owerri, Nigeria. The study adopted a descriptive survey research design. The study was guided by four research questions and two hypotheses. The sampling technique employed is a multi-stage sampling procedure which was used to select a sample size of 169 diabetic adult patients in Federal University Teaching Hospital, Owerri. The instrument used for data collection is a questionnaire structured by the researcher to elicit information on knowledge, attitude, practices and hindrances to glycemic control. The reliability of the instrument was determined using cronbach alpha statistics which yielded a reliability index of 0.83. The research questions were answered using frequency counts, percentages and mean while the hypotheses were tested using chi-square statistics all done with the SPSS 24 software package. A small number, 54 (33.00%) of the respondents have good practices towards diabetes and glycemic control while 111 (67.00%) of the respondents have poor practices towards diabetes and glycemic control The researchers recommend among others that: adequate health education programmes should be scheduled for diabetic patients on the importance of self-examination and following the prescribed diet regime.

Keywords*: knowledge, glycemic control, diabetic patients*

Introduction

Glycemic control is an essential strategy to prevent the chronic metabolic disease complications such as metabolic syndrome, cardiovascular and kidney disease, and diabetes.[1-3] Among chronic metabolic disease, glycemic control management has been a domain of interest from the past years. The glycemic index shows an increasing fasting blood glucose level after consuming a high carbohydrate containing diet. The glycemic index is directly associated with different chronic metabolic diseases among the human population.[4] Self-monitoring of glycemic control is a cornerstone of diabetes care that can ensure patient participation in achieving and maintaining specific glycemic targets. The most important objective of monitoring is the assessment of overall glycemic control and initiation of appropriate steps in a timely manner to achieve optimum control. Therefore, good glycemic control in achieving the goals of minimizing acute complication, delay or eliminating chronic complications thereby reducing the morbidity and mortality and the loss of productive hours associated with diabetes.[5] It was reported that 88.2% of the patients were aware that diabetes could affect the retina while low levels of knowledge among patients with diabetes,

low family income, low self-care and low literacy rates were the factors which contributes to poor glycemic control.[6]

Research Methodology

Research Design

The descriptive survey research design was adopted for the study.

Area of Study

The study was carried out in the Federal University Teaching Hospital, Owerri, Imo State.

Population of the Study

The target population consists of all the adults with diabetes who have registered at the Federal University Teaching Hospital, Owerri and are receiving diabetes specific treatment in the OPD of the hospital. The population under study was be 150 – 200 diabetic patients.

Inclusion Criteria

The patients included are from 18 years of age and those who had given written informed consent and have a diagnosis of diabetes mellitus. In addition, the included patients have to be out-patients or had to have just completed any standard modality of diabetes mellitus treatment within the time of the study or preceding six months.

Exclusion Criteria

Patients who either failed to give consent, or had known active psychosis, dementia of conjunctive impairment were excluded from the study. Those not residing in Imo State and those not present at the time of study were also excluded.

Sample Size and Sampling Technique

The sample size consists of diabetic adults who were currently receiving diabetes specific treatment at the Federal University Teaching Hospital, Owerri and were used for the study. This was calculated using Taro Yamane formula. A multi staged sampling procedure was used to select the study group in Federal University Teaching Hospital, Owerri. All the diabetic adults who met the inclusion criteria were selected for the study while those who did not were excluded from the study. Convenience sampling was used to access those who participated in the study.

$$n = \frac{N}{I + N(e)^2}$$

Where

n = the sample size required

N= the total known population of the study

e = level of significance = 0.05

I = unit (a constant)

$$X = \frac{n \times p}{I \times N}$$

$$n = \frac{250}{1 + 250\ (0.05)2}$$

$$\frac{250}{1+250\ (0.0025)}$$

$1+ 0.625$
1.625
$n = \frac{250}{1.625}$
$= 153.8 = 154$
$n = 154$
Increment of sample due to attrition = 10%
This will give a value of 15.4
Thus, sample size will be 154 + 15 = 169. This makes up 67.9% of the population.

Instrument for Data collection

The questionnaire was drawn strictly from an extensive literature search on knowledge, attitude, practice, and hindrance to glycemic control and the selected objectives. The questionnaire was divided into 5 sections; section A consists of some questions on socio-demographic characteristics of the respondents. Section B, C and D is derived from an instrument by Asmelash *et. al*.[7] and this will be used to adopt questions on knowledge, Attitude and Practice towards glycemic control. Section E is an adopted instrument from Schmitt *et al* [8] which was tagged Diabetes self-Management Questionnaire (DSMQ) and it contains questions on hindrances to glycemic control.

Method of Data Collection

After obtaining ethical approval, the ward heads were informed of the need for the research before data collection. Two research assistants were instructed on the purpose of the study and how to administer the questionnaires after obtaining consent from the respondents who were willing to participate in the study. The researcher and assistants administered the instrument to the patients and possible explanations were given to those who did not understand certain questions. The questionnaires were retrieved following completion and collation. This exercise was done on a daily basis until the required sample was gotten.

Method of data analysis

Data analysis was done using SPSS version 28. Analysis was done using descriptive and inferential statistics. The strongly agree and agree were recoded as 'agree'. The overall mean of the scales was calculated and reported and the average cut-off point of 2.5 was used for level of significance. The mean between 2.5 to 4 was rated as positive knowledge or a higher level of knowledge, attitude and hindrances of the diabetic patient to glycemic control. Logistic analysis was done to determine the factors between variables like age, gender, education and occupation to level of knowledge of glycemic control, attitude and practice of glycemic control, while a P-value of value less than 0.05 was considered to be statistically significant.

Ethical Consideration

Ethical approval was obtained from the ethics committee of the Federal University Teaching Hospital, Owerri.

Informed consent was also obtained from the respondents and they were assured of their confidentiality and anonymity as results from the research work will be kept confidential.

Results

Table 1: Practices of diabetic patients towards diabetes and glycemic control

Practices towards diabetes and glycaemic control	Options	Frequency n=165	Percentage %
Engaging in regular exercise	Yes	102	62.00
	No	63	38.00
Type of physical exercise	Walking	122	74.00
	Jogging	8	5.00
	Swimming	5	3.00
	Bicycling	30	18.00
Hours spent on physical exercise	I don't exercise	63	38.00
	Less than 30 minutes	12	7.00
	1-3hours	71	43.00
	More than 3hours	20	12.00
Frequency of daily blood sugar testing	I don't do self test	139	84.00
	less than once daily	-	-
	Once daily	20	12.00
	Twice-thrice daily	7	4.00
	Four times daily	-	
Frequency of kidney self-examination via creatinine test	I don't do self test	165	100.00
	less than once daily	-	
	Once daily	-	
	Twice-thrice daily	-	
	Four times daily	-	
Frequency of eye and foot self-test	I don't do self test	137	83.00
	less than once daily	-	-
	Once daily	23	14.00
	Twice-thrice daily	5	3.00
	Four times daily	-	
Avoidance of salt in regular diet	Yes	130	79.00
	No	35	21.00

Table 1 reports practices of diabetic patients towards diabetes and glycemic control in FMC Owerri. The study showed that majority of the respondents (62.00%) engage in regular physical exercise and most (74.00%) choose walking as a preferred exercise while least of the respondents preferred swimming 3%. This implies that many of the patients who engage in regular exercise preferred walking as their physical exercise. Large percent (43.00%) of the respondents spent 1-3hours on physical exercise per week. However, with regards to self-examination, this study

revealed that most of respondents do not self-test either for blood sugar level -84%; creatinine test – 100%; or for eye and foot self-examination -83%, but majority of the patients 79% manage to stay away or avoid salt. This showed that high percentage of the patients did not do self-examination for the necessary tests but most avoid salt in their regular diet as instructed.

Table 2: Level of practices of diabetic patients towards diabetes and glycemic control

Level of practice	Frequency	Percentage (%)
Good practice	54	33.00
Poor practice	111	67.00
Total	165(100%)	**100.00**

Table 2 shows the participants level of practices towards diabetes and glycemic control. The data reveal that a small number, 54 (33.00%) of the respondents have good practices towards diabetes and glycemic control while 111 (67.00%) of the respondents have poor practices towards diabetes and glycemic control.

Discussion

Findings from the study showed that majority of the diabetic patients had poor practices towards glycemic control. This result further showed that more than half of the diabetic patients failed to self-test their blood sugar level, creatinine test and eye and foot test. Generally, a small number, 54 (33.00%) of the respondents have good practices towards diabetes and glycemic control while 111 (67.00%) of the respondents have poor practices towards diabetes and glycemic control. It further revealed that out of 38.1% who monitored their blood glucose levels at home, 18.6% followed a diabetic diet and 32.1% of the participants engaged in physical activity had a positive attitude towards diabetes management and glycemic control.

Conclusion

Practice towards glycemic control was low towards glycemic control. This implies that most of the respondents had good perception towards the control but lack in-depth knowledge and capacity to put it to practice due to financial constraint, inadequate knowledge etc. has been a challenge as revealed from this study. Therefore, this study concludes that morbidity and mortality rates could reduce if concerns are shown towards the high cost of diabetic care and proper health education of patients.

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