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Attitude 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. Majority 126 (76%) of the respondents had positive attitude towards diabetes and glycemic control while 39 (24%) have negative attitude 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*: attitude, 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

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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)

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

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

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

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: Attitude of diabetic patients towards diabetes and glycemic control

S/N	Items	SA	A	D	SD	Mean	Remark
1	Adherence to glycemic control is unavoidable, since its prolonged life expectancy	50	50	32	33	2.70	Positive
2	It is good to attend diabetic clinic than to self medicate	42	40	43	40	2.50	Positive
3	It is important to keep record of blood glucose measurements for future reference	70	45	22	38	3.01	Positive
4	Prayer reduces blood glucose level	30	23	50	62	2.87	Positive
5	Diabetic patients should not take any carbohydrate food	41	42	33	49	2.45	Negative
6	Too much intake of fried foods leads to diabetes	90	35	16	24	3.15	Positive
7	Diabetic patients die earlier than others even if they have good glycemic control	40	20	59	46	2.67	Positive
						2.76	

NB: Items 4 and 7 were coded in reverse order

Table 1 shows the attitude of diabetic patients towards diabetes and glycemic control. The questionnaire is rated in a 4 point likert scale format. All the items in the rating scale except item 5 (2.45) have their mean scores above 2.50 which is the cut off mean for a 4-likert scale. The cumulative mean is given as 2.76 which is also above the 2.50 cut off mean. This implies that majority of the respondents have a positive attitude towards diabetes and glycemic control.

Table 2: summary of level of diabetic patients' attitudes towards diabetes and glycemic control

Level of attitude	Frequency	Percentage (%)
Positive attitude	108	65.45
Negative attitude	57	34.55
Total	**165**	**100.00**

Table 2 shows the participants level of attitudes towards diabetes and glycemic control based on the students' mean responses on the attitude questionnaire. The table revealed that majority 108

(65.45%) of the respondents had positive attitude towards diabetes and glycemic control while 57 (34.55%) have negative attitude towards diabetes and glycemic control.

Discussion

This result showed that majority of the respondents had positive attitude towards diabetes and glycemic control. Generally, Majority 108 (65.45%) of the respondents had positive attitude towards diabetes and glycemic control while 57 (34.55%) have negative attitude towards diabetes and glycemic control. The cumulative mean for their attitude is given as 2.76. Also supporting the findings of these study are that of Bakkar *et al.* [6] who found out in their study that despite low levels of knowledge among patients with diabetes in their study area, there was 70% positive attitude towards glycemic control among their respondents.

Conclusion

The majority of the respondents have a positive attitude towards diabetes and glycemic control. Enlightenment campaign should be carried out to sensitize the patients on appropriate self-care practices, recommended diets and dietary intake, physical exercise, medications, blood glucose tests and maintenance of a healthy body mass index (BMI) in the management of diabetes and glycemic control.

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