AWARENESS AND COMPLIANCE WITH THERAPEUTIC STRATEGIES IN GLYCAEMIC CONTROL AMONG TYPEII DIABETIC PATIENTS AT GENERAL SPECIALIST HOSPITAL, KATSINA, NORTH-WESTERN NIGERIA

Maryam, A.,[1] Dalhatu, A.,[2] Yunusa, U.,[2] Abdulmaleek, M. A.,[2] Idris, A.,[2] Alhaji, A.,[3] Mahfuz, M. H.[2]

[1]Department of Nursing Services, General Specialist Hospital Katsina
[2]Department of Nursing Sciences , Bayero University Kano-Nigeria
[3]Department of Nursing Sciences,Federal University of Heatlth Science,Azare
Corresponding author**: E-mail :** adamudalhatu206@gmail.com, 08039503072

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ABSTRACT

Background: It has been shown that despite effective methods of therapeutic strategies on glycaemic control about 50% of diabetic patients fail to achieve satisfactory glycemic control due to poor compliance, which leads to accelerated development of complications and increased mortality. Type II diabetes mellitus is a group of metabolic disease characterized by elevated level of glucose (hyperglycemia) resulting from defects in insulin secretion, insulin action or both.

Aim: The study aimed at identifying the awareness and compliance level to therapeutic strategies among type II diabetic mellitus patients at General Hospital Katsina.

Methods: A cross -sectional study design was employed and a standardized instrument based on Centre for Disease Prevention and Control was employed, and fifty (50) diabetic patients were purposively recruited for the study. The obtained data was analyzed using simple descriptive statistics and presented in frequency and percentages.

Results: The results showed that most diabetic patients were female 29(58%) and fall within the age range of 41-50 years. The results also showed that most patients 70% are aware of therapeutic strategies in glyacemic control,but with moderate compliance to therapeutic strategies.

Conclusion: It concludes that there is high level of patients awareness on the therapeutic strategies in glycaemic control, but with poor compliance rate. Therefore, it is recommended that government should developed policies on the compliance of diabetic patient to therapeutic regimen, and healthcare professionals should create sensitization and campaign on the compliance rate on strategies in glycaemic control.

Key words: Awareness, Compliance, Therapeutic strategies , Glycaemic control, Diabetic patients

INTRODUCTION

Globally, an estimated 422 million adults are living with diabetes (World Health organization, 2016, Saleh *et al.*, 2015). Diabetes prevalence is increasing rapidly, previous 2013 estimates from international diabetes federation put the number at 381 million people having diabetes (Abebaw et al., 2016; IDF 2020). The number is projected to almost double by 2030 (Bailey and Kodack, 2011; Davoodi et.al,;2022). Diabetes mellitus is a group of metabolic disease characterized by elevated level of glucose (hyperglycemia) resulting from defects in insulin secretion, insulin action or both (American Diabetes Association, 2009, Akhtar *et al.*, 2020).

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Diabetes mellitus is one of the most common non communicable diseases, and its epidemic portion has places it at the fore front of public health challenges currently facing the world (Abdalla et.al.; 2019,Shaha et al.;2019). The rapid increase in the prevalence of diabetes mellitus has made this disease one of the fundamental public health problems worldwide (Abdalla et.al., 2019). It is one of the most commonly encountered chronic illness found today. Recently studies have found dramatic increase in diabetes during the last decade all over the cold, it is prevalent in both developed and developing countries. It places a great burden on individual health care system, and societies in all countries (Awodele and Osualale 2015; Islam et al., 2015). Diabetes mellitus occurs throughout the word, but is more commonly in the more developed countries. The greatest increase in prevalence is however occurring in low and middle income countries including Asia and Africa where most patient will probably be found by 2030 (American Diabetes Association, 2009, Mann et al.; 2009, Moriskey et al.;2008). The increase in incidence in developing countries follows the trend of urbanization and lifestyle changes, including increasingly sedentary lifestyle, less physical and the global nutrition transition, marked by increased intake of foods that are high energy but nutrition poor (often higher in sugar and saturated fats) (World Health Organization,2016). Compliance is the extent to which a person behavior (in term of taking medications following diets appointment, keeping or executing other lifestyle changes) includes with medical or other health care regimen, where the patient compliance can be measured by accuracy, regularity and willingness that the patients demonstrated in execution of the prescribed therapeutic regimen (Ishitiaku et al.,2022). In spite of advanced technology in the medical field and the management of diabetic clients in terms of drugs and diet, the problem of non-compliance to prescribed therapy continues to occur among diabetic clients (Sacket and Haynes 1976). This attitude of non-compliance has called for a greater concern in the follow-up of clients to treatment and the overall response to the diabetic management in the hospitals (Davoodi et al.,2015). Despite several approaches and strategies taken to tackle the problem of non-compliance of client to diabetic treatment, non-compliance to diabetic treatment, non compliance to diabetes remains a public health challenge. Several factors such as educational status as well as occupation of patient are important in the daily compliance with prescribed regimen in chronic conditions like diabetes mellitus (Awodele and Osualale, 2015). Non-compliance to treatment regimens possesses a great threat to patient's recovery as well as maintenance of good health. The successful management of diabetes mellitus depends to a great extent upon strict compliance with treatment regimens. Most clients with diabetes mellitus came back for re-admission soon after they were discharged from the hospital, such clients usually come back with complications which mainly results from non compliance with their therapeutic regimens. (Ishitiaku et al.,2022).It has been shown that despite effective methods of treatment 50% of diabetic patients fail to achieve satisfactory glycemic control, which leads to accelerated development of complications and increased mortality. Clinical experience indicates that no improvement of metabolic control is possible without patient's compliance (American Diabetes Association 2009).

MATERIALS AND METHODS

A cross sectional study design was employed among Type 2 diabetic patients from the cardiac clinic of the study setting. The study was conducted at General Specialist Hospital Katsina, located in Katsina metropolis. The hospital was build in 1930 and commissioned by governor Luggard in 1932. The hospital has remained a training ground for nurses and midwives, as well as doctors and pharmacists.

Katsina is the capital of Katsina State with a projected population of 318,459 in 2006 census. The State has a total population of 5,792,578 (provisional 2006 census figure). The facility of study provides secondary and tertiary healthcare services in Neonatology and Medical conditions for patients mainly from Katsina metropolis and surrounding Local Government Areas. About 2,070 cardiac patients are recorded on annual rate mostly from urban areas of the state . The hospital is located in the Katsina urban Area lying between N1204114511 to N1304015011 and E00703111011 to E00704114511 in Katsina State. The area is located at the centre of Hausa plains, at the extreme Northern part of Nigeria and Fulani are densely populated. An adapted instrument based on Centre for Disease Prevention and Control was employed and ethical clearance was sought from the ministry of health MOH/ADM/SUB/1152/2/464. The data were obtained by the primary investigator and research assistants. The respondents were recruited from the cardiac clinic of the hospital and data were obtained cross sectionally. The obtained data were tallied and analyzed using simple descriptive statistics and presented in frequency, percentages, tables and charts. The researcher meticulously adhered to the ethical principles and guidelines governing public health research during the course of the study after securing ethical approval from the ethical review board of the hospital.

RESULTS

Table 1. Socio-demographic characteristics of the respondents

Age (years)	**Frequency**	**Percentage *(%)***
21-30	6	12
31−40	10	20
41-50	21	42
Higher than 51	13	26
Total	**50**	**100**
Sex		
Male	21	42
Female	29	58
Total	**50**	**100**

The study showed that most respondent are between the age group of 41 -50 years and showed female preponderance

Table 2: Awareness on therapeutics strategies in glycaemic control.

Variables: n -50	**Frequency**	**Percentage (%)**
Aware of therapeutic strategies	35	70
Unaware of therapeutic strategies	15	30
Total	**50**	**100**

The above table shows that majority of the respondents with 70% (35) opined that they regularly take their anti-diabetic drugs, while (15) 30% of the respondents do not take their anti-diabetic drugs.

Table 3: Compliance with therapeutics strategies in glycaemic control (Weight reduction, Daily exercise, Dietary modification) .

Variables: n -50	Frequency	Percentage (%)
Compliance	21	48
Non compliance	29	52
Total	**50**	**100**

The table shows that majority of the respondents 29 (58%) do not comply with the therapeutic strategies in glycaemic control.

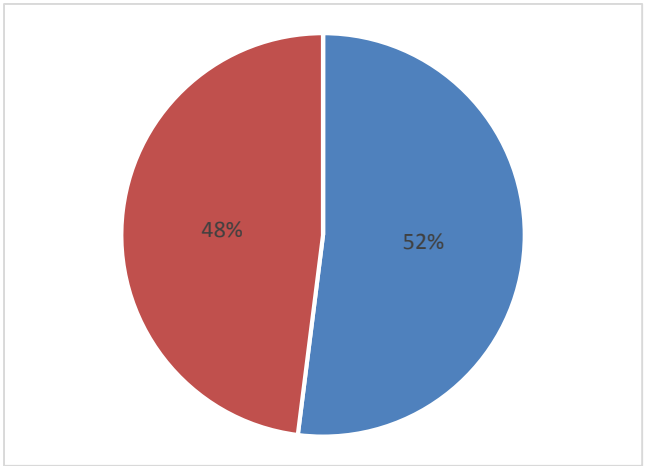
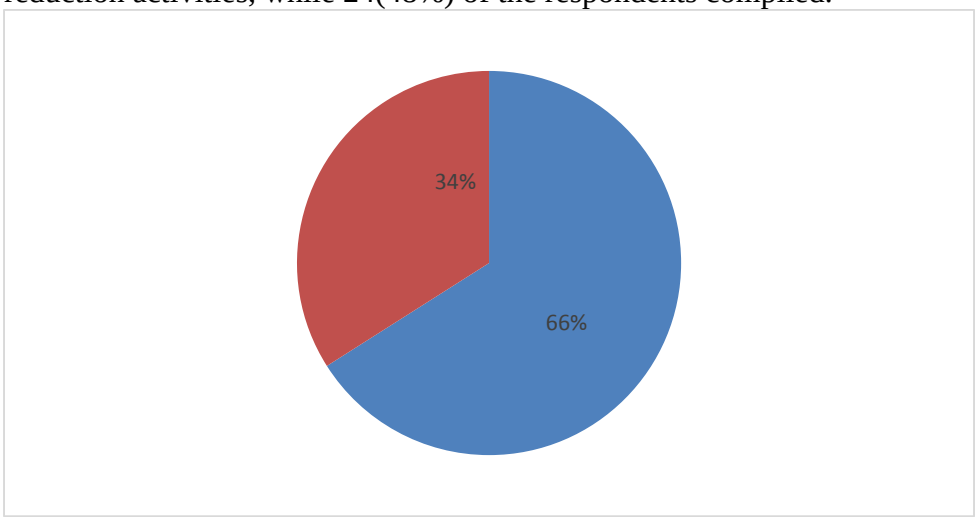


Figure 1: Compliance with weight reduction activities on glycaemic control

The Figure 1. shows that majority of the respondents 26(52%) do not comply with weight reduction activities, while 24(48%) of the respondents complied.



The figure II, above shows that majority of the respondents with 66% (33) lack medication adherence, while 34% (17) adhered to medication

DISCUSSION

A total number of 50 participants were recruited during the study period. The present study showed that more than half of the participants with Type 2 Diabetes Mellitus (58.0%) had low compliance or adherence to glycaemic control, while 52% had measurable compliance rate.

Only 26.0% of patients were revealed as having high compliance or adherence to weight reduction in glycaemic control in the current study. In a recent study in Bangladesh, Saleh et al. found that patients with Type 2 Diabetes Mellitus had higher medication adherence, with just 20% of the participants failing to take their oral medication (Ishitiaku et al., 2022) ,which is much lower than the present study findings. This could be attributable to the differences in geographical locations and respondent demographic characteristics. The present study findings remained in accordance with a report from India that used a standard medication-adherence tool and found more than half (51.7%) of their participants to have low adherence (Abdalla *et al.,* 2019; Baile and Kodoke 2011) . More so, the present study measured other variables including the weight reduction, dietary modification and daily exercise as opposed to the other studies that employed only adherence anti diabetic medication. Another report from Saudi Arabia reported that only a third of patients had high adherence to their prescribed antidiabetic medications and other therapeutic strategies (Davoodai *et al.,* 2012; Bruce *et al.,* 2015) . Moreover, a high prevalence of low-treatment adherence in Type 2 Diabetic Mellitus patients, as revealed by the current study, is confirmed by another recent study from Bangladesh, which reported that the overall prevalence of low adherence was 46.3% of participants and medium-to-high adherence was 53.7% in patients with Type2 Diabetic Mellitus patients (Ishitiaku *et al.,* 2022; Khan *et al.,* 2020). The study finding was consistent with the present study ,probably due to similar demographic characteristic of the respondents and using similar data collection tool. In the present study the awareness level to therapeutic strategies in glycaemic control was found to be (35%) higher than the reported previous studies from around the World. The high awareness level in this study could be linked to demographic variables of the respondents. Most respondents in this study are from urban areas as opposed to other studies. In the present study, a high proportion (55%) of patients were in the age group of 41–50 years of age. This finding could be associated with younger patients take better care of their health to ensure a long healthy life, and the older adults that seem to have fear in complications and adverse effect from lifelong medications. In the present study, it was revealed that (59%) of the respondents were female, this high preponderance of female gender was equally reported in another study. The reason for this similarity in demographic characteristics could be linked to the study location and geographical distributions from the previous study. However, there are inconsistencies in the literature when it comes to awareness level and factors that influence treatment adherence (Algarni *et al*., 2019). It is usually due to a lack of standard procedures for measuring adherence, as well as variances in sample demographics and glycemic control standards.

Cautions while interpreting the results

There are several precautions while interpreting the findings to this study. Participants in this study came from urban health care centers in the city, who are more likely to have better awareness regarding Type2 Diabetic Mellitus and financial and educational stability.

CONCLUSION

It can be concluded based on the current study that there is high awareness level on therapeutic strategies in glycaemic control but with low adherence to therapeutic strategies. Therefore, patients should be considered at high risk of non-adherence and are likely to require more health awareness and sensitization on the compliance to therapeutic strategies . These findings should aid health professionals and policymakers in developing holistic management strategies for chronic diseases such as Diabetes Mellitus, with the objective of enhancing patient adherence.

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