



E-ISSN: 2663-2268  
P-ISSN: 2663-225X  
IJARMSN 2021; 3(2): 01-05  
Received: 03-04-2021  
Accepted: 06-05-2021

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## Compliance to treatment regimen among diabetic patients at Dalhatu Araf Specialist Hospital Lafia, Nigeria

**Sulaiman Umar**

### Abstract

**Background:** Diabetes is an endocrine disorder at the same time is a major cause of morbidity and mortality in developing and developed countries. The incidence is rapidly increasing in sub-saharan Africa experiencing the largest percentage, Nigeria has the largest number of people living with diabetes with an estimated 3.9 million. Globally the burden of diabetes is rapidly increasing, according to International Diabetes Federation (IDF) diabetes will increase by the end of 2013, there were 382 million (8.3% of adult world population) people worldwide with diabetes of which 80% live in low and middle income countries, currently, Africa is estimated to have 20 million people with diabetes, about 62% are not diagnosed.

### Objectives

1. To assess the level of medication compliance among diabetic patients.
2. To assess the level of dietary compliance among diabetic patients.
3. To identify factors affecting compliance to treatment regimen among diabetic patients.

**Method:** A study was used to assess the compliance to treatment regimen among diabetic patients Dalhatu Araf Specialist Hospital Lafia, Nasarawa State, Nigeria.

Data was collected from 80 samples using convenient sampling technique by structured questionnaire, the collected data was analysed using descriptive and inferential statistics and presents in the form of tables and figures.

**Result:** The result shows that 37.6% of the patients are not compliance to treatment regimen as a result of high cost of drugs while lack of family support and poor attitude of attitude of nurses was expressed by 27.6% and 51.2% of patients respectively.

**Conclusion:** There was statistically significance ( $P<0.05$ ) association between sociodemographic variables (educational qualification) of the respondents with their compliance to treatment regimen.

**Keywords:** Compliance, treatment regimen, diabetic patients

### Introduction

Diabetes is an endocrine disorder at the same time is a major cause of morbidity and mortality in developing and developed countries. The incidence is rapidly increasing in sub-saharan Africa experiencing the largest percentage, Nigeria has the largest number of people living with diabetes with an estimated 3.9 million. Globally the burden of diabetes is rapidly increasing, according to International Diabetes Federation (IDF) diabetes will increase by the end of 2013, there were 382 million (8.3% of adult world population) people worldwide with diabetes of which 80% live in low and middle income countries, currently, Africa is estimated to have 20 million people with diabetes, about 62% are not diagnosed<sup>[1]</sup>. This condition normally occur as a result of insulin deficiency or insensitivity of the body to utilize the insulin which become a significant public health problem<sup>[2]</sup>.

Diabetes can be classified as type I and II, type I can occur as a result of autoimmune disease in which the immune system mistakenly destroys the insulin-producing beta cells of the pancreas. It develops more quickly than other types of diabetes, it is usually diagnosed in children and adolescents, and sometimes in young adults. To survive and live longer, patients must administer insulin medication regularly. Type II diabetes is a disorder of metabolism usually involving excess weight and insulin resistance. In these patients, the pancreas produce insulin initially but the body has trouble using this glucose controlling hormone. Eventually the pancreas cannot produce enough insulin to respond to the body's need.

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Type II diabetes is by far the most common type of diabetes, accounting for 85 to 95% of cases in developed nation and even in higher percentage in developed nations according to IDF. This disease condition may take some years or decades to develop. It is usually preceded by prediabetes, in which the level of glucose (blood sugar) are above normal but not high and not yet for a diagnosis of diabetes. Individuals with prediabetes can often delay or prevent the escalation to type II diabetes by losing weight through improvements in exercise and diet, as the diabetes prevention programme and other research projects have demonstrated. Type II diabetes is used to be called adult onset diabetes and non-insulin dependent diabetes mellitus, those terms are not accurate because children can also develop this disease, and some clients require insulin therapy. This centrally <sup>[3]</sup>.

## Materials and methods

### Methodology

#### Research approach

Research Approach is the description of the plan to investigate the phenomenon under study in a structured (quantitative), unstructured (qualitative) or a combination of the two methods (quantitative-qualitative integrated approach).

In present study research approach was quantitative method of approach.

#### Research design

The research design refers to the researcher's overall plan for obtaining answer to the research questions  
Descriptive survey research design.

**Setting of study:** The study setting is the location in which the research is conducted-it can be natural, partially controlled, or highly controlled.

The study was conducted at Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria.

#### Population

Population is the aggregation of all units in which a researcher is interested.

**Target population:** A target population consists of the total number of people or objects which are meeting the designed set of criteria by researcher.

The target population in this study are diabetic patients of Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria.

**Accessible population:** It is the aggregate of cases that conform to designated criteria and also accessible as subject for a study.

In this study the accessible population are diabetic patients of Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria.

**Sampling and sample size:** Sample is defined as representative unit of a target population.

Non-probability convenient sampling method.

The proposed sample size for this study was 80.

**Sampling technique:** In this study purposive sampling is used to select the sample.

## Sampling Criteria

### Inclusion Criteria

Diabetic patients of Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria (male and females).

Diabetic patients that are receiving treatment at Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria.

### Exclusion Criteria

Diabetic patients those who are not willing to participate will be excluded.

Diabetic patients who are not available at the time of data collection will not be included.

### Variables

Variables refers to the attributes or characteristics that can have more than one value, such as height, weight.

In the present study the research variables are –treatment regimen awareness regarding school lunch programme.

**Independent variable:** Variables that are purposely manipulated or changed by the researcher. In this study independent variable is treatment regimen.

**Dependent variable:** Variables that change as the independent variable is manipulated by the researcher. In this study dependent variable is diabetic patients.

**Description of tool:** Structured questionnaire.

### Tool

**Part A:** Performa for collecting socio-demographic variables it consist of demographic variables like sex, age, marital status, religion, educational level, and ethnicity.

**Part B:** Compliance with medications.

**Part C:** Factors affecting compliance with diet regimen among diabetic patients.

### Plan for data collection procedure

Before actual collection of data, permission was obtained from the Chief Medical Director of Dalhatu Araf Specialist Hospital Lafia, Nasarawa State of Nigeria. Then the researcher introduce himself to the respondent regarding the tool. Each respondent will be given 40 minutes to complete the questionnaire.

### Plan of data analysis and interpretation

**Data Analysis:** The data were summarized, organized, tabulated and analyzed. The data was analyzed according to the objectives of the study by using non experimental descriptive statistics (frequency and percentage) and an inferential statistics (chi square, anova, t test).

The analysis and interpretation of data collected from the sample to determine the level of awareness. A quantitative research approaches are used for the present study. The analysis is done in order to achieve the result of the study.

### Organization of the study finding

**Section 1:** Distribution of sample according to the socio-demographic variable.

**Section 2:** Distribution of sample according to the level of awareness.

**Section 3:** Association between level of awareness and socio-demographic variable.

**Summary**

In this chapter we have included methodology research approach, research design, population, setting of the study, sample, sample size, sampling technique, criteria for sample selection, and development of tools content validity of tools, reliability of tools, description of final tools, pilot study, data collection procedure, plan for data analysis.

**Results and Discussion**

**Data analysis and interpretation of result**

This chapter deal with analysis and interpretation of the data gather to assess the Compliance to treatment regimen among diabetic patients at Dalhatu Araf Specialist Hospital Lafia, Nasarawa State, Nigeria.

**Organization and presentation of data**

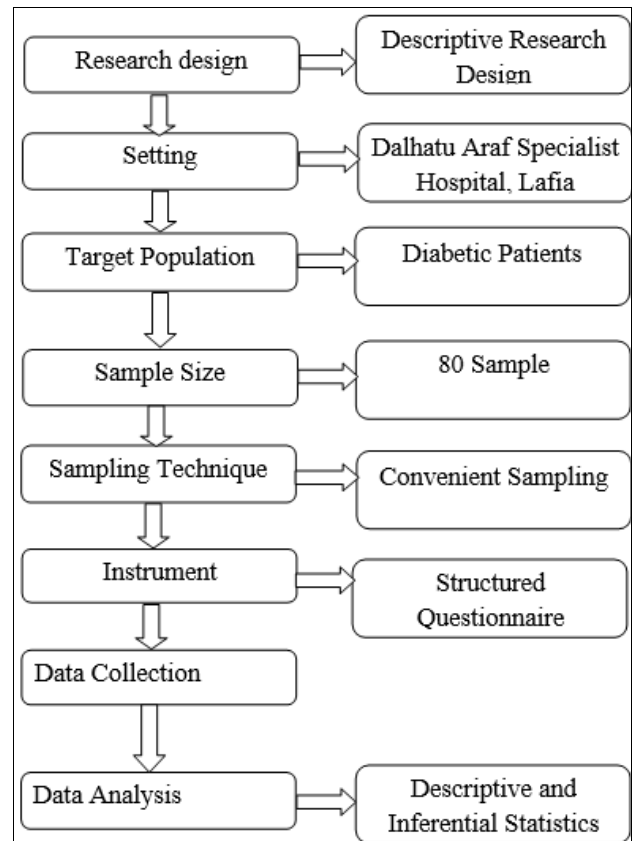
The obtained data were entered into the master sheet for tabulation and statistical processing. Descriptive and inferential statistical methods were used to analyze the collected data. The analysis of the data was organized and finalized according to the plan of data analysis and presented in the form of tables and figures which is organized under the following sections.

**Section I:** Description of demographic variables of the diabetic patients.

**Section II:** Frequency and percentage distribution of medication compliance.

**Section III:** Frequency and percentage distribution of dietary regimen compliance.

**Section-IV:** Frequency and percentage distribution of factors affecting compliance to treatment of diabetic patients.



**Fig 1:** Schematic representation of research methodology

**Section-I**

**Table 1:** Description of demographic variables of diabetic patients

Variable	Frequency	Percentage (%)
<b>Age</b>		
20-39years	35	43.75
40-59years	25	31.25
60 and above	20	25
Total	80	100.00
<b>Sex</b>		
Male	50	60
Female	30	40
Total	80	100.00
<b>Marital status</b>		
Single	21	26.30
Married	49	61.25
Others	10	12.50
Total	80	100.00
<b>Religion</b>		
Christianity	72	92.26
Islam	5	4.74
Others	3	3
Total	80	100.00
<b>Level of education</b>		
No formal education	6	7.5
Primary certificate	39	48.75
Secondary certificate	12	15.00
BSc/HND	23	28.75
Total	80	100.00
<b>Occupational status</b>		
Civil servant	49	61.25

Farmer	4	5
Business	17	21.25
Student	10	12.5
Total	80	100.00
<b>Ethnicity</b>		
Egon	40	50
Kambari	5	6.25
Others	25	31.25
Total	80	100.00

**Analysis related to demographic variables**

Table 1<sup>st</sup> is describing the frequency among the parents with their selected demographic variables like age, sex, marital status, religion, educational qualification, occupation, and ethnicity.

1. The variables, age in present study were 43.75% patients belongs to 20 – 39 years and 31.25% patients belongs to 40 – 59 years and 25% patients belongs to 60years and above.
2. The variable, Sex of parents 40% of were female and 60% of were male.
3. The marital status of the respondents, 26.30% single,

- 61.25% married, while 12.50% others.
4. The religion of the respondent, 92.26% are Christians, 4.74% muslims while 3% others.
  5. As regard to educational qualification 7.5% no formal education, 48.75% Primary certificate, 15.00% Secondary certificate while 28.75% BSc/HND
  6. As regard to occupation 61.25% are Civil servant, 5% farmers, 21.25% business while 12.5% students.
  7. The variable regarding ethnicity 50% Egon, 6.25% Kambari while 31.25% others

**Section –II**

**Table 2:** Frequency and percentage distribution of medication compliance N=80.

Variables	Response	Frequency	Percentage (%)
Do you feel annoyed asking to your treatment plan?	Yes	71	88.75
	No	9	11.25
Do you feel the attitude of your Nurses encouraged you in taking your drugs as prescribed?	Yes	55	68.75
	No	25	31.25
Have you ever stopped your medicines without informing Physician?	Yes	65	81.25
	No	15	18.75
When travelling away from home, do you sometimes forget to carry your medications?	Yes	40	50
	No	40	50
Do you always have money to purchase prescribed drugs when the need arise?	Yes	65	81.25
	No	15	18.75

From the table above 71(88.75%) respondents feels annoyed sticking to their treatment plan while 9(11.25%) did not feel annoyed. 55(68.75%) feels encouraged by the nurses on taking their drugs while 25(31.25%) feel discouraged. 65(81.25%) stopped their medications without informing physician while 15(18.75%) informed. 40(50%) sometimes forget to carry their medications when travelling similarly

the other 40% also forget. 65(81.25%) always have money to purchase prescribed drugs when the need arise while 15(18.75%) do not always have money to purchase their drugs.

**Section – III**

**Table 3:** Frequency and percentage distribution of dietary regimen compliance N=80.

Variables	Response	Frequency	Percentage (%)
Do your knowledge on diet regimen promote your compliance?	Yes	71	88.75
	No	9	11.25
If recommended diet does not interfere with your culture would you comply?	Yes	55	68.75
	No	25	31.21
If there is improvement after a month of compliance would you continue with diet?	Yes	65	81.25
	No	15	18.75

From the above table 71(88.75%) would comply if they had knowledge of diet while 9(11.25%) would not, 55(68.75%) would comply if recommended diet does not interfere with your culture similarly 25(31.25%) would not. 65(81.25%)

would comply if there is improvement after a month of compliance while 15(18.75%) would not.

**Section – IV**

**Table 4:** Frequency and percentage distribution of factors affecting compliance to treatment of diabetic patients.

Variables	SA%	A%	D%	SD%	Percentage
Family support.	62(77.5%)	18(22.5%)	0(0%)	0(0%)	100%
Making available diet is important.	45(56.2%)	30(37.5%)	5(6.25%)	0(0%)	100%
Financial support from family helps.	54(67.5%)	26(32.5%)	0(0%)	0(0%)	100%

Moral support from family helps to adhere to diet regimen.	55(82.5%)	25(31.25%)	0(0%)	0(0%)	100%
Does compliance disturbed family members.	54(67.5%)	26(32.5%)	0(0%)	0(0%)	100%
Non-compliance can result in repeated hospital admission.	54(67.5%)	26(32.5%)	0(0%)	0(0%)	100%
The presence of your family members promote compliance.	66(82.5%)	14(17.5%)	0(0%)	0(0%)	100%

From the above diagram 62(77.5%) respondents strongly agreed that family support promote dietary compliance while 18(22.5%) disagreed. Making available diet is important, some respondents strongly agreed, agreed and disagreed accounted for 45(56.2%), 30(37.5%) and 5(6.25%) respectively. 54(67.5%) of the respondent strongly disagreed while 26(32.5%) agreed with financial support from the family helps. 55(82.5%) of the respondents strongly agreed that moral support from family helps to adhere to diet regimen while 25(31.25%) agreed. 54(67.5%) of the respondents strongly agreed that compliance disturbed family members while 26(32.5%) agreed. 54(67.5%) of the respondents strongly agreed that non-compliance can result in repeated hospital admission while 26(32.5%) agreed.

### Summary

In this chapter we have include analysis and interpretation of the data according to demographic variables and organization of findings.

### Conclusion

On the basis of analysis of the study the following conclusion were drawn. It also brings out the limitation of the study into the picture, the implications are given on the aim of assessing compliance to treatment regimen among diabetic patients, and it also gives insight into the future studies.

The compliance to treatment regimen among diabetic patients at Dalhatu Araf Specialist Hospital Lafia, Nasarawa State, 80 samples were used. The result shows that 37.6% of the patients are not compliance to treatment regimen as a result of high cost of drugs while lack of family support and poor attitude of attitude of nurses was expressed by 27.6% and 51.2% of patients respectively.

### Nursing implication

The finding of the study has implication in the field of nursing education, nursing administration, and nursing research

**Nursing practice:** Nurses should participate actively involve in various treatment regimen of diabetic patients.

**Nursing education:** Nurses should health educate diabetic patients about their treatment regimen.

### Recommendation

1. A large scale study can be conducted for assessing the compliance to treatment regimen among diabetic patients.
2. The descriptive study can be undertaken with control group to compare.
3. Experimental study can be conducted to assess the effectiveness of structured teaching programme regarding compliance to treatment regimen among diabetic patients.
4. Pre-experimental study can be conducted by using large sample for generalization.

### Appendix

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TO WHOM IT MAY CONCERN  
LETTER OF INTRODUCTION

The bearer MR. SULAIMAN UMAR is a LECTURER  
of the above institution, on a research study titled:  
COMPLIANCE TO TREATMENT REGIMEN AMONG DIABETIC PATIENTS AT DALHATU ARAF SPECIALIST HOSPITAL LAFIA, NIGERIA

We seek your understanding and permission that he/she may have information from your community, organization/department or unit to enable the student proceed with the project.

Accept our heartfelt appreciation.  
Thank you.

Zari Solomon  
Pr: Principal

### Acknowledgments

I Sulaiman Umar thanks the participants of the study and everybody who help me in one way or the other.

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