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Psychological Impact of Diabetic Care on Satisfaction and Quality of Life of Diabetes Patients Attending Endocrinology Clinic, LAUTECH Teaching Hospital, Osun State, Southwest, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors All authors read and approved the final manuscript.

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ABSTRACT

Aims: Diabetes mellitus (DM) is a complex, debilitating and chronic illness that presents substantial challenges to every individual living with the condition. The impact of DM reaches far beyond the physical symptoms of the disease, often the emotional distress and psychosocial impact on the quality of life (QoL) of these patients complicates the effective management of the disease. Therefore, the objective of this study was to evaluate the impact of psychological experience and satisfaction with diabetic care on quality of life of diabetes patients.
Study Design: This was a descriptive research survey design carried out among diabetes patients attending endocrinology clinic of LAUTECH Teaching Hospital, Osogbo, Osun State, Southwest, Nigeria between August to December 2020.
Methodology: Sample size determination was obtained using Taro Yamane's formula and sample consisted of one hundred and ten (110) diabetic patients attending endocrinology clinic of

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LAUTECH Teaching Hospital, Osogbo. Samples were selected using convenience sampling method. Data were collected using modified Kessler psychological distress scale and Diabetes Quality of life Instrument and analyzed using descriptive statistics of frequencies, percentages and table. Inferential statistics of chi-square was used to test hypotheses at 0.05 level of significance.
Results: The results showed that more than half of the patients had poor psychological experience 61(55.5%) with diabetic care, though majority were satisfied 66(60.0%) with diabetic care but demonstrated poor quality of life 65(59.1%). The result also showed a significant relationship between psychological experience and quality of life (x^2=5.564; df=1; p-value=0.018), level of satisfaction with diabetic care and quality of life (x^2=25.280; df=2; p-value=0.000), level of satisfaction with diabetic care and psychological experience of diabetes patients (x^2=25.185; df=1; p-value=0.000).
Conclusion: Promotion of psychological wellbeing of diabetes patients and quality outcome of diabetic care as well as patient-centered psychological care are essential by providing care that is respectful and responsive to individual patient preferences, needs and values.

Keywords: Psychological experience; satisfaction; quality of life; diabetes; patients; diabetic care.

1. INTRODUCTION

Diabetes mellitus (DM) is a complex, debilitating and chronic illness that presents substantial challenges to every individual living with the condition and affect about 425 million people worldwide, with nearly 50% undiagnosed [1]. The global challenges of diabetes mellitus has undoubtedly changed the landscape of health care over the past decades and continues to be a major problem to individuals affected due to its health-related complications [2-5]. As the prevalence of diabetes continues to rise worldwide, more individuals and families are living with the challenge of integrating into their lives a demanding, complex and life-long regimen to control the disease progression and complications [4]. Studies conducted in Nigeria indicated that the prevalence of diabetes ranged from low level of 0.8% among adults in rural highland dwellers to over 7% in urban cities like Lagos with an average of 2.2% nationally [6].

However, the impact of DM reaches far beyond the physical symptoms of the disease, often the emotional distress and psychosocial impact on the quality of life (QoL) of these patients complicates the effective management of their disease [7]. In other words, effective self management of diabetes is critical to the achievement of healthy, independent and flexible day-to-day living but this requires personal motivation and changes in behaviour and routines. [7] stated that emotional and psychological wellbeing of diabetes patients is usually compromised when personal efforts to meet these challenges do not succeed as anticipated, or when the complications of diabetes take their toll on physical health. In addition to several factors that affect the emotional and psychological wellbeing of diabetes patients, the degree to which the patients accept their diagnosis, adjust to the demands of the self-care routine, and cope with progression of the condition, potentially affect the development of diabetes-related complications [7-9]. However, the perception, thought and feelings of the patients about the disease itself, the meaning attached to the disease and compliance to treatment as well as the psychosocial influence of the condition have tremendous impact on the quality of life thus, contribute to total experience of diabetes patients. According to [10], apart from major complications such as cardiovascular disease, adult blindness and end stage renal failure, diabetes also causes the development of diabetic foot due to self-care deficiencies that significantly lead to negative psychological and mental experience as well as reduced quality of life of diabetes patients.

Furthermore, the traditional management of diabetes targets diet, medication, and exercise, yet the psychological aspects of this disease are overwhelming due to the fact that an individual may have emotional and psychological needs unrelated to diabetes that affect their well being and ability to self-manage the condition [8,11]. According to [12], the rate of depression in persons with diabetes is two times greater than persons without diabetes, given that depression is not always detected by the health care provider, it frequently remains untreated. Moreso, barriers and beliefs about depression and its management may interfere with the ability to seek and obtain treatment for this condition [13]. However, psychological depression affects

diabetes self-care management which is associated with poorer diet and medication adherence, greater functional impairment, and higher health care costs [13]. [14] indicated that major depression reported among diabetes patients was associated with less physical activity, an unhealthy diet, and lower adherence to medications like oral hypoglycemic, antihypertensive, and lipid lowering medications.

Therefore, to promote psychological wellbeing of diabetes patients and quality outcome of medical care, patient-centered psychological care is essential by providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions which requires effective communication and interactions, problem identification, psychosocial screening, diagnostic evaluation, and intervention services take into account the context of the person with diabetes and the values and preferences of diabetes Patients [15,16]. Nevertheless, despite all effort put in place to ensure effective diabetic care, the unending demands of diabetes care, such as careful selection of diet, exercising, regular blood glucose monitoring, honoring scheduled and unscheduled hospital appointments are regular aspect of diabetic patient life that may affect their psychological health and subsequently have significant impact on their quality of life [17]. It is therefore imperative to examine the impact of psychological experience and satisfaction with diabetic care on quality of life of diabetic patients.

1.1 Objective of the Study

1. Assess the psychological experience of diabetic care among patients with type 2 diabetes mellitus;
2. Examine the level of satisfaction with diabetic care among diabetes patients;
3. Assess the quality of life of diabetes patients.

1.2 Hypotheses

1 There is no significant relationship between psychological experience of diabetes patients and quality of life.
2 There is no significant relationship between satisfaction with diabetic care and quality of life of diabetes patients.
3 There is no significant relationship between satisfaction with diabetic care and psychological experience of diabetes patients.

2. METHODOLOGY

2.1 Research Design

This is a descriptive research survey design conducted among diabetes patients attending endocrinology clinic at LAUTECH Teaching Hospital, Osogbo between August 2020 to December 2020. The endocrinology clinic of LAUTECH Teaching Hospital operates from 8:00 am to 4:00 pm on Wednesdays. The clinic is run by the endocrinologists and nurses in that specialty.

2.2 Data Collection

Data were collected using modified Kesler psychological distress scale by [18] and Diabetes Quality of Life Instrument. Data was collected from one hundred and ten (110) participants attending endocrinology clinic of LAUTECH Teaching Hospital, Osun State.

2.3 Data Analysis

Data collected were analysed using EPI Info statistical package for social sciences version 21 and the result was presented using descriptive statistics of frequencies and percentages while inferential statistics of chi square was used for stated hypotheses.

3. RESULTS PRESENTATION

Table 1 shows socio-demographic characteristics of respondents. The mean age of respondents was 50.52 years and majority 41 (37.3%) were between 41-50 years. Majority 68 (61.8%) and 79 (63.6%) of study participants were female and married respectively. More than half 56 (50.9%) were civil servants and earned 10,000-20,000 naira monthly 51 (46.4%).

Fig. 1 shows the psychological experience of patient with diabetes mellitus. More than half 61 (55.5%) of the respondents had poor experience with diabetic care while 49 (44.5%) had good experience with diabetic care.

Fig. 2 shows level of satisfaction of patients with diabetic care, majority 66 (60%) of the respondents were satisfied with their experiences with diabetic care, about one-fourth29 (26.4%)

were not satisfied while 17 (15.5%) were indifferent about their experiences with diabetic care.

Fig. 3 shows the quality of life of diabetic patients. Majority 65 (59.1%) of the respondents had poor quality of life with diabetic care while 45 (40.9%) expressed good quality of life.

Table 5 shows relationship between psychological experience and quality of life of diabetic patients. The result revealed a statistically significant relationship between psychological experience and quality of life of diabetes patients (x^2=5.564; df=1; pvalue=0.018).

Table 6 revealed a statistically significant relationship between level of satisfaction with diabetic care and quality of life of diabetes patients (x^2=25.280; df=2; p-value=0.000).

Table 7 revealed a statistically significant relationship between level of satisfaction with diabetic care and psychological experience of diabetes patients (x^2=25.185; df=2; pvalue=0.000).

4. DISCUSSION OF FINDINGS

The finding from the study showed that the mean age of respondents was 50.52 years and majority diabetes patients were between ages 41-50 years. The study revealed high rate of diabetes mellitus among female participants. This result corroborates the result of Akinwale et al. [19] that revealed high prevalence of type 2 diabetes mellitus among females. However, in contrast to the result from the study, the mean age reported by Akinwale et al. [19] was 58.2 years with high prevalence among participants aged 56-70 years.

Table 1. Socio-demographic characteristics of the respondents

Socio-Demographic Characteristics	Frequency (n)	Percentage (%)
Age (Years)		
Mean age 50.52		
20-30	5	4.5
31-40	16	14.5
41-50	41	37.3
51-60	21	19.1
61-70	21	19.1
71-85	6	5.5
Gender		
Male	42	38.2
Female	68	61.8
Marital Status		
Single	6	5.5
Married	70	63.6
Divorced/Separated	18	16.4
Widowed	16	14.5
Occupation		
Civil Servant	56	50.9
Trader	19	17.3
Artisan	14	12.7
Business	10	9.1
Housewife	11	10.0
Income		
Less than 10,000	5	4.5
10,000-20,000	51	46.4
21,000-30,000	42	38.2
31,000-40,000	1	0.9
41,000-50,000	10	9.1
51,000 and above	1	0.9

Table 2. Psychological experience of diabetes patients

Psychological experiences with diabetic care F (%)	Yes	No F (%)
Were you anxious and disturbed when you first diagnosed of having diabetes mellitus	96 (87.3)	14 (12.7)
Have you ever been a very nervous person	64 (58.2)	46 (41.8)
Do you feel nervous when carrying out certain tasks	72 (65.5)	38 (34.5)
Have you ever felt downhearted, tired, helpless, that nothing could ever	62 (56.4)	48 (43.6)
Psychological experiences with diabetic care	**Yes F (%)**	**No F (%)**
cheer you	56 (50.9)	54 (49.1)
Do you feel bad about yourself or see yourself as a failure		
Do you have little interest or pleasure in doing things or performing daily activities	75(68.2)	35 (31.8)
Do you have poor appetite or over eat	60(54.5)	50 (45.5)
Do you have trouble concentrating on things or at work	68 (61.8)	42 (38.2)
Do you move or speak so slowly or being so fidgety or restless that other people could have noticed	35(31.8)	75(68.2)
Have you ever thought that you would be better off dead or hurting yourself in some way	21 (19.1)	89 (80.9)

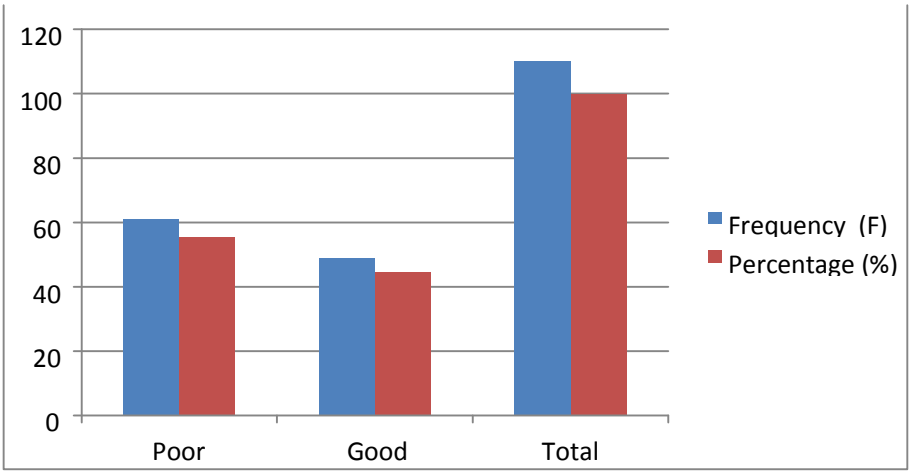

Fig. 1. Summary of psychological experience of diabetes patients

Findings from the study revealed that more than half of the respondents had poor psychological experience with diabetic care with expression of anxiety, nervousness, poor self perception about self, loss of pleasure in carrying out daily activities, poor appetite and lack of concentration at work. This result is in tandem with the report of [20] that low mood and depression are very prevalent among diabetic patients and individual with diabetes is 2-3 times more likely to be considered depressed than person without this condition. Polonsky [21] also stated that diabetes patients sometimes struggle with diabetic specific distress which occurs when the patient is overwhelmed by the condition coupled withfrustrations associated with burden of diabetes self-care. In addition to this, [22,23] reported that diabetes can bring with it two specific forms of anxiety, fear of hypoglycemia and fear of needle prick due to regular administration of insulin. Sazlina et al. [24] also reported high level of psychological reaction among diabetes patient indicating that patients with diabetes mellitus are at high risk of decreased psychological wellbeing and quality of life. Furthermore, Goldman and Maclean [25-27] stated that patients' perception about seriousness of diabetes significantly affect the way they cope with the psychological experience associated with the condition because the

degree to which patients accepts the diagnosis, adjustment to the demands and self care routine and progression of the disease contribute to the emotional and psychological wellbeing of the patient.

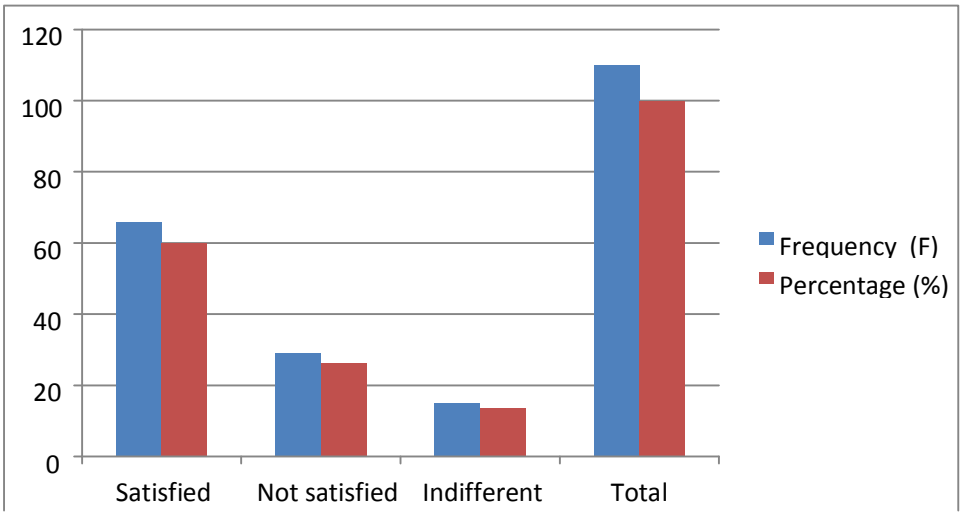

Fig. 2. Summary of level of satisfaction of respondents with diabetic care

Table 3. Level of satisfaction of the respondents with diabetic care

Satisfaction with diabetic care	Satisfied	Not satisfied	Indifferent
	F (%)	F (%)	F (%)
How satisfied are you with the amount of time it takes to manage diabetes	46 (41.8)	58 (52.7)	6 (5.5%)
How satisfied are you with the amount of time you spend getting checkups	34 (30.9)	58 (52.7)	18 (16.4)
How satisfied are you with the time it takes to check your sugar level	80(72.7)	18(16.4)	12(10.9)
How satisfied are you with your current treatment	78(71.0)	16(14.5)	16(14.5)
How satisfied are you with your knowledge about diabetic care	81(73.6)	14(12.8)	15(13.6)
How satisfied are you with life in general	77(70.0)	10(9.0)	23(20.9)
	66 (60%)	29 (26.4%)	15 (13.6)

Table 4. Quality of life of diabetes patients

Quality of life of diabetic patients	Always	Often	Sometimes	Never
	F (%)	F (%)	F (%)	F (%)
How often do you feel pain associated with diabetes treatment	8(7.3)	56(50.9)	41(37.3)	5(4.5)
How often do you feel physically ill	17(15.5)	47(42.7)	33(30.0)	13(11.8)
How often does this condition interfere with your family life	46(41.8)	34(30.9)	16(14.5)	14(12.7)
How often do you find diabetes limiting your social relationships and friendships	41(37.3)	36(27.7)	21(19.1)	12(10.9)
How often do you worry about whether you will pass out	45(40.9)	30(27.3)	22(20.0)	13(11.8)
How often do you worry that you will get complication	12(10.9)	24(21.8)	22(20.0)	52 (47.3)
	28 (25.5)	37 (33.6)	26 (23.6)	19 (17.3)

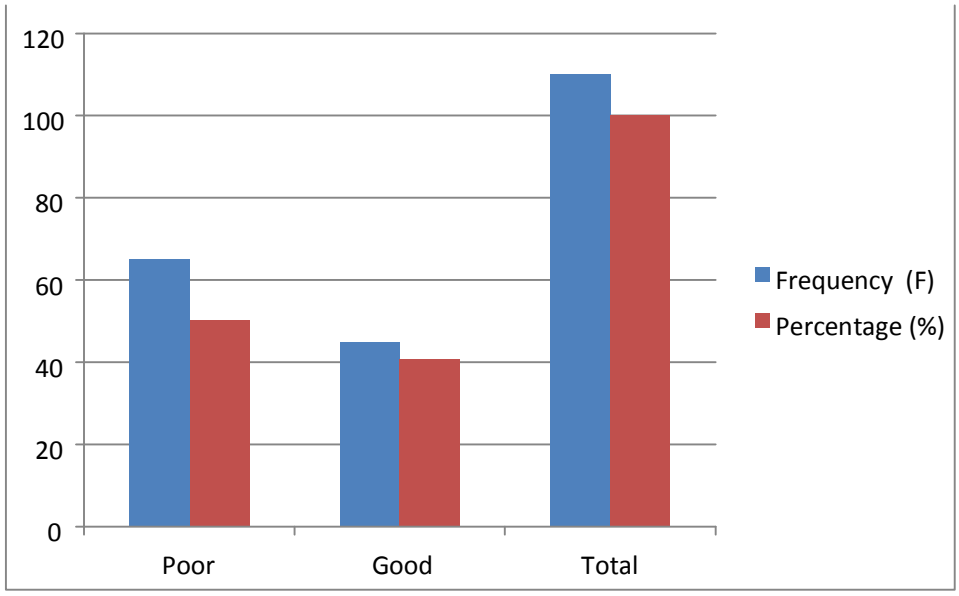

Fig. 3. Summary of Quality of life of diabetes patients

Table 5. Relationship between psychological experience and quality of life of diabetes patients

	Quality of Life					
	Poor	**Good**		**X2**	**df**	**p-value**
Psychological experience			**F (%)**			
Poor	30(27.3)	31(28.2)	61(55.5)			
Good	35(31.8)	14(12.7)	49(44.5)			
Total	65(59.1)	45 (40.9)	110 (100)	5.564	1	0.018

Table 6. Relationship between level of satisfaction with diabetic care and quality of life of diabetes patients

	Quality of Life					
	Poor	**Good**		**X2**	**df**	**p-value**
Satisfaction with diabetic care			**F (%)**			
Satisfied	50(45.5)	16(14.5)	66 (60.0)			
Not satisfied	6(5.6)	23(20.9)	29 (26.4)			
indifferent	9(8.1)	6(5.6)	15 (13.6)			
Total	65(59.1)	45(40.9)	110 (100)	25.280	2	0.000

Table 7. Relationship between level of satisfaction with diabetic care and psychological experience of diabetes patients

	Psychological experience					
	Poor	**Good**		**X2**	**df**	**p-value**
Satisfaction with diabetic care			**F (%)**			
Satisfied	24(21.8)	42(38.2)	66 (60.0)			
Not satisfied	25(22.7)	3(2.7)	28 (25.5)			
indifferent	12(10.9)	4(3.6)	16 (14.5)			
Total	61(55.5)	49(44.5)	110 (100)	25.185	2	0.000

Findings from the study revealed high level of patients' satisfaction with experience of diabetic care. The findings from the study further revealed that more than half of the respondents were not satisfied with the amount of time taken to manage their condition and time taken to go for check up. This suggests that diabetes patients considered managing diabetes and going for checkups consume their time. However, the study results showed that majority of the patient were satisfied with checking their sugar level at home, current treatment, knowledge about diabetic care and satisfied with life generally.There is also a significant relationship between patients' psychological experience and level of satisfaction with diabetic care (x^2=25.185; df=2; p-value=0.000). In addition to the findings from this study, Paterson et al. [28] found a correlation between diabetes treatment satisfaction and general well being of diabetes patient. Graue et al. [29,30] also reported a positive association between patients' satisfaction with diabetic care and sociodemographic variables like income which was not indicated in the study. Nevertheless, lower treatment satisfaction with diabetes-related complications and insulin treatment was reported by Berner et al. [30]. In other words, diabetes is perceived to be significantly more difficult to manage than other common chronic condition which is associated with inadequate knowledge, skills, and motivation about diabetes self-care.

Furthermore, findings from the study showed that the respondents had poor quality of life with diabetic care which was in contrast with the result of [31] that revealed fairly good quality of life among diabetes patients. 32.Stewart [32] reported good quality of life of diabetes patients as majority of the respondents with type 1 and 2 diabetes mellitus experience a high degree of well-being, satisfaction and enjoyments. Although, a minority noted that aspects of their lives were negatively affected by both forms of diabetes [32,31]. Additionally, findings from the study showed that the respondents often feel pains associated with diabetic treatment and often feel physically ill which was associated with fear of diabetes complications and death. With regards to the patients' response, majority of the patients indicated that the condition interferes with their family life, social relationships and friendships. Kiadaliri et al. [33] reported that quality of life for patients with diabetes mellitus is lower than that of the healthy individuals which was associated with some variables like types of diabetes mellitus, use of insulin, age complications, psychological factors, social status, educational and knowledge levels about diabetes mellitus as well as support received from family, friends and significant others. According to Ricart et al. [34] aspect of life with diabetes that may affect quality of life of diabetes patients including the never ending demands of diabetes care such as eating carefully, exercising, monitoring of blood sugar, scheduling and planning social invitation, symptoms of low and high blood sugar as well as fear about or the reality of complications.

The result from the study further revealed a statistically significant relationship between psychological experience and quality of life of diabetes patients (x^2=5.564; df=1; pvalue=0.018). A statistically significant relationship between level of satisfaction with diabetic care and quality of life of diabetes patients (x^2=25.280; df=2; p-value=.000) was also revealed from the study. Bhat et al. [35] reported that diabetes treatment is associated with psychological experiences of depression, anxiety, distress, poor coping style, suicide and suicidal reactions and personality disorders that consequently affect their quality of life. This denotes that there is a relationship between patients' psychological experiences with diabetic care and quality of life of diabetes patients. Peyrot et al. [36] revealed high level of depression and diabetes-related distress with poor quality of life among diabetes patients. Therefore, living with diabetes requires life-long care demanding a high commitment from individual if both long term health and quality of life are to be achieved [37]. Although, there is often a conflict between what is required for optimal diabetes care and optimal quality of life, however, patient satisfaction with diabetic care like insulin therapy, management of hypoglycemia, self-monitoring of blood glucose and prevention of complication can significantly contribute to good quality of life among diabetes patients [37-39].

5. CONCLUSION

This study examined the psychological experience, level of satisfaction with diabetic care and quality of life among diabetes patients attending endocrinology of UNIOSUN Teaching Hospital. The study also investigated the relationship between psychological experience, satisfaction with diabetic care and quality of life of diabetes patients. The results from the study revealed poor psychological experience of diabetes patients, high level of satisfaction with

diabetic care and poor quality of life of patients with diabetes. There is also a significant relationship between psychological experience and quality of life of diabetes patients, similarly, a significant relationship between satisfaction with diabetic care and quality of life of diabetic patients and finally between psychological experience and satisfaction with diabetic care. Therefore there is need for emotional and psychological care in addition to diabetic care instituted with the aim of improving psychological distress and health-related outcomes as well as quality of life of diabetes patients.

CONSENT AND ETHICAL APPROVAL

Permission was obtained from the ethical committee of the LAUTECH Teaching Hospital, Osogbo where the study was carried out with reference number LTH/EC/2021/02/505.

Permission was subsequently obtained from the head of Endocrinology. Informed consent was obtained from each respondent and they were given the right to make informed decision and the freedom to withdraw from the study without any penalty.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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