

Determinants of quality of life of patients with uncomplicated diabetes mellitus attending endocrinology clinic, UNIOSUN Teaching Hospital, Osogbo, Osun State

Afolalu, O.O.¹, *Akinwale, O.D.², Makinde, S.O.¹, Olawale, S.G.¹, Folami, R.O.²,
Akinbowale, B.T.¹, Kamoru, A.A.¹, Orunmuyi, J.I.¹

Abstract

Introduction: Diabetes Mellitus (DM) is a chronic metabolic disorder that poses significant problems to individuals living with it. The emotional anguish and psychological impact of DM on patients' quality of life (QoL) contribute to poor prognosis of the condition. Therefore, the goal of this study is to examine how psychological experiences and satisfaction with diabetic care affect patients' QoL.

Methods: A descriptive research survey conducted among one hundred and ten (110) diabetes patients attending the UNIOSUN Teaching Hospital's endocrinology clinic in Osun State, Nigeria between June and December, 2020. Modified Kessler psychological distress scale and World Health Organization Quality of Life Instrument (WHOQOL-BREF) were used to collect data. Data were analyzed using descriptive statistics of frequencies, percentages and tables, while inferential statistics of chi-square was used to test the stated hypothesis at 0.05 level of significance.

Results: The results showed that more than three-fourth of the patients had negative social 83(75.5%) and psychological 79 (71.8%) experiences with diabetic care, though majority 68(61.8%) demonstrated good quality of life. The result also showed a positive relationship between psychological experience and quality of life ($\chi^2=9.766$; $df=1$; $p\text{-value}=0.001$) as well as social experiences and quality of life ($\chi^2=4.576$; $df=1$; $p\text{-value}=0.032$). More so, socio-demographic characteristics of age, gender, marital status, level of education, occupation and income were significantly associated with quality of life of diabetes patients.

Conclusion: Overall quality of life of diabetes patients was observed to be good, although majority of diabetes patient had negative social and psychological experiences. Therefore, efforts to improve diabetic care must be intensified in clinical settings to promote good health outcomes and prevent negative social and psychological impact of diabetes mellitus.

Key words: Psychological experience, social-experience, quality of life, diabetes, patients, diabetic care

*Corresponding author

Akinwale, O.D.

ORCID-NO: <https://orcid.org/0000-0002-9550-2083>

Email: oakinwale4@gmail.com

¹Department of Nursing Science, Osun State University, Osogbo, Nigeria

²Department of Nursing, Osun State University Teaching Hospital, Osogbo, Nigeria

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Déterminants de la qualité de vie des patients atteints de diabète sucré non compliqué fréquentant la clinique d'endocrinologie, hôpital universitaire, UNIOSUN, Osogbo , dans l'état d'Osun

Afolalu, O.O.¹, *Akinwale, O.D.², Makinde, S.O.¹, Olawale, S.G.¹, Folami, R.O.²,
Akinbowale, B.T.¹, Kamoru, A.A.¹, Orunmuyi, J.I.¹

Résumé

Introduction: Le diabète sucré (DS) est un trouble métabolique chronique qui pose des problèmes importants aux personnes qui en sont atteintes. L'anxiété émotionnelle et l'impact psychologique du DS sur la qualité de vie (LQV) des patients contribuent à un mauvais pronostic de la maladie. Par conséquent, l'objectif de cette étude est d'examiner comment les expériences psychologiques et la satisfaction à l'égard des soins diabétiques affectent la qualité de vie des patients.

Méthode de l'étude: Une enquête de recherche descriptive menée auprès de cent dix (110) patients diabétiques fréquentant la clinique d'endocrinologie de l'hôpital universitaire, UNIOSUN dans l'état d'Osun , au Nigéria, entre juin et décembre 2020. Échelle de détresse psychologique de Kessler modifiée et instrument de qualité de vie de l'Organisation Mondiale de la Santé (OMS) ont été utilisés pour collecter les données. Les données ont été analysées à l'aide de statistiques descriptives de fréquences, de pourcentages et de tableaux, tandis que des statistiques inférentielles de chi carré ont été utilisées pour tester l'hypothèse énoncée au niveau de signification de 0,05.

Résultats de l'étude: Les résultats ont montré que plus des trois quarts des patients avaient des expériences sociales 83 (75,5 %) et psychologiques 79 (71,8 %) négatives avec les soins diabétiques, bien que la majorité 68 (61,8 %) aient démontré une bonne qualité de vie. Le résultat a également montré une relation positive entre l'expérience psychologique et la qualité de vie ($\chi^2=9,766$; $df=1$; $p\text{-value}=0,001$) ainsi que les expériences sociales et la qualité de vie ($\chi^2=4,576$; $df=1$; $p\text{-valeur}=0,032$). Plus encore, les caractéristiques sociodémographiques de l'âge, du sexe, de l'état matrimonial, du niveau d'éducation, de la profession et du revenu étaient significativement associées à la qualité de vie des patients diabétiques.

Conclusion: La qualité de vie globale des patients diabétiques était bonne, bien que la majorité des patients diabétiques aient eu des expériences sociales et psychologiques négatives. Par conséquent, les efforts visant à améliorer les soins aux diabétiques doivent être intensifiés dans les milieux cliniques afin de promouvoir de bons résultats pour la santé et de prévenir l'impact social et psychologique négatif du diabète sucré.

Mots-clés: Expérience psychologique, expérience sociale, qualité de vie, diabète, patients, soins aux diabétiques

*Corresponding author

Akinwale, O.D.

ORCID-NO: <https://orcid.org/0000-0002-9550-2083>

Email: oakinwale4@gmail.com

¹Department of Nursing Science, Osun State University, Osogbo, Nigeria

²Department of Nursing, Osun State University Teaching Hospital, Osogbo, Nigeria

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INTRODUCTION

The global prevalence of Diabetes Mellitus (DM) has increased steadily over the last few years, owing to improvements in life expectancy and certain social and environmental factors (1). Urbanization, sedentary lifestyle, and consumption of highly processed and sweetened foods are key drivers in developing type 2 Diabetes Mellitus (2,3). Diabetes Mellitus is a chronic debilitating disorder associated with increased morbidity and mortality, which impacts the Health-Related Quality of Life (HRQoL) of affected individuals globally. Evidence showed that as of 2015, an estimated 415 million people aged between 20 and 79 years were affected by type 2 Diabetes Mellitus, with a predicted rise of 642 million by 2040 (4,5).

Nigeria is one of the most populated countries in Sub-Saharan Africa, with an estimated 2.7 million persons aged 20 to 79 suffering from Diabetes Mellitus (6). This frequently leads to higher healthcare costs, greater morbidity and mortality, and a high level of dependency on resource constrained health system (7). Diabetes Mellitus, without a doubt, contributes to the development of major long-term health consequences that negatively impact the body system, producing renal, neurological, cardiac, and respiratory illnesses. These associated complications and unending demand significantly affect the QoL of diagnosed patients with Diabetes Mellitus, owing to frustration and overwhelming feelings associated with diabetic care (8). Furthermore, the degree at which Diabetic complication affect an individual's quality of life, result in severe morbidity and mortality. Complications are an unfortunate outcome for some patients who receive medical treatment (9). Diabetes complications are those associated with microvascular and macrovascular disorders with higher prevalence in the former than the latter (10). Wukich et al. defined uncomplicated Diabetes as those without any of these associated disorders. They reported that patients with uncomplicated Diabetes are less likely to develop complications than those with complicated diabetes (11,12).

Diabetes patients frequently undergo lifestyle adjustments and an increase in the unpredictability of the future (13). These changes are encountered from the onset of hyperglycemia symptoms through the actual diagnosis of Diabetes. Previous studies affirmed that the endless demands for diabetic care present challenges of adhering to the dietary pattern, Diabetes self-care, some lifestyle modifications,

and recurrent hospital appointments for blood glucose monitoring, which often interfere with their ability to live a normal life. Moreover, the ability to cope with the illness and live a quality life to a great extent depends on adherence to medication, diet, and many lifestyle modifications. However, there exist differences in individuals' ability to achieve these fits, given the low QoL associated with Diabetes (14). In other words, a Diabetic patient's HRQoL represents an individual's perceptions of life experience, social, occupational, and internal functioning against hope and ideas from aspects of physical, psychological, relationships, environmental and spiritual domains (15).

Furthermore, evidence revealed the impacts of Diabetes on patients' QoL and, by extension, on Diabetes self-care behaviors, medication adherence, and Diabetes distress (16). Moreover, many individuals experience huge financial burdens and decreased ability to perform activities of daily living as the disease progresses. Even though the findings of previous studies showed that social support is significantly important in improving QoL and self-management behavior of Diabetes patients, yet many patients lack the required assistance to cope with the illness (13). Therefore, the availability of support from family, friends, and significant others is imperative to promoting acceptance of the consequences and intensity of the diseases, thus improving the overall survival of diabetic patients (17).

In non-communicable diseases like Diabetes Mellitus, Health-Related Quality of Life (HRQoL) has become an important, highly studied field that has gotten a lot of attention (12,18). Several researchers have sought to investigate factors that influence diabetes quality of life, with some discrepancies discovered among those who focused on the impact of demographic characteristics on QoL (19). However, studies have not shown how socioeconomic factors, social challenges, and the nature of diabetic care affect diabetic patients' QoL.

Additionally, previous studies have primarily focused on patients with diabetic complications who were recruited in clinical settings. Low HRQoL has been linked to greater rates of hospitalization and mortality in patients with complicated Diabetes Mellitus, including Diabetes-related foot illness, neuropathy, and nephropathy, according to previous research (12,20) while they may properly reveal overall determinants among respondents' understudies,

they may not effectively reflect the overall perception of HRQoL among patients with uncomplicated diabetes (5). However, to the best of our knowledge, there has been no study conducted on factors influencing the quality of life of patients with uncomplicated Diabetes Mellitus in Nigeria and the current study setting. The impact of the disease may be underestimated in patients whose Diabetes is not complicated. It is hypothesized that patients with uncomplicated Diabetes Mellitus would experience good QoL than those with complicated Diabetes.

Therefore, the study aims to investigate the determinants of QoL in a representative sample of patients with uncomplicated Diabetes Mellitus attending the endocrinology clinic of a Nigeria tertiary health facility. The guiding objectives of the study are to (a) determine the QoL of Diabetes patients, (b) examine the influence of demographic factors on their QoL, (c) assess the effect of socio-economic factors on the QoL of Diabetes patients and (d) examine the impact of social and psychological challenges of Diabetic care on the QoL of Diabetic patients.

MATERIALS AND METHODS

Study Setting, Designs, and Population

This is a descriptive research survey conducted among diabetic patients attending the endocrinology clinic at UNIOSUN Teaching Hospital, Osogbo formerly referred to as LAUTECH Teaching Hospital between June 2020 and December 2020. The endocrinology clinic of UNIOSUN 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.

Data Collection Tools and Sampling

The modified Kessler Psychological Distress Scale and the World Health Organization Quality of Life Brief Version (WHOQOL-BREF) questionnaire were used to collect data (21). There are five (5) items in Section A, that deal with sociodemographic characteristics. Section B, which consists of six items with Yes/No responses, obtains information about social challenges in receiving Diabetic care. "Yes" denotes a positive reaction, which received a score of 2, whereas "No" denotes a negative response, which received a score of 1. Yes responses indicate negative social experiences while No responses indicate positive social experiences. Section B had a total maximum score of 12, with a minimum score of 6. A negative response to social challenges was

assigned a score of 1-6, while a good response to social challenges was assigned a score of 7-12. Section C, which consists of 9 items with a "Yes or No" response, elicits information on Psychological Challenges in Obtaining Diabetic Care. A favorable reaction is indicated by "Yes," whereas a negative response is indicated by "No.". Yes response indicate negative psychological experiences while No responses indicate positive psychological experiences. Section D focuses on information about Diabetic Patients' Quality of Life, which is divided into four categories: physical health, psychological health, and social relationship, and environment. The instrument is graded on a four-point scale, with a maximum score of 72 and a minimum score of 18. A high score (between 37 and 72) indicates an excellent quality of life, whereas a low score (between 1 and 36) indicates a low quality of life. The modified instrument was validated for content and reliability index. The internal consistency of the modified instrument had a Cronbach alpha value of 0.78 for total item correlation.

One hundred and ten (110) patients living with Diabetes volunteered and were recruited from the UNIOSUN Teaching Hospital's endocrinology clinic in Osun State. Before utilizing the sampling criteria to define eligible responders, the hospital's record department provided a list of patients living with Diabetes Mellitus who regularly attend the endocrine clinic for six consecutive months. Three of the five key elements of Billing codes for complication identification, proposed by Fernandez in 2016 (9) were used to identify complications in eligible patients. The following key elements: physical examination, treatment provided, and an assessment regarding the documentation in case records served as criteria for recruiting participants for this study.

Taro Yamane algorithm for estimating the sample size of a known population was used to calculate the sample size. From a total population of 130 uncomplicated diabetic patients attending the clinic monthly, and using a 95% confidence level and 0.05 level of precision, the sample size of 98 clients emerged. After adjusting the sample size for a 10% non-response rate, a sample of 108 emerged. Approximating the nearest whole number, a total number of 110 diabetes patients were recruited for the study by simple random sampling. We chose participants using computer-generated random numbers, which helped to minimize bias and ensured that everyone had equal chances of being selected.

Data Analysis and Presentation

Data collected were analyzed using EPI Info statistical package for social sciences version 21, and the results were presented using descriptive statistics of frequencies and percentages while inferential statistics of chi-square and correlation were used for the stated hypothesis.

Ethical Consideration

Permission was obtained from the ethical committee of the UNIOSUN Teaching Hospital, Osogbo, where the study was carried out with reference number LTH/EC/2021/02/505. Permission was also obtained from the head of the Endocrinology Unit. Informed consent was obtained from each respondent, and they were given the right to make an informed decision and the freedom to withdraw from the study without any penalty.

RESULTS

Table 1 shows the socio-demographic characteristic of the respondents. The majority 62(56.4%) of the respondents, were aged 41-60 years with a mean age of 50.52 years, females 68(61.8%), married 70(63.6%) with tertiary level of education 60(54.6%). Half 56(50.9%) were civil servants and earned 10,000 to 20,000 naira monthly 51(46.4%).

Table 2 reveals social challenges being faced by the respondents. More than three-fourth 87(79.1%) of the respondents indicated that diabetes affect their everyday life, 92(83.6%) stated that they have to make changes to their life because of their condition. More than half 60(54.5%) indicated that there is nothing they want to do that could not be done because of their condition and diabetes care has not prevented them from attending social functions. Almost all 97(88.2%) received help and support from family members and friends and almost three-fourth 81(73.6%) of the respondents indicated that diabetes mellitus affected their carriers and the way they do their job. In summary, three-fourth 83(75.5%) of the respondents had negative social experiences while 27(24.5%) had positive social experiences as shown in figure 1.

Table 3 reveals psychological factors associated with getting diabetes care. The majority 87(79.1%) of the respondents indicated that they are anxious about the diagnosis, ever been discouraged about getting diabetes care 92(83.6%), are frightened about the complications of diabetes 88(80.0%), experienced emotional disability when carrying out diabetes self-care 60(54.5%). Moreso, the

majority of the respondents indicated that diabetes has affected their self-esteem 97(88.2), not always interested in carrying out daily activities 81(73.6%), diabetes has affected their relationship with friends and family members 68(61.8%) as they expressed fear to friends and family members 68 (61.8%) and they also experienced emotional constraint while carrying out diabetes self-care 82(74.5%). In summary, almost three-fourth 79(71.8%) of the respondents demonstrated negative psychological experiences while 31(28.2%) had positive psychological experiences as shown in figure 2.

Table 4 shows the quality of life of diabetes patients in four different domains; physical health, psychological health, social relationship and environmental domain. The overall quality of health was good as presented in table 4b.

Table 5 shows a statistically significant relationship between socio-demographic characteristics of age ($\chi^2=9.359$; $df=2$; p -value=0.009), gender ($\chi^2=23.355$; $df=1$; p -value=0.000) and marital status ($\chi^2=8.934$; $df=3$; p value=0.030) and quality of life of diabetes patients. Respondents aged 41-60 years 46(41.8%) demonstrated good quality of life. Likewise female 54(49.1%) had good quality of life compared to male counterpart as well as married respondents 48(43.6%) as shown in table 5. More so, level of education ($\chi^2=21.186$; $df=3$; p -value = 0.000,, occupation ($\chi^2 = 10.804$; $df=4$; p -value = 0.029), income ($\chi^2=11.315$; $df=5$; p -value = 0.045), and quality of life of diabetes patients. Respondents with tertiary level of education 48(43.6%), civil servants 41(37.3%) with income between 10,000 and 20,000 naira 32(29.1%) demonstrated a good quality of life as shown in Table 5

Table 6 reveals a statistically significant relationship between social challenges being faced by diabetes patients and quality of life ($\chi^2=4.576$; $df=1$; p -value=0.032). However, majority 56(50.9%) of the respondents with social challenges in caring for their diabetes still exhibited a good quality of life

Table 7 also reveals a statistically significant relationship between psychological factors and the quality of life of the patient with diabetes mellitus ($\chi^2=9.766$; $df=1$; p -value=0.001). However, majority 56(50.9%) of the respondents with psychological challenges still demonstrated a good quality of life.

DISCUSSION

Data from this study were obtained from 110 diabetic patients attending the Endocrinology Clinic UNIOSUN Teaching Hospital. The findings from the study revealed that more than half of the respondents had social challenges as a result of negative social experiences in getting Diabetes care as their condition affects their everyday lives. This was evident by the majority reporting its effect on their ability to attend social functions and their occupation. This result may be attributed to the perceived burden of Diabetes care and the lack of provision of Diabetes self-management education and support (DSME/S), as shown in a previous study (22). Moreover, individuals affected with Diabetes Mellitus often have chances of adverse work outcomes with the effect more pronounced in male than female populations (23,24). Diagnosis of Diabetes in another study has been reportedly correlated to premature exit from the labour workforce in sixteen high-income countries (24). Additionally, the finding from an Ethiopian study revealed that social challenges with diabetes care have been reported to impact more on support from friends and family as the majority reported getting poor social support from their friends and feeling lonely with their disease (25).

Similarly, Funnell et al. (22) show that patients living with Diabetes Mellitus experienced interference with their ability to live a normal life due to the stress of coping and having to depend on medication usage. These findings confirm the influence of health status on labour force participation among Nigerian households, as reported by a study that confirms various forms of disabilities and ill-health, and body injury, as significant determinants of labour force participation (26). This to a great extent can influence the number of productive workforces available to meet various job demands when the health of some groups of people is compromised.

Our study showed that many psychological factors affect how patients access Diabetes care with a resultant impact on the QoL. This is evident in our findings as many respondents expressed anxiety about their diagnosis and were frightened about the complications of Diabetes Mellitus. The expression of emotional dis-stability experienced during Diabetes self-care invariably affected respondents' self-esteem and loss of interest in carrying out activities of daily living (ADL), which could have been averted by appropriate psychosocial support. These findings corroborate

the negative feelings and disruption in daily functioning reported in middle and low-income countries such as South Africa, Indonesia, and Nigeria (27-29). Issues with the psychological aspect of Diabetes Mellitus often affect patients' adherence to treatment and result in poor glycemic control with an increased risk of Diabetes-related complications (30). Since Diabetes significantly affects the mental state of individual patients, clinicians should apply a holistic approach to address the psychological aspect of the patients' disease. Adequate attention is needed to be paid to controlling blood glucose levels, blood pressure, and cholesterol levels, which are important indicators of better HRQoL (28).

Findings from this study showed good QoL among Diabetes Patients which was measured in four domains. These findings contradict the result of those who reported quality of life in 5 different domains among diabetes patients (29). The poor quality of life as shown in the previous study could be attributed to a lack of financial resources and access to quality Diabetic care. Although, our study demonstrated good QoL across the four domains (physical, psychological, social relationship, and environmental), a significant number of our respondents did not have a positive personal relationship with Diabetes care and lacked financial resources for Diabetes self-care, as previously reported in other studies (31,32). The majority of people in this study had good access to health care services, which could explain their overall positive QoL. This discovery contrasts what numerous earlier research in Nigeria and other Western countries have found (3,29,33,34). Diabetic patients reported poor QoL in the physical, psychological, and environmental dimensions, with a significantly higher QoL in the social domain (29). Age at diagnosis was reported to have influenced social domain because Diabetes patients over 45 years old were thought to have a better probability of surviving longer with the ailment for many years and a better likelihood of social relationships than those of younger age. The difference in QoL observed in this study with earlier research could be attributable to the exclusion of diabetic patients with comorbidities. As a result, when diabetic patients have strong support from family and significant others, their QoL improves. It is important to stress that the provision of social support, particularly understanding caretakers, has a significant impact on QoL since the presence of lifelong diseases necessitates

physical, emotional, and, most importantly, financial reliance on others. Essentially, efforts to improve diabetes patients' quality of life should be bolstered at the individual, family, and institutional levels.

Even though the majority of respondents aged 41-60 years in our study had a good quality of life, there was no gender disparity. Our data show that demographic factors (age, gender, and marital status) have a statistically significant relationship with QoL. The findings from this study, which show a positive relationship between respondents' age and quality of life, contradict those of a Nepalese study, which found a negative correlation between age and domains like sexual functioning, energy, and mobility, all of which had a significant impact on the patients' QOL (35). The heterogeneity in these two findings could be explained by the fact that the majority of our respondents were under the age of 60 years and did not have Diabetes-related complications. As a result, efforts to prevent complications are noteworthy to prolong life and improve the HRQOL.

Similarly, the positive relationship existing between socio-economic status, level of education, occupation, income, and QoL reported in this study has been demonstrated in previous research (22,23). According to the findings from our study, education is critical in comprehending diabetes self-care and glycemic control. This was further supported by a study conducted in Nepal, which found that educational status had an impact on blood sugar levels, implying that education improves the ability of diabetic patients to control their blood sugar levels (35). The majority of our study participants had higher levels of education, which could explain why so many of them were able to recognize and control their Diabetes symptoms well, resulting in a better quality of life.

Furthermore, Stojanović et al.(36) revealed inadequate socioeconomic situations as a factor closely connected with the onset of depressive episodes, which lowers QoL. Low income, as we discovered in our study, equates to bad economic standing, which predicts a lower quality of life. The interrelationship between higher socioeconomic level, education, and excellent QoL could be explained by a variety of reasons. They include having appropriate access to healthcare, adequate treatment plans, a clear understanding of the disease process and treatment options, and the likelihood of adopting healthy behaviors (37,38). As a result, attempts to treat the chronicity of Diabetes Mellitus among

unemployed and low-educated adults appear to be the most appropriate strategy for reducing inequities in their QoL.

CONCLUSION

Our study revealed that physical, psychological, social relationships and environmental domains are significant determinants of QoL in patients with uncomplicated Diabetes. Even though a sizeable proportion of our participants reported a good QoL, a significant number still reported poor QoL across the four domains. The low-income level, as well as the social and psychological obstacles to receiving diabetes treatment, have a major negative impact on QoL. Given the findings, patients' beliefs and attitudes around diabetes must be reoriented. Furthermore, healthcare services for economically disadvantaged people are recommended, such as advocacy and referral to diabetic care agencies. Collaboration between the clinical and public health personnel should be strengthened to promote the psychological and social experiences of diabetes patients.

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Table 1: Socio-Demographic Characteristics of the Respondents

Socio-Demographic Characteristics	Frequency (n)	Percentage (%)
Age (Years)		
Mean age 50.52		
20-40	21	19.0
41-60	62	56.4
61-80	27	24.6
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
Level of Education		
No formal education	8	7.2
Primary school	15	13.4
Secondary school	27	24.6
Tertiary level	60	54.6
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: Social Challenges in Getting Diabetes Care

Variable	Yes F(%)	No F(%)
Does Diabetes affect your everyday life	87 (79.1)	23 (20.9)
Have you had to make any changes to your life because of your condition	92 (83.6)	18 (16.4)
Is there anything you would like to do, but you can't do because of your condition	50 (45.5)	60 (54.5)
Does Diabetes care prevent you from attending a social function	50 (45.5)	60 (54.5)
Do you receive help or support from family members or friends	97 (88.2)	13 (11.8)
Has your Diabetes affected your carrier or the way you do your job	81 (73.6)	29 (26.4)
Weighted average	83(75.5)	27(24.5)

Yes responses indicate negative social experience while No responses indicate positive social experience

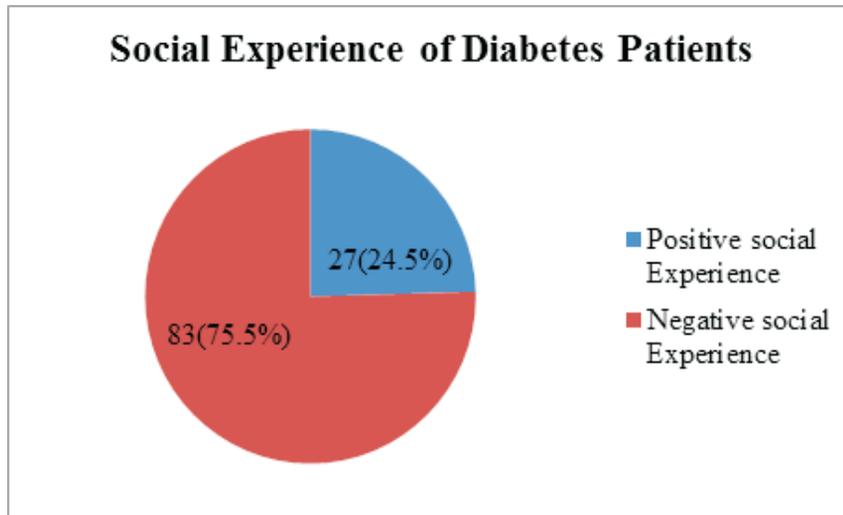


Figure 1: Social experience of Diabetes Patients

Table 3: Psychological Factors Associated with Getting Diabetes Care

Variable	Yes	No
	F(%)	F(%)
Are you anxious about your diagnosis	87 (79.1)	23 (20.9)
Have you ever been discouraged about getting Diabetes care	92 (83.6)	18 (16.4)
Are frightened about the complication of Diabetes Mellitus	88 (80.0)	22 (20.0)
Do you experience emotional stability when carrying out diabetic self-care	50 (45.5)	60 (54.5)
Has your Diabetes affected your self-esteem	97 (88.2)	13 (11.8)
Are you always interested in carrying out your daily activity as a result of your Diabetes condition	81 (73.6)	29 (26.4)
Has your condition affected your relationship with friends and family members	72(64.5)	38(35.5)
Do you express your fear to friends and family members	68(61.8)	42(48.2)
Do you experience emotional constraints while carrying out your Diabetes self-care	82(74.5)	28(25.5)
Weighted average	79(71.8%)	31(28.2)

Yes responses indicate negative psychological experience while No responses indicate positive psychological experience

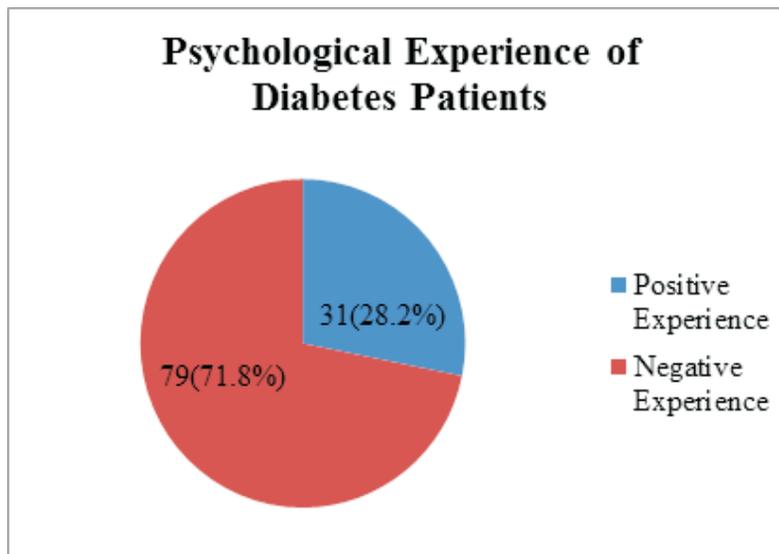


Figure 2: Psychological experiences of diabetes patients

Table 4a: Quality of life of Diabetes patients

Variable		Always (4)	Often (3)	Sometimes (2)	Never (1)
		F(%)	F(%)	F(%)	F(%)
Quality of life domain					
Physical health	Do you carry out the activity of daily living on a regular basis	20(18.2)	32(29.1)	48(43.6)	10(9.1)
	Are Dependence on medicinal substances and medical aids	18(16.4)	26(23.6)	28(25.5)	38(34.5)
	Do you have enough Energy	42(38.2)	34(30.9)	21(19.1)	13(11.8)
	Do you experience pain and discomfort	24(21.8)	25(22.7)	32(29.1)	29(23.4)
Psychological health	Do you have adequate sleep and rest	17(15.5)	47(42.7)	33(30.0)	13(11.8)
	Are you satisfied with your body image and appearance	8(7.3)	56(50.9)	41(37.3)	5(4.5)
	Do you positive toward yourself	17(15.5)	47(42.7)	33(30.0)	13(11.8)
	Has your Diabetes changed your personal belief	46(41.8)	34(30.9)	16(14.5)	14(12.7)
Social relationships	Do you still maintain your self-esteem	41(37.3)	36(27.7)	21(19.1)	12(10.9)
	Do you experience good Personal relationships	45(40.9)	30(27.3)	22(20.0)	13(11.8)
	Do you have support from friends and family members	17(15.5)	47(42.7)	33(30.0)	13(11.8)
Environmental domain	Has Diabetes reduced your Sexual activity	12(10.9)	24(21.8)	22(20.0)	52 (47.3)
	Do you have Financial resources for Diabetes self-care	42(38.2)	30(27.3)	28(25.5)	10(9.1)
	Do you experience Freedom, physical safety, and security	52(47.3)	24(21.8)	21(19.1)	13(11.8)
	Do you have access to quality Diabetes care	60(54.5)	28(25.5)	12(10.9)	10(9.1)
	Do you participate in leisure activities	30(27.3)	52(47.3)	20(18.2)	8(7.3)
	Is your environment conducive for Diabetes self-care practices	23(20.9)	38(34.5)	24(21.8)	25(22.7)
	Do you find it convenient to transport yourself to the clinic for follow up	56(50.9)	38(34.5)	18(16.4)	10(9.1)
Weighted average		32(29.1)	36(27.7)	26(23.6)	16(14.6)
		68(61.8)		42(38.2)	

Table 4b: Summary of Quality of life of diabetic patients

Quality of life of diabetic patients	Frequency (F)	Percentage (%)
Poor	42	38.2
Good	68	61.8
Total	110	100

Table 5: Relationship between socio-demographic characteristics and quality of life of patients with uncomplicated type 2 Diabetes Mellitus

Socio-Demographic Characteristics	Quality of life of Diabetes patients		X ²	df	p-value
	Poor	Good			
Age (Years)					
Mean age 50.52					
20-40	12(10.9)	9(0.8)	9.359	2	0.009
41-60	16(14.5)	46(41.8)			
61-80	14(12.7)	13(11.8)			
Gender					
Male	28(25.5)	14(12.7)	23.355	1	0.000
Female	14(12.7)	54(49.1)			
Marital Status					
Single	1(0.01)	5(4.5)	8.934	3	0.030
Married	22(20.0)	48(43.6)			
Divorced/Separated	8(7.3)	10(9.0)			
Widowed	11(10.0)	5(4.5)			
Level of Education					
No formal education	4(3.6)	4(3.6)	21.186	3	0.000
Primary school	7(6.4)	8(7.2)			
Secondary school	19(17.3)	8(7.2)			
Tertiary level	12(10.9)	48(43.6)			
Occupation					
Civil Servant	15(13.6)	41(37.3)	10.804	4	0.029
Trader	7(6.4)	12(10.9)			
Artisan	6(5.5)	8(7.2)			
Business	6(5.5)	4(3.6)			
Housewife	8(7.2)	3(2.7)			
Income					
Less than 10,000	3(2.7)	2(0.02)	11.315	5	0.045
10,000-20,000	19(17.3)	32(29.1)			
21,000-30,000	12(10.9)	30(27.3)			
31,000-40,000	0(0)	1(0.01)			
41,000-50,000	8(7.2)	2(0.02)			
51,000 and above	0(0)	1(0.01)			

Table 6: Relationship between social challenges and quality of life of patients with uncomplicated type 2 Diabetes Mellitus

Social challenges	Quality of life of Diabetes patients		Total	X ²	df	p-value
	Poor	Good				
	F (%)	F (%)	F (%)			
Negative	27(24.5)	56(50.9)	83(75.5)	4.576	1	0.032
Positive	17(15.5)	12(10.9)	27(24.5)			
Total	42(38.2)	68(61.8)	110(100)			

Table 7: Relationship between psychological factors and quality of life of patients with uncomplicated type 2 Diabetes Mellitus

Social challenges	Quality of life of Diabetes patients		Total	X ²	df	p-value
	Poor	Good				
	F (%)	F (%)	F (%)			
Negative	23(20.9)	56(50.9)	79(71.8)	9.766	1	0.001
Positive	19(17.3)	12(10.9)	31(28.2)			
Total	42(38.2)	68(61.8)	110(100)			