JOURNAL OF BIOMEDICINE AND BIOCHEMISTRY
Volume 3 Issue 4 (2024), pp. 1–7

Journal JBB
Print ISSN:3006-0532
Online ISSN:2958-0528

ORIGINAL A R T I C L E

Identification of Quality of Life for Patients with Type II Diabetes Mellitus

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Received:June 04, 2024,
Revised:July 02, 2024,
Accepted:July 10, 2024,

DOI: 10.57238/jbb.2024.7432.1127

OPEN ACCESS

Access this article online

Abstract

Background Type 2 diabetes, an adult chronic illness, impacts most body processes. Drug therapy assists in alleviating disease symptoms, but self-care is most important. Learning about the weak features of these behaviors and their relationship to the patient's demographic factors can help nurses plan suitable nursing interventions to rectify and strengthen these behaviors and change the poor ones.
Objective This study examines type II diabetes patients' quality of life and whether demographic and socioeconomic data affect it.
Methods The present study employed a descriptive design at Al-Diwaniya Teaching Hospital at the Diabetes and Endocrine Centre. This governmental hospital is Al-Diwaniya City's largest general hospital. The sample was taken five months prior. 150 type 2 diabetic center patients were selected as a non-probability convenience sample. The questionnaire sheet includes sociodemographic factors and quality of life. Eleven specialists examined the tool and utilized Cronbach's alpha to check its content validity in the pilot study to ensure its reliability.
Results TType II Diabetes Mellitus patients' quality of life was assessed. 90% of consumers perceive a moderate quality of life (M±SD= 81.12 ± 10.529). A significant relationship exists between patients' quality of life and their sex, level of education, occupation, and monthly income (p-values=0.013,0.001,0.001, and 0.031), but not with their age, marital status, or residency.
Conclusion The study evaluated the quality of life for type II Diabetes Mellitus patients and found that most had moderate quality of life. Sex, education, occupation, and monthly income were significantly associated with quality of life at p-values=0.013,0.001,0.001, and 0.0031. Non-significant with another variable.

Keywords: Identification; Quality of life (Qol); Type II diabetes Mellitus; Patients

1 Introduction

Type II Diabetes Mellitus is the most common form and is common among older people with a family history of diabetes and obesity and who do not exercise. There are two main forms of type 2 diabetes: late-onset obesity-related and late-onset non-obesity-related. Overweight individuals may be treated at the onset with dietary control alone or with tablets but may eventually have to progress to insulin in the end when the tablets fail to work [1].

Type 2 diabetes affects 463 million out of 476 million people globally, according to the 2017 Global Burden of Disease Study [2]. Diabetes is becoming more

common among Middle Eastern and Palestinian populations. From an estimated 18.4% in 2015 to a predicted 21.5% in 2030 [3], the prevalence is expected to rise in Palestine. The mean prevalence was calculated at 16.2% based on an analysis of 88 publications published between 1980 and 2015 from Arab states, which included type II Diabetes Mellitus (T2DM) papers [4].

The term "quality of life" refers to an individual's estimation of his or her living circumstances in relation to his or her aspirations, expectations, beliefs, and other relevant factors. The prominent aspects of an individual's environment, as well as his or her bodily and mental health, beliefs, social connections, and overall sense of well-being, all have a role in shaping this expansive notion [5].

The notion of (QoL)connects happiness and well-being in the areas of physical, psychological, cultural health, and socioeconomic health. According to the World Health Organisation, quality of life is defined as "people's perception of their position in life in relation to their goals, ambitions, standards, concerns, and the cultural and value systems in which they reside." A person's level of autonomy, social connections, mental health, physical health, and link to important parts of their environment all play a role in this broad concept [6].

Quality of life is a subjective concept heavily influenced by an individual's cultural norms and practices, including their value system, life objectives, cultural opportunities, and qualifications [7].

Diabetes substantially affects QOL, causing impairment in all functioning aspects of the patient. Other aspects of QOL, like physical, social, and psychological, are influenced greatly by diabetes [8].

Approximately 20%-25% of the elderly population in Korea and the US has diabetes, and this number is projected to rise as type 2 diabetes becomes more common around the world. Diabetes has skyrocketed in Indonesia, with 8.4 million cases in 2000 and an expected 21.3 million cases in 2030. This epidemic is disproportionately affecting young people, who are at a prime age for achieving their full potential. Both studies predict that by 2030, the population of diabetics will have increased by a factor of two or three [9].

Therefore, the aims of the current study were to evaluate the quality of life for Patients with type II Diabetes Mellitus and to identify the relationship between QOL and socio-demographical data.

2 Methods

During the current investigation, the descriptive design was carried out in Al-Diwaniya Teaching Hospital at the Diabetes and Endocrine Center. The sample, a non-probability convenience sample of (150) patients with type 2 diabetes who visited the diabetic center, was selected. Data is collected using a self-developed questionnaire and a pattern interview method.

Part I sociodemographic data for the sample consists of: (Age, Gender, Social state, Residence, marital status, educational level, professional status, monthly income, Duration of DM, and sources of information about diabetes care). Part II: Assessing the quality of life for patients with type 2 diabetes: The part consists of (26) items that measure the quality of life classified into four areas: physical condition (8 items), psychological state (7 items), social relationship (4) and environmental elements (7). A 5-Likert scale was used for the quality-of-life scale and scored as follows: very poor (1), poor (2), moderate (3), good (4), and very good (5). The validity of the tool's content was established by using Cronbach's alpha coefficient for the pilot study. The Cronbach's alpha shows excellent evaluation for the self-care scale (0.928), and the instrument's reliability was determined by a committee of (11) experts.

Version 26.0 of the Statistical Package for the Social Sciences (SPSS) program was used for data analysis and interpretation. Utilizing the following descriptive statistical tests: number of occurrences, percentage, mean, and standard deviation. Plus, inferential statistical tests such as Cronbach Alpha (α), the independent sample t-test, and one-way analysis of variance (ANOVA).

3 Ethical approval

The patients were made aware that taking part in the trial was entirely optional. The study's rationale and objectives were laid forward by the researcher. After agreeing to participate in the study, they were given an anonymous questionnaire to maintain complete confidentiality for the participants. The study protocol was evaluated and approved by the Karbala College of Nursing Ethics Committee, subject information, and permission Ethical Committee Code: 40k. ON. 23.014

Table 1 shows that the average age for patients is 56±5 years, in which the highest percentage of them is seen in the age group of 50-59 years, as reported among 42%. The sex of patients refers to males, 58% of them, and 42% of females.

The marital status refers to the fact that 80% of patients are married, and only 12.6% of them are widowed and widower. With regard to educational level, the highest percentage is 31.3% who do not read and write, and 18.3% who graduated from primary schools.

The occupation reveals that 43.3% of patients are housewives, and 20% are retired.

3.1 Assessment of quality of life among patients

Table 2 indicates that 90.7% of the patients have a moderate quality of life related to the physical domain.

Table 1: Distribution of Patients according to their Sociodemographic Characteristics.

List	Characteristics		f	%
1	Age (year) M±SD= 56 ± 8	Less than 40	3	2
		40 – 49	27	18
		50 – 59	63	42
		60 – 69	44	29.3
		70 and more	13	8.7
		Total	150	100
2	Sex	Male	87	58
		Female	63	42
		Total	150	100
3	Marital	Unmarried	6	4
		Married	120	80
		Separated	4	2.7
		Divorced	1	0.7
		Widowed/er	19	12.6
		Total	150	100
4	Level of education	Doesn't read and write	47	31.3
		Read & write	17	11.3
		Primary school	28	18.7
		Intermediate school	20	13.3
		Secondary school	17	11.4
		Institute /College	8	5.3
		Postgraduate	13	8.7
		Total	150	100
5	Occupation	Jobless	12	8
		Housewife	65	43.3
		Employee	26	17.3
		Private work	1	0.7
		Free work	16	10.7
		Retired	30	20
		Total	150	100

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Table 2: Distribution of Patients according to their Sociodemographic Characteristics.

Physical QoL	f	%	M	SD	Ass.
Poor	9	6	24.31	3.447	Moderate
Moderate	136	90.7			
Good	5	3.3			
Total	150	100			

M: Mean for the total score, SD: Standard Deviation for total score, Ass: Assessment, Poor= 8 – 18.66, Moderate= 18.67– 29.33, Good= 29.34 – 40

This table indicates that 90.7% of the patients have a moderate quality of life related to the physical domain.

Table 3: Assessment of Psychological Quality of Life among Patients.

Psychological QoL	f	%	M	SD	Ass.
Poor	11	7.3	22.28	3.285	Moderate
Moderate	111	74			
Good	28	18.7			
Total	150	100			

f: Frequency, %: Percentage M: Mean for a total score, SD: Standard Deviation for total score, Ass: Assessment Poor= 7 – 16.33, Moderate= 16.34– 25.66, Good= 25.67 – 35

This table reveals that 74% of the patients have a moderate quality of life related to the psychological domain.

Table 4: Assessment of Social Quality of Life among Patients.

Social QoL	f	%	M	SD	Ass.
Poor	16	10.7	12.29	2.428	Moderate
Moderate	108	72			
Good	26	17.3			
Total	150	100			

f: Frequency, %: Percentage M: Mean for a total score, SD: Standard Deviation for total score, Ass: Assessment Poor= 4 – 9.33, Moderate= 9.34– 14.66, Good= 14.67 – 20

This table indicates that 72% of the patients have a moderate quality of life related to the social domain.

Table 5: Assessment of Environmental Quality of Life among Patients.

Environmental QoL	f	%	M	SD	Ass.
Poor	5	3.3	22.24	3.076	Moderate
Moderate	127	84.7			
Good	18	12			
Total	150	100			

f: Frequency, %: Percentage M: Mean for a total score, SD: Standard Deviation for total score, Ass: Assessment Poor= 7 – 16.33, Moderate= 16.34– 25.66, Good= 25.67 – 35

This table reveals that 84.7% of the patients have a moderate quality of life related to the environmental domain.

Table 6: Assessment of Environmental Quality of Life among Patients.

QoL	f	%	M	SD	Ass.
Poor	3	2	81.12	10.529	Moderate
Moderate	135	90			
Good	12	8			
Total	150	100			

f: Frequency, %: Percentage M: Mean for a total score, SD: Standard Deviation for total score, Ass: Assessment Poor= 26 – 60.66, Moderate= 60.67– 95.33, Good= 95.34 – 130

This table indicates that patients are associated with moderate quality of life as reported among 90% of them (M±SD= 81.12 ± 10.529).

Table (3) reveals that there is a significant relationship among patients' quality of life and their sex, level of education, occupation, and monthly income at p-values= 0.013, 0.001, 0.001, and 0.031, respectively, while there is no significant relationship is reported with variables of patients' age, marital status, and residency.

4 Discussion

Table (1) shows that the average age for patients is 56±5 years, in which the highest percentage of them is seen in the age group of 50-59 years, as reported among 42%. These results are consistent with the results of the study findings, which indicate that Americans ages 45 to 64, an estimated 14% of, or 11 million people, are diagnosed with type 2. That's nearly five times the rate for those ages 18 to 44. Diabetes rates jump to higher levels early in your senior years. Nearly 25% of Americans age 65 or older have been diagnosed with type 2 [10]. Diabetes is a chronic disease that usually affects people of advanced age [11].

The sex of patients refers to 58% male, while 42% are females. These results are consistent with the results of the study findings, which indicate that the majority of patients in the Saudi Arabian study, 97.3% of men and 93.1% of women, were ignorant of the significance of keeping an eye on diabetes [12]. This finding is supported by findings from Kut City, where males predominated (n=124;82.7%). Males always more than females visit rehabilitation centers due to chronic diseases [13].

The marital status refers to the fact that 80% of patients are married, and only 12.6% of them are widowed and widower. These findings come in line with the results that most of the patients in the present study are 40-married (64.3%) from Baqubah City, Iraq [14]. With age as most of the participants are of advanced age, it is normal to find that most of them are married.

Regarding the level of education, the highest percentage refers to 31.3% who don't read and write, and 18.3% of them graduated from primary schools, according to the study conducted by Nejat et al. (2021); Duan et al. (2022); Adhikari et al., (2021); Alotaibi et al. (2021) [15–18]. The occupation reveals that 43.3% of patients are housewives, and 20% of them are retired. These results are consistent with a study conducted [19].

In Tables (2,3,4,5,6), the findings in the study group for all domains was moderate quality of life as reported among 90% of the quality of life (QoL), which include overall (Qol), physical, psychological, social, and environment, Physical Health: Type 2 diabetes patients face physical challenges such as controlling glucose levels and accompanying symptoms of the disease, which may impact their assessment of their physical quality of life psychological: Coping with a chronic illness may affect mental health, such as anxiety and depression, contributing to a decrease in quality of life. Social: Restrictions imposed by the disease may impact social interaction and social support, which is an important factor in assessing quality of life. Environment: Environmental factors such as available healthcare, financial situation, and general living conditions may also affect patients' assessment of their quality of life. These results help guide healthcare efforts to improve various aspects of the quality of life for type 2 diabetes patients through psychological support programs, improving access to healthcare, and providing education and guidance on disease management. This is supported by research conducted by Yousaf et al. (2023) and Komaratat et al. (2021) [20–22].

Table (7) reveals there is a statistically significant relationship between patients' quality of life and their gender, level of education, occupation, and monthly income at p-values= .013, .001, .001, and .031, respectively. This result is consistent with the studies conducted by him by Arrar et al. (2021) (2017), Babazadeh et al. (2017), [11, 22].

Table 7: Association among Patients' Quality of Life and their Sociodemographic Variables (N=150).

Variables		Quality of Life				Association
		Poor	Moderate	Good	Total	
Age (year)	Less than 40	0	3	0	3	F= 1.702 P-value= .153 Sig= N.S
	40 – 49	1	23	3	27	
	50 – 59	1	55	7	63	
	60 – 69	1	42	1	44	
	70 and more	0	12	1	13	
	Total	3	135	12	150	
Sex	Male	2	78	7	87	t= .981 P-value= .013 Sig= S
	Female	1	57	5	63	
	Total	3	135	12	150	
Marital	Unmarried	0	5	1	6	F= .744 P-value= .564 Sig= N.S
	Married	2	107	11	120	
	Separated	0	4	0	4	
	Divorced	0	1	0	1	
	Widowed/er	1	18	0	19	
	Total	3	135	12	150	
Level of education	Doesn't read & write	2	45	0	47	F= 4.942 P-value= .001 Sig= H.S
	Read & write	0	16	1	17	
	Primary school	0	28	0	28	
	Intermediate school	0	18	2	20	
	Secondary school	0	14	3	17	
	Institute /College	1	5	2	8	
	Postgraduate	0	9	4	13	
	Total	3	135	12	150	
Occupation	Jobless	0	12	0	12	F= 5.700 P-value= .001 Sig= H.S
	Housewife	2	62	1	65	
	Employee	0	18	8	26	
	Private work	0	1	0	1	
	Free work	1	14	1	16	

Table 7: Association among Patients' Quality of Life and their Sociodemographic Variables (N=150) (*Continued*).

Variables		Quality of Life				Association
		Poor	Moderate	Good	Total	
	Retired	0	28	2	30	
	Total	3	135	12	150	
Monthly income	Insufficient	3	113	6	122	F= 3.571 P-value= .031 Sig= S
	Barely sufficient	0	17	4	21	
	Sufficient	0	5	2	7	
	Total	3	135	12	150	
Residency	Urban	2	94	11	107	t= 1.015 P-value= .148 Sig= N.S
	Rural	1	41	1	43	
	Total	3	135	12	150	

F= F-statistics, t= independent sample t-test, p= Probability, Sig= Significance, N.S= Not significant, S= Significant, H.S= High significant

5 Conclusion

1. The present study concluded that the overall assessment of the quality of life of patients with type 2 diabetes was within the average level.

2. The current study found significant significance for social and demographic factors such as (gender, place of residence, educational level, professional status, and monthly income) and no significance with any other variable.

Acknowledgement: No potential conflicts of interest relevant to this article were reported.
Conflict of Interest: No conflicts of interest exist between the authors and the publication of this work.
Ethical consideration: The study received ethical approval from University of Karbala, Karbala, Iraq.

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How to cite this article

Salah M.J.; Al-Abedi G.A-H Identification of Quality of Life for Patients with Type II Diabetes Mellitus. Journal of Biomedicine and Biochemistry. 2024;3(4):1-7. doi: 10.57238/jbb.2024.7432.1127