History of Medicine, 2023, 9(2): 351–355
DOI: 10.17720/2409-5834.v9.2.2023.048

Treatment Adherence and its Quality of Life among Patients with Type II Diabetes Mellitus

Evan Yassin Hakman[1] Arkan Bahlol Naji[2]

[1]*Academic Nurse, Ministry of Health/ Diyala Health Directorate, Iraq.*
Email: ivan.yassin2106m@conursing.uobaghdad.edu.iq
[2]*Prof. PhD, Community Health Nursing Department/ College of Nursing /University of Baghdad, Iraq.*

Received: 11 May 2023 **Accepted:** 10 June 2023

Citation: Hakman EY, Naji AB (2023) Treatment Adherence and its Quality of Life among Patients with Type II Diabetes Mellitus. History of Medicine 9(2): 351–355. https://doi.org/10.17720/2409-5834.v9.2.2023.048

Abstract

Objectives:

Diabetes mellitus is a major public health burden that requires immediate life-sustaining attention, and adherence to treatment is a major determinant of quality of life. This study aimed to assess treatment adherence and its relationship to the quality of life among patients with type II diabetes mellitus.

Methods:

A descriptive correlational study conducted in Diyala Governorate during the period from January 10th 2023 to March 15th 2023. The study sample consist of 200 patients is selected according to non probability sampling approach. The validity of the questionnaire was verified by experts and its reliability was verified through a pilot study. The total number of items included in the questionnaire was 33 items to assess treatment adherence and 26 items to assess quality of life. Data were collected through the interview and analyzed by applying descriptive and inferential statistical analysis.

Results:

The results indicated that the average age of the respondents is 49 years, (40.5%) were insufficient income, (91%) were married and (27.5%) were middle school graduated. Over than half (65% and 72.5%) of the study participants were found to average treatment adherence and quality of life. The simple liner regression indicate that the treatment adherence are predicted quality of life.

Conclusions:

The study showed that the rate of treatment adherence and the quality of life of the respondents was within the average. A statistically significant positive relationship was found between treatment adherence and quality of life. The study adds attention regarding health education to all segments of society towards treatment adherence among patients with type 2 diabetes. Further study is needed to explore the strategies that maintain treatment adherence among patients in order to improve their quality of life.

Key-wards:

Treatment Adherence, Quality of Life, Type 2 Diabetes Mellitus, Diabetic Patients.

Many sorts of health-related behavior are included in the idea of adherence. Greater medical adherence results in better disease management and fewer complications from diabetes. Medication adherence and quality of life are linked. The quality of life of diabetic patients who follow their treatment plan can improve, and vice versa [1]. . According to reports, improved medical adherence results in improved disease control and fewer incidences of complications associated to diabetes (such as vascular retinopathy, kidney disease, etc.). Diabetes control is a difficult, ongoing process that takes a lot of work. [2]. As a result, in order to reduce major complications, medical adherence is crucial for diabetes patients. According to studies, between 36 and 93% of patients do not follow their treatment plans, including those for medicine, nutrition, and exercise, for example [3]. . Treatment for diabetes focuses on lowering problems connected to the disease, reducing glycemia symytoms, and eventually increasing patients' quality of life [4]. . Diabetes mellitus (DM), a metabolic condition that is getting worse with time and poses a significant public health risk, has to be treated immediately on a worldwide level. There is, however, a dearth of information regarding anti-diabetic medication adherence among type-2 (T2)DM patients. According to outpatient research, more than 50% of patients do not follow the proper administration and dose guidelines for their medications. According to reports, people with chronic conditions who follow their treatment plan may see an improvement in their quality of life (QoL), and the opposite is also true [5]. In the diabetic literature, there is a connection between medication adherence and quality of life. According to reports, people with chronic conditions like diabetes who follow their treatment plan may see an improvement in their quality of life, and vice versa [6]. The research on this topic clearly establishes the link between treatment adherence and quality of life, yet the findings of numerous studies are conflicting. Good treatment adherence for diabetes has been linked to excellent quality of life in certain research [7,1]. ; however, this link has not been established in other studies, and it has been hypothesized that this disparity may be caused by the different techniques employed to measure treatment adherence [8]. To the best of our knowledge, very few studies have been conducted on adherence and quality of life in Iraqi diabetes patients. Therefore seemed important to investigate these two parameters. The present study assesses the treatment adherence and its relationship to quality of life among patients with diabetes type 2, as well as the association between adherence and quality of life. It contributes to the growing body of evidence regarding treatment adherence and provides important information to health professionals, since describing this phenomenon is a fundamental step toward appropriate interventions.

Methods

Study Design:

The descriptive correlational study design technique was carried out in Diyala city at Baqubah Teaching Hospital during the period from January 10 th 2023 to March 15th 2023.**Study Sample:** The study sample included in present study are patients with type II diabetes mellitus (T2DM) is selected according to non-probability sampling approach with a total of (200) patients who are attended Baqubah Teaching Hospital for the purpose of receiving care was chosen based on a set of criteria include: 1)Those who are diagnosed with T2DM, 2) who are different level of education, 3)who are different age groups and 4) volunteer to participate in the study after his consent

Study Instrument:

This questionnaire consists of two part include the followings.

Part I: Patients characteristics include age, gender, monthly income, marital status, education level, occupation and duration of T2DM.

Part II: A total of (33) items of treatment adherence measured on 3-level type of Likert Scale (3=Always, 2=Sometime, 1=Never). Accordingly, points can be taken range from 33-99. The higher average defined as good treatment adherence. Cronbach alpha in current = 0.86 which indicated acceptable level.

Part III: WHOQoL is a instrument consisting of four domains: physical health, psychological health, social relationships, and environmental health; it also contains QOL and general health items. The physical health domain, psychological domain, social relationships domain and environmental health domain. A total of (26) items of quality of life measured on 5-level type of Likert Scale (1=Very Poor, 2=Poor, 3=Moderate, 4=Good and 5=Very Good). Accordingly, points can be

taken range from 26-130. The higher average defined as good quality of life. Cronbach alpha in current = 0.89 which indicated acceptable level. Such selection is employed of pool of subjects [9,10].

Data Collection

The researcher interviewee the participants, explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview (15-20) minutes after taking the important steps that must be included in the study design.

Statistical Analysis:

The IBM SPSS 20.0 program was used for all the analyses that follow. Numbers and percentages (No. and %) were used to categorize the variables, while the mean and standard deviation were used to characterize the continuous variables (mean and SD). Simple liner regression to predict between study variables. Statistical significance was defined as a two-tailed p .05.

Results

Table (1) Socio-Demographic Characteristics

SDVs	Classification	No.	%
Age	30-39 years old	30	15.0
	40-49 years old	76	38.0
	50-59 years old	65	32.5
	60 and older	29	14.5
	49 ± 8.20		
Gender	Male	129	64.5
	Female	71	35.5
Monthly income	Insufficient	29	14.5
	Somehow sufficient	138	69.0
	Sufficient	33	16.5
Marital status	Single	2	1.0
	Married	182	91.0
	Separated	4	2.0
	Divorced	3	1.5
	Widowed	9	4.5
Education level	Illiterate	11	5.5
	Read & write	34	17.0
	Elementary	33	16.5
	Middle school	55	27.5
	High school	40	20.0
	College	27	13.5
Occupation	Employee	43	21.5
	Free-business	86	43.0
	Unemployed	38	19.0
	Retired	33	16.5
Duration of DM	<1 year	35	17.5
	1-3 years	37	18.5
	4-6 years	24	12.0
	>6 years	104	52.0

Findings in table (1) show participants characteristics, the mean age is 49 (±8.20), the age group 40-49 years old were records the highest (38%). Study participants expressed a not enough income (40.5%), male were predominated (64.5%), the majority of studied sample were marred (91%), most of T2DM expressed middle school graduated (27.5%), most of participants were free-business (43%), almost half of study sample exhibited >6 years (52%).

Table (2) Overall Level of Treatment Adherence

Treatment Adherence	Rating	No.	%	M (±SD)
	Poor	43	21.5	53.82 ± 12.67
	Fair	130	65.0	
	Good	27	13.5	
	Total	200	100.0	
QoL	Poor	40	20.0	69.26 ± 16.49
	Moderate	145	72.5	
	Good	15	7.5	
	Total	200	100.0	

The results in table 2 showed that (65% and 72.5%) of the patients with T2DM expressed fair adherence to treatment moderate quality of life.

Table (3) Liner Regression among the Study Variables in Predict the Quality of Life among Patients with T2DM

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Treatment Adherence	.698	.037	.804	19.021	.000

Dependent Variable: Quality of Life

Findings confirmed that the treatment adherence are predicted quality of life among patients with T2DM (p= .000).

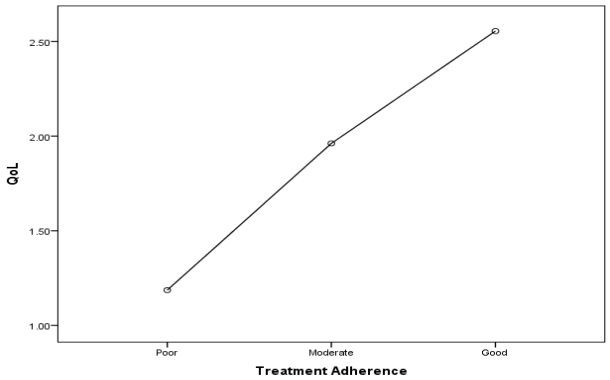

Fig 1. Treatment Adherence and Quality of Life

Discussion

Poor diabetic outcomes and the significant worsening of diabetes may be caused by non-adherence to treatment. Diabetic patients may also experience higher rates of hospitalization and overall health care costs, as well as higher chances of mortality and all-cause hospitalization. One of the most important issues that contribute to diabetic-related mortality and morbidity in T2DM patients is non-adherence to anti-diabetic medication.

The mean age in current study is 49 (±8.20), the age group 40-49 years old were records the highest. These results are consistent with the results of a study conducted in Baghdad, that most people with chronic diseases are in an advanced age group [11]. Diabetes is a chronic disease that usually affects people of advanced age. In terms of gender, the male were predominated (64.5%) as compared with those who are female (35.5%). This findings is supported by findings from Kut City, male always more than female visit rehabilitation centers due to chronic diseases [12]. Regarding monthly income, study participants expressed a not enough income (40.5%). These results are consistent with a study conducted in Hilla / Iraq, that most diabetics did not have sufficient monthly income [13]. ʿThis is a negative result because diabetics require a high monthly income in order to spend on self-care. Marital status related findings, the majority of studied sample were marred (91%). This findings come in the same line with findings 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. Respect to the education level, most of T2DM expressed middle school graduated (27.5%). This findings consisting with findings from Karbala city, Iraq. The most of T2DM were informal educated due to mostly of them were women [15]. In regard with occupation, most of participants were free-business (43%). This findings is supported by findings from Diwaniyah city [16]. This attributed to the education level are significant occupation, most of the study sample are primary school graduates, and this does not qualify them to get a job [17]. Duration of DM related findings, almost half of study sample exhibited >6 years (52%). This findings in line with methodological studies conducted in Iraq [18].

Findings confirmed that the treatment adherence are predicted quality of life among patients with T2DM (p= .000). There was an association between treatment adherence and QoL in patients with T2DM. Hence, there is a need to plan awareness and counseling programs followed by regular follow-up to motivate patient adherence to recommended treatment and lifestyle regimens. The results showed that mean treatment adherence of respondents was 53.82 within average, and the quality of life was 69.26 also average. Statistical significance association was found between treatment adherence and quality of life. The study adds knowledge regarding health education for all segments of society towards treatment adherence among T2DM. Further study is needed to explore strategies that maintain therapeutic adherence among patients in order to improve their quality of life. This findings is supported by findings from Indonesia and Saudi Arabia, there were positive correlation between treatment adherence and quality of life [19,20]. In another study conducted in India, emphasized that the creating awareness and educating the patients regarding the disease and its management will definitely help to improve the adherence level and QoL [21]. Moreover, study in Pakistan, confirmed that the non-adherence prevailed in illiterate strata of the study population and the medication adherence significantly affects the QoL in T2DM patients. These findings suggest that health regulatory agencies should focus on implementing disease-education interventions for improving the adherence to medications in patients with long-term conditions [22]. And quality of life depends on treatment satisfaction ·Further studies need to be conducted to investigate the factors influences treatment adherence among those patients in order to improve quality of life.

Conclusions

The study showed that the rate of treatment adherence and the quality of life of the respondents was within the average. A statistically significant positive relationship was found between treatment adherence and quality of life. The study adds attention regarding health education to all segments of society towards treatment adherence among patients with type 2 diabetes. Further study is needed to explore the strategies that maintain treatment adherence among patients in order to improve their quality of life.

References

Zioga E, Kazakos K, Dimopoulos E, Koutras C, Marmara K, Marmara EE, Marmaras A, Lavdaniti M. Adherence and quality of life in patients with type II diabetes mellitus in northern Greece. Materia socio-medica. 2016 Jul 7;28(4):258.

Alfian SD, Sukandar H, Lestari K, Abdulah R. Medication adherence contributes to an improved quality of life in type 2 diabetes mellitus patients: a cross-sectional study. Diabetes Therapy. 2016 Dec;7:755-64.

Jannoo Z, Wah YB, Lazim AM, Hassali MA. Examining diabetes distress, medication adherence, diabetes self-care activities, diabetes-specific quality of life and health-related quality of life among type 2 diabetes mellitus patients. Journal of clinical & translational endocrinology. 2017 Sep 1;9:48-54.

Babenko AY, Mosikian AA, Lebedev DL, Khrabrova EA, Shlyakhto EV. Mental state, psychoemotional status, quality of life and treatment compliance in patients with Type 2 diabetes mellitus. Journal of comparative effectiveness research. 2019 Jan;8(2):113-20.

Mishra R, Sharma SK, Verma R, Kangra P, Dahiya P, Kumari P, Sahu P, Bhakar P, Kumawat R, Kaur R, Kant R. Medication adherence and quality of life among type-2 diabetes mellitus patients in India. World Journal of Diabetes. 2021 Oct 10;12(10):1740.

Azmi NL, Rosly NA, Tang HC, Darof AF, Zuki ND. Assessment of medication adherence and quality of life among patients with type 2 diabetes mellitus in a tertiary hospital in Kelantan, Malaysia. Journal of Pharmacy. 2021 Jul 31;1(2):79-86.

Mishra R, Sharma SK, Verma R, Kangra P, Dahiya P, Kumari P, Sahu P, Bhakar P, Kumawat R, Kaur R, Kant R. Medication adherence and quality of life among type-2 diabetes mellitus patients in India. World Journal of Diabetes. 2021 Oct 10;12(10):1740.

Islam SM, Biswas T, Bhuiyan FA, Mustafa K, Islam A. Patients' perspective of disease and medication adherence for type 2 diabetes in an urban area in Bangladesh: a qualitative study. BMC research notes. 2017 Dec;10(1):1-8.

AlAbedi, G. A. H., & Naji, A. B. Impact of Physical Activity Program upon Elderly Quality of Life at Al-Amara city/Iraq, Medico-legal Update .2020,20(3) :1223-1228.

Naji, A. B., Ahmed, M. M., & Younis, N. M. Adherence the preventive measure against for covid-19among teachers at university of mosul. International Journal of Medical Toxicology & Legal Medicine. 2021,24(3 and4) : 273-277.

Khalifa MF. Impact of Psychological Distress in Women upon Coping with Breast Cancer. Iraqi National Journal of Nursing Specialties. 2022;35(1).

Juma Elywy G, Radhi MM, Khyoosh Al-Eqabi QA. Social Support and Its Association With the Quality of Life (QoL) of Amputees. Iranian Rehabilitation Journal. 2022 Jun 10;20(2):253-60.

Qassim WJ, Yasir AA, Radhi MM. Assessment of Self Hardness and its Relationship to Treatment Acceptance for Patients with Diabetes Mellitus at Diabetic Center in Hilla City/Iraq. Journal of Pharmaceutical Sciences and Research. 2018;10(1):142-5.

Mohammed MY, Abdulwahed HS. Assessment of Health Follow up and Weight Control for Women with Osteoporosis in Baqubah City. Iraqi National Journal of Nursing Specialties. 2021;34(2):89-98.

Khudhair SS, Ahmed SA. Type 2 Diabetic Patients' Knowledge Regarding Preventive Measures of Diabetic Foot. Iraqi National Journal of Nursing Specialties. 2022;35(2).

Hermis AH, Abed RI. Effectiveness of Self-Regulation Fluid Program on Patients with Hemodialysis Self-Efficacy for Fluid Adherence in Al-Diwaniyah Teaching Hospital. Iraqi National Journal of Nursing Specialties. 2021;34(2):74-88.

Mansur M, Khalifa M. Evaluation of Health Promotion Program for the Prevention of Epidemics at Primary Health Care Centers in Baghdad City: Comparative Study. Iraqi National Journal of Nursing Specialties. 2020 Sep 27;33(1):63-72.

Abusaib M, Ahmed M, Nwayyir HA, Alidrisi HA, Al-Abbood M, Al-Bayati A, Al-Ibrahimi S, Al-Kharasani A, Al-Rubaye H, Mahwi T, Ashor A. Iraqi experts consensus on the management of type 2 diabetes/prediabetes in adults. Clinical Medicine Insights: Endocrinology and Diabetes. 2020 Aug;13:1179551420942232.

Perwitasari DA, Urbayatun SJ. Treatment adherence and quality of life in diabetes mellitus patients in Indonesia. Sage Open. 2016 Apr 25;6(2):2158244016643748.

Ahmed NO, Abugalambo S, Almethen GH. Adherence to oral hypoglycemic medication among patients with diabetes in Saudi Arabia. International journal of health sciences. 2017 Jul;11(3):45.

Majeed A, Rehman M, Hussain I, Imran I, Saleem MU, Saeed H, Hashmi FK, Akbar M, Abrar MA, Ramzan B, Chaudhry MO. The impact of treatment adherence on quality of life among type 2 diabetes mellitus patients–Findings from a cross-sectional study. Patient preference and adherence. 2021 Feb 26:475-81.