Knowledge, Attitude and Quality of Life among Type 2 Diabetic Patients in Palestine

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Abstract

The purpose of this study is to investigate the association between knowledge and attitude on quality of life among diabetic patients type 2 in Palestine.

Method: A cross-sectional quantitative descriptive study that contains a sample of 120 diabetic patients were selected from Nablus hospitals and outpatient clinics to assess the level of knowledge and attitudes toward self-care and health-related quality of life.

Results: The mean score of Michigan Diabetic Knowledge Test was 8.04±2.48 and this consider a moderate level. Of 120 diabetic patients, 27.5% had poor knowledge; 65.5% had moderate knowledge, and only 6.6 % had good knowledge. The mean for attitude score of all respondents was 125.4±10.57 and this consider a positive attitude. There was a significant positive association between knowledge, attitude with HRQol (P=0.00). The mean for HRQoL score was 0.72 and it represented a moderate level of quality of life. Conclusion: Level of knowledge scores and HRQol were moderate and attitude toward the disease was positive in type 2 diabetic patients in Palestine, and there was a strong association between knowledge, attitude on HRQoL.

Keywords: *Type 2 diabetes mellitus, knowledge, attitudes, health-related quality of life.*

Introduction

Diabetes mellitus (DM) is a common chronic disease of global epidemic proportions and considered as a metabolic disorder that may be caused by disturbances of the body essential ingredients such as carbohydrate, fats, proteins metabolism that result from a defect of insulin secretion, its function or both[1-2]. The World Health Organization reported that the prevalence of diabetes was 171 million; this number is predicted to reach 300 million by 2030[1]. Findings. Nowadays International Diabetes Federation offers that each year 5,000,000 deaths are because of diabetes, which is more than the HIV/AIDS, tuberculosis, and malaria combined[3-4]. Knowledge and attitudes toward DM is the first step to be taken to formulate prevention programs for diabetes patients [5], and the impact of education among diabetic patients will be more beneficial and more effective[6].Health-related quality of life (HRQoL) has also been recognized as an essential health outcome, it is represented as the ultimate goal among various health outcomes. It is characterized as patient-perceived physical, emotional, and social well-being[7]. Understanding the factors that associated with poor quality of life (QOL) has a benefit in terms of promoting the physical and psychosocial burden associated with DM, eventually minimize costs, morbidity, and mortality [8].

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Knowledge and HRQoL alone is not enough for diabetic patients to affect changes in their lifestyle, the attitude is influencing factor that affected in the relationship between knowledge and lifestyle changes. However, there are limited studies in worldwide and no studies in Palestine discussing knowledge among diabetic patients and the effects of diabetic patients' knowledge and attitudes on HRQoL. So, in this study aimed to assess present knowledge, attitudes, and quality of life among diabetic patients type 2 in Palestine.

Materials and Method

Design: A cross-sectional quantitative descriptive design was used to identify relationship between the knowledge and attitude on quality of life among diabetic patients type 2 in Palestine, using structured interview with 120 diabetics 2 patients.

Settings: Sample recruited from, hospitals and outpatients' units of Nablus, Palestine.

Sample and Population: a sample of 120 Patients aged 18 years and above, with a confirmed diagnosis of DM-II and willing to participate were included in this study. While patients who were pregnant, documented psychological problems, mental illness and who have diabetic complications renal failure, retinopathy, and diabetic foot were excluded.

Data collection Procedures: Data collection started after ensuring ethical approval from the Institutional Review Board (IRB) Committee of the College of Medicine, An- Najah University. Arabic versions of the tools were used adopting the who guideline in translation.

Instrumentation: The data collected using the following instruments

1. Demographic data that include gender, age, marital status, type of treatment, HbgA1C, and duration of the disease.

2. Michigan diabetic knowledge test (MDKT) to asses level of knowledge, it consists of 14 multiple-choice items. Each one of the patients was asked to choose only one answer for each question, the correct answer scored one point, and the false answer scored zero. The range of the knowledge test was from 0 to 14 where the higher score of the test, the higher level

of knowledge about diabetes and the zero represents the low level of knowledge about diabetes. The score of <7 considered as poor knowledge, 7-11 considered moderate knowledge about the disease, 12-14 considered to be a good score for knowledge.

1. Diabetic self-care profile was used from the University of Michigan. It used to assess the attitude of diabetic patients,the questionnaire contains from 33 questions. All items were scored: strongly disagree,disagree, neutralagree, agree, and strongly agree. The range of score from 33 to 165 the higher the score the positive the attitude toward diabetes care. This scale divided to 5 subscales: Need for special training to provide diabetes care, Seriousness of type 2 diabetes, Value of tight glucose control, Psychosocial impact of diabetes and attitude toward patient autonomy.

2. EuroQol five-dimensional (EQ-5D) to asses HRQOL, it consistsfrom two parts. The first part talks about self-reporting their health status, it talks about 5 dimensions: mobility, self care, usual activities, pain\discomfort, anxiety\depression, Each dimension contains from five levels of severity, (no problems,,slight problems,moderate problems, severe problems, unable problems). The range of the each dimension was formed from 1 to 5, where the five is the highest score of the item known as the highest level of quality of life and the 1 represents the low level of quality of life. The second part that was conducted contain a visual analog scale (VAS), with endpoint were 0 represent bad health status and 100 represent excellent health status, that was conducted to assess and record each of the subjects about their perception on her or his quality of life.

Findings:

Demographic Characteristics: 140 patients approached and 120 questionnaires completed, with response rate of 85%. the mean age (SD) was (57.83± 12.69) years; Mean HbA1c was (8.41±1.55) and the mean duration of diabetes was (10.24± 8.28) years, 52.5% were female, 65.8% (n = 79) of the participants were married. About 60.8% (n =73) had average income, About 36.7% (n = 44) had a High school level of education.

Table 1: Characteristic of the patients (N = 120)

Variable	Frequency	Percentages
Gender		
Male	57	47.5%
Female	63	52.5%
Marital status		
Married	79	65.8%
Single	11	9.2%
Divorce	9	7.5%
Separated	3	2.5%
Widowed	18	15%
Economic status		
Low income	39	32.5%
Moderate income	73	60.8%
High income	8	6.7%
Educational level		
Elementary	41	34.2%
High school	44	36.7%
Diploma	7	5.8%
Bachelor	17	14.2%
Master	2	1.7%
Another thing " illiterate"	9	7.5%
Are you under diabetic treatment?		
Yes	118	98.3%
No	2	1.7%
Type of treatment		
Medication/insulin	69	57.5%
Diet	4	3.3%
Insulin+diet	47	39.2%
How much the last HbA1c		
<7"acceptable"	53	44.2%
7-8"good"	16	13.3%
> 8"poor"	51	42.5%
Duration of diabetes years 5 years or less	42	35%
6-10	42	35%
11-15	14	11.7%
16-20	9	7.5%
More than 20	13	10.8%

Knowledge of DM: The mean score of the MDKT was (8.04±2.48), indicating that, the patients had a moderate level of knowledge about diabetes, good knowledge was most apparent in response to the questions related to the problems that usually not associated with diabetes (80.8% were correct) and the effect of exercise on blood glucose (80.8% were correct), Poor knowledge was most apparent in response to the questions related to food that should not be used when blood glucose was low(68.3% were incorrect). Questions regarding the effect of unsweetened fruit juice on blood sugar (62.5% were incorrect), which foods contained the fattest also tended to be answered incorrectly (60% were incorrect).

Differences in knowledge and attitude related to socio-demographic characteristics: According to knowledge among female and male patients, it wasn't significant (p=0.5) also the attitude score wasn't significant (p=0.081), The age wasn't significant for both attitude (p=0.11) and knowledge score (p=0.081), According to marital status, it was only significant for the knowledge score (p=0.005), divorced females slightly more knowledgeable toward DM (8.44±2.4), according to attitude score it wasn't significant.According to economic status, it was significant both for knowledge (p=0.007) and attitude score (p=0.001), patients who had moderate-income has better knowledge(8.54±2.39) and better attitude (128±9.5). According to the education level it was significant for the knowledge score (p=0.01) the patient who has a master's degree is more knowledgeable about DM for the score of(11±0.00). But the attitude score wasn't significant, for those who receive a different type of treatment, it show only significance for attitude score (p=0.014), and the highest score was for those who receive diet treatment (126.2±11.6), the knowledge score wasn't significant (p=0.107). According to the result of the last HbA1c, it was significant for the knowledge score p= (0.028) and attitude score (p=0.02) the highest result was for a patient with HbA1c 7-8(128+-8.40), According to the duration of DM it was significant for the attitude score with (p=0.02), those who have DM between 6-10 years, have a better attitude(129.9±7.5) but it wasn't significant for knowledge score.

Differences in wellness scale related to socio-demographic characteristics: According to gender, there was no significance for the wellness score (EQ-VAS) (p=0.88) and the (EQ-5D)(p=0.8). The marital status showed that there was significance in Qol, single Patients had higher scores than married (20±5.6 vs. 19.7±5.8) for (EQ-5D). According to the economic status, it shows significance for both EQ-VAS (P=0.000) and EQ-5D (p=0.00), the patient who has moderate income present the highest score for wellness (75.44±17.6) for EQ-VAS. The education level shows significance for the EQ-VAS (p=0.000) and EQ-5D (p=0.000), for those patients who have a master and bachelor's degree, they have the highest QOL (24±1) for (EQ-5D). According to

the duration time of DM, it show significant for the EQ-VAS (p=0.012) and the EQ-5D(p=0.006), for those who had DM duration of 5 years or less, show the highest wellness score (73±22.4) for(EQ-VAS). For 5-

Discussion

In this study the mean score of knowledge was (8.04±2.48), while using the Michigan diabetic knowledge test (MDKT), that was an indication of moderate knowledge. The results are is consisted with previous report[1, 11-15]. Also, 60% of the patients were incorrect regarding the food that contain most fat and this consist with indicating that patients with DM-II had poor knowledge about the effect of unsweetened fruit juice on blood sugar and the food that contain most fat. In this study, we found that there is a relationship between educational level and knowledge score in which those participants with master degree got the highest score(11+-00) and this consist with these studies[16-20]. It is obvious from previous studies that type 2 diabetic patients have lower scores of HRQoL than rest of populations of similar age. In this study, the mean of EQ-5D score in type 2 diabetic patients was 0.72, which is considered a moderate score, and this consistent with other studies that reported mean EQ-5D scores as 0.74, 0.69, 0.70, 0.71 and 0.70[21-23].

Conclusion

In this study, level of knowledge was a moderate, attitude was positive, and the level of HRQOL was also moderate level. Patients who receive diet management had high attitude score, high score of knowledge and attitude reported in 7-8 HbA1c. It is recommended to conduct a longitudinal study that address consequences of poor knowledge and low quality of life.

Conflict of Interest: The authors declare no conflict of interest related to publication of this article.

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Ethical Clearance: the study has been approved by the ethics and research committee at An-Najah National University

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