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Predictors of health-related quality of life among people with type II diabetes Mellitus in Ardabil, Northwest of Iran, 2014

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ABSTRACT

Aims: The present study aims at investigating different dimensions of the Health-Related Quality of Life (HRQOL) and its determinants among type II diabetes Mellitus (T2DM) referred to diabetes clinic in Ardabil.

Methods: The present study was conducted through a cross-sectional method in which 300 people with T2DM were selected using a convenience sampling method between January and May 2014. Data were collected through 26-item structured and WHOQOL-BREF questionnaires. Data analysis was performed using descriptive and analytical statistical methods, independent t-test, Mann Whitney test, ANOVA, Kruskal Wallis, Welch test, and multivariable linear regression model using SPSS (V.20).

Results: The mean age of the participants was 54.13 ± 9.13, and about 72% of the patients were women. The mean score of the total HRQOL was 53.07 ± 17.09; the highest score of HRQOL was related to the environmental domain (57.10 ± 10.52) and the lowest to the dimension of social health (45.68 ± 17.25). Based on multivariable linear regression, total QOL was influenced by gender, marital status, MHI, and comorbid renal disease. PH Dimension was associated with MHI and neuropathy; PSH with education level, comorbid depression, comorbid renal, and other disease; SR with marital, comorbid renal, and other disease; EH with marital status, Monthly household income (MHI), and education level.

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Conclusion: According to the results of this study, Predictors of the HRQOL in T2DM are associated with demographic and socioeconomic factors, comorbidities, and with less impact, diabetes complications, respectively. Moreover, diabetic patients had moderate HRQOL, and compared with men, scores of all domains were lower in women.

1. Introduction

Over the last decades, non-communicable diseases such as diabetes have remarkably increased due to rapid urbanization, unhealthy lifestyle, and aging [1]. World Health Organization (WHO) indicates that the "diabetes epidemic" will continue in coming decades yielding enormous human and economic costs around the world [2].

387 million people were reported diabetic worldwide predicted to be risen to 592 million by 2035 [3]. In 2013, the prevalence of diabetes in Iran was reported 9.94% with more than 4.5 million patients predicted to increase to 8.4 million by 2035 [4]. Diabetes was the death cause of 5.1 million people in 2013 [5], and according to the latest report of WHO in 2014, it is the eighth cause of death in the world [6].

Due to the impossibility of complete treatment of chronic diseases, assessing the quality of life (QOL) among patients with such diseases is an important outcome measure [7]. According to the definition proposed by WHO, QOL is defined as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns" [8]. In most health-related literature, the term "health-related quality of life" (HRQOL) is gradually accepted instead of QOL that is a multi-dimensional structure of subjective evaluation of the good life including performance in relation to physical, mental and social subjects [9].

As one of the common chronic diseases, diabetes causes serious short- and long-term complications [10]. There is evidence that diabetes and its complications of diabetes have a negative impact on health related quality of life among people with diabetes [11].

In addition, healthy diet, adequate physical activity, medication, and daily test of blood sugar and preserving it in a normal range can have many benefits for diabetic patients affecting their HRQOL [12–14]. Some studies have shown the influence of demographic factors, socioeconomic status and clinical factors such as comorbidities, depression, and diabetes control on QOL among people with diabetes [15–20].

QOL among people with diabetes has been assessed in some studies conducted in different regions of Iran using different instrument and methodology. In general, the results of these studies have shown that people with diabetes had lower HRQOL score in comparison with non-diabetic people [21]. However, there is a limited number of studies examining the determinants of HRQOL among diabetic people in Iran [22–25].

Ardabil province is located in Northwest of Iran. People living in this area have Azari-Turkish background with different sociocultural values influencing their lifestyle. Diabetes is a research priority in Ardabil province [26], and previous studies showed inadequate diabetes care and high prevalence of complications in this population [27–29]. Therefore, the assessment of HRQOL and its determinants plays an important role in enhancing the quality of healthcare and the management of the disease. The present study was designed and conducted to investigate different dimensions of HRQOL and its determinants among diabetic patients referring to diabetes clinic (as a reference center for secondary level of diabetes care) in Ardabil.

2. Methods

2.1. Subjects and study design

The present study was carried out using a cross-sectional method. 300 individuals with T2DM having the study inclusion criteria and referring to diabetes clinic of Imam Khomeini Hospital during January and May 2014 were selected through a convenience sampling method. The study inclusion criteria include diagnosis of T2DM, age range 20 to 70 years of old, having a caring record in the clinic, residing the urban regions of the province, and not having special and debilitating diseases (hemophilia and thalassemia). Exclusion criteria were unwillingness to participate in the study and having other types of diabetes.

The present study was approved by the Ethics Committee of Tabriz University of Medical Sciences, and at the beginning of the study, the informed consent was completed in written form for all patients.

2.2. Measurements

Data collection was carried out by two trained interviewers using questionnaire. The questionnaire had two main parts. In part one, general information including age, gender, place of residence, marital status, Monthly household income (MHI), health insurance, education level, treatment methods (diet only, oral medications, insulin injection, insulin plus oral medications), comorbidities (hypertension (HTN), depression, renal disease, Cardiovascular disease (CVD) and stroke, other diseases including blood lipid, thyroid dysfunction, arthritis and cancer) disease duration, and complications (neuropathy, retinopathy, nephropathy and Cardiovascular complications) were collected.

In second part, the 26-item quality of life (WHOQOL-BREF) questionnaire was employed to assess the HRQOL among study participants. This questionnaire consists of 26 questions the first two of which are designed to check the general HRQOL and the level of the individual's perception of the quality of his/her life, and the remaining 24 questions evaluate the four domains of HRQOL including physical health (PH)