



Original Article

Comprehensive assessment of variables affecting metabolic control in patients with type 2 diabetes mellitus in Jordan



Rola Reyad qteishat ^{a,*}, Abdel rahman al ghananim ^b

^a Department of Clinical Pharmacy and Biopharmaceutics, Pharmacy Collage, University of Jordan, Jordan

^b Al Hussein Hospital, Ministry of Health, Jordan

ARTICLE INFO

Keywords:

Jordan
Diabetes type 2
Metabolic control
Diabetes control
Self efficacy
Education level

ABSTRACT

Aims: The aim of the study was to identify variables affecting metabolic control among diabetic patients treated at diabetes and endocrine clinic in Jordan.

Methods: A total of 200 patients were studied by using a cross sectional study design. Data were collected from patients' medical records, glycemic control tests and prestructured questionnaires about variables that were potentially important based on previous researches and clinical judgment: Adherence evaluation, Patients' knowledge about drug therapy and non-pharmacological therapy, Anxiety and depression, Beliefs about diabetes treatment (benefits and barriers of treatment), Knowledge about treatment goals, Knowledge about diabetes, Self efficacy, and Social support.

Results: The mean (\pm SD) age was 53.5 (\pm 10.38) years and mean HbA1c was 8.4 (\pm 1.95). In the multivariate analysis, education level, and self efficacy found to have significantly independent association with metabolic control ($P < 0.03$).

Conclusion: Adequate knowledge and high self efficacy was significant in patients with good metabolic control. Emphasizing the importance of continuous educational programs and improving the self efficacy as well, could warrant achieving good metabolic control.

© 2015 Diabetes India. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Because of recent media attention on epidemics in developing countries, there is an assumption that relatively low-income levels lead to conditions that promote communicable diseases and allow easily preventable diseases to persist. However, In Jordan, it is economic growth that has contributed to a public health crisis, but in chronic, not communicable, disease. Communicable disease rates in Jordan are low even in comparison with many developed countries [12]. Chronic disease rates have been steadily raising. As a result, the leading cause of mortality in Jordan is chronic diseases [14]. The growth in diabetes 'rates, oftentimes thought of as a "rich country disease," has been particularly alarming. From 2002 to 2004, the reported rate of diagnosed diabetes climbed from 6.3% to 7.4% [3].

The prevalence of diabetes in Jordan constitutes not only the highest in region, but also one of the highest in the world [2]. A startling statistic indicating the need for action. The variables that

affecting diabetes metabolic controls in Jordan were not previously investigated.

The aims of the present study were therefore to (i) investigate the effect of demographic variables on diabetes metabolic control; (ii) comprehensive assessment of health related variables affecting metabolic control in Jordan.

2. Method

2.1. Study design

The cross-sectional correlation study was conducted in tertiary teaching hospital Outpatients' Endocrine and Diabetes Clinic; Al Hussein hospital/Al-Salt City, Jordan. The study protocol was approved by the Scientific Committee at Al Hussein hospital. All the patients were informed about the objectives and the nature of the research and gave Informed consent before participation.

2.2. Sample size

An initial invitation to participate in the study was extended to 231 adult diabetic patients who met the entry criteria at diabetes

* Corresponding author. Tel.: +962 776099373.

E-mail address: rolaqteishat@yahoo.com (R.R. qteishat).

and endocrinology clinic. A total of 200 eligible patients declined participation and were able to fulfill the questionnaire booklet. This represented participation rate of 86.6%. Therefore, convenience sample of 80 men (40%) and women (60%) were recruited during the study period between January 2008 and the end of June 2008.

2.3. Data collection and procedures

The patients were interviewed and data was collected by structured pre-tested questionnaires and medical file was reviewed. At the clinic visit height, weight, fasting blood glucose and blood pressure (at the day of clinic visiting, if it was not measured) for all patients were measured. All diabetic patients (≥ 18 years of age), HbA1c level drawn no more than 3 months ago, who are receiving treatment for diabetes mellitus during the study period and agreed to take part in the study were interviewed. Patients were excluded if they were diagnosed with gestational diabetes, or type 1 diabetes, or were diagnosed with diabetes since less than 6 months,

2.4. Instruments

Eight instrument using Arabic translated “EuroQol Group translation Guidelines (EQ-5D Translation guidelines, 2003)” plus a demographic information and clinical tests performed (e.g. fasting plasma glucose) were used to collect data. The Adherence evaluation; which consists of two parts: Self-reported medication adherence questionnaire, and self reported adherence to self care activities questionnaire which were measured by The Summary of Diabetes Self-Care Activities Measure (SDSCA) [11]. Patients’ knowledge about drug therapy and non-pharmacological therapy [1]. Anxiety and depression [13]. Beliefs about diabetes treatment. [7]. Knowledge about treatment goals (MDCP) [5]. Knowledge about diabetes test [4]. Social support [5]. Self efficacy [8].

2.5. Data analysis

All data were coded, entered and analyzed using SPSS® software (version 15). Chi square was used to test any significance between categorical independent variables, whereas independent sample student *t*-test was utilized with continuous independent variables. Univariate and bivariate analysis was used to determine any association of the variables that were potentially important based on previous research and clinical judgment (patients age, duration of diabetes, no. of medications, number of medical problems, level of education, knowledge about medication, self reported adherence to medications, no. of medications patient were not adherent to drug regimen complicity), self reported adherence to self care activities, knowledge about diabetes, benefits of treatment, barriers of treatment, knowledge about long term benefits, self efficacy, social support, anxiety and depression category.

To assess the independent contribution of patient characteristics to the metabolic control, we conducted multivariate logistic regression analysis for variables which demonstrated significance ($P < 0.05$) in the univariate analysis.

3. Results

3.1. Description of the study sample

3.1.1. Demographic characteristics

A total of 200 eligible patients with type 2 diabetes mellitus participated in this study. Table 1 shows the demographic characteristics of the study population.

Table 1
Description of the study sample.

Parameter	N (%) [*]
Number	200
Age: Mean (SD) years	53.53 (10.38)
Gender	
Male	80 (40)
Female	120 (60)
Marital status	
Married	166 (83)
Single	4 (2.0)
Widowed	29 (14.8)
Divorced	1 (0.5)
Education	
Not educated	34 (17)
Primary	25 (12.5)
Secondary	64 (32)
Tawjihi	34 (17)
College or University	43 (21.5)
Insurance	
Yes	190 (95)
Partially	3 (1.5)
No	7 (3.5)
BMI classification	
Underweight	1 (0.5)
Normal	2 (1.0)
Overweight	87 (43.5)
Obese	57 (28.5)
Morbid obesity	53 (26.5)

^{*} Values are expressed as number (percentage), unless otherwise indicated.

3.1.2. Clinical characteristics

The mean HbA1c in patients with controlled diabetes patients was 6.55 (± 0.59), while mean HbA1c in uncontrolled diabetic patients was 9.36 (± 1.69). About half of the patients have hypertension (49%). While the percentage of patients who had dyslipidemia was 42%; though patients who were receiving statin were (25%). Among 200 patients (25%) had eye complications (Table 2).

Table 2
Clinical characteristics of the study sample.

Parameter	N (%) [*] out off 200
Control of diabetes N (%)	
Controlled	66 (33)
Uncontrolled	134 (67)
HbA1c Mean (SD)	8.4 (1.95)
Controlled Mean (SD)	6.55 (0.59)
Uncontrolled Mean (SD)	9.36 (1.69)
Number of medical problems [mean (SD)]	2.7 (1.57)
Number of patients with hypertension	98 (49)
Number of patients with retinopathy	50 (25)
Number of patients with nephropathy	9 (4.5)
Number of patients with neuropathy	36 (18)
Number of patients with uncontrolled lipid profile	84 (42)
Number of patients with undiagnosed dyslipidemia	47 (23.5)
Number of patients with diagnosed dyslipidemia	50 (25)
Number of patients with CAD or stroke	19 (9.5)
Number of medications [mean (SD)]	3.8 (2.02)
Number of diabetes medications [mean (SD)]	1.7 (0.49)
Number of patients receiving metformin	160 (80)
Number of patients receiving glimiperide	38 (19)
Number of patients receiving glibenclamide	82 (41)
Number of patients receiving gliclazied	1 (0.5)
Number of patients receiving insulin	55 (27.5)
Number of patients receiving aspirin	94 (47)
Number of patients receiving ACEI or ARB	77 (38.5)
Number of patients receiving statins	50 (25)

Download English Version:

<https://daneshyari.com/en/article/2909930>

Download Persian Version:

<https://daneshyari.com/article/2909930>

[Daneshyari.com](https://daneshyari.com)