



Original Research

The association between health beliefs and medication adherence among patients with type 2 diabetes

Yasser M. Alatawi, Pharm.D.^{a,b,*}, Jan Kavookjian, MBA, Ph.D.^a,
Gladys Ekong, B.Pharm.^a, Meshari M. Alrayees, M.Sc.^c

^aDepartment of Health Outcomes Research and Policy, Auburn University, 020 James E. Foy Hall, 282 W. Thach Avenue, Auburn, AL 36849-5506, USA

^bClinical Pharmacy Department, Umm Al-Qura University, Al-Abidiyya, P.O. Box: 13174, Makkah 21955, Saudi Arabia

^cPharmacy Department, King Salman Armed Forces Hospital in Northwest Region, 7761 Military Area, Tabuk 47512-5644, Saudi Arabia

Abstract

Background: Type 2 diabetes is a major risk factor for cardiovascular disease and microvascular complications. Approximately 20.5% of adults between the ages of 20–79 are diagnosed with type 2 diabetes in Saudi Arabia. Nonadherence with type 2 diabetes medications is an established contributor to higher prevalence in other countries. No published studies have used a theoretical framework to explain or predict medication-taking behavior in Saudi Arabian type 2 diabetes (T2D) patients.

Objective: The purpose of this study was to investigate type 2 diabetes medication adherence using a theoretical framework, the Health Belief Model (HBM). The specific objectives were to 1) assess self-report of medication-taking in a Saudi T2D convenience sample; 2) investigate self-reported HBM constructs for T2D, its complications, and medication-taking in this sample, and 3) test the ability for self-reported health beliefs to predict specific medication-taking behaviors among the sample.

Methods: A cross-sectional study was conducted in a convenience sample at an outpatient pharmacy in Saudi Arabia. Adult type 2 diabetes patients on at least one prescribed diabetes medication, who were cognitively capable, and came themselves for prescription pickup, were eligible to participate. Patients completed a questionnaire or were interviewed. Data were collected for demographics, medical history, self-reported medication adherence, and type 2 diabetes medication-taking HBM items. Three measures collected self-report of medication adherence: new multi-dimensional adherence measure (MDAM), previously validated stage of change, and medication-taking recall- 7days (MTR-7). Descriptive statistics were generated and regression analyses were used to explain self-report of adherence.

Results: Just over half (54%) of the 220 participants were male, mean age was 52 ± 11.2 years, and most (59%) had less than high school education. Approximately 58% were on oral medications only and the rest were on either insulin alone or a combination of oral and insulin; 16.7% reported knowing their hemoglobin A1C (A1C). For adherence, most reported taking the prescribed dose every time taken; however, 60% were not taking it the prescribed number of times *per* day and 50%, not the prescribed time of day (interval). Over 40% reported low adherence on stage of change and MTR-7. Perceived

* Corresponding author. Department of Health Outcomes Research and Policy, Auburn University, 020 James E. Foy Hall, 282 W. Thach Avenue, Auburn, AL 36849-5506, USA.

E-mail address: yma0002@auburn.edu (Y.M. Alatawi).

susceptibility, perceived medication benefits, and self-efficacy were significant HBM predictors for medication adherence ($R^2 = 0.42$).

Conclusions: The MDAM has research and practice potential because it evaluates sub-behaviors of medication-taking separately and as a score. Patient perceptions and beliefs should be assessed as part of a patient-centered medication adherence intervention.

© 2015 Elsevier Inc. All rights reserved.

Keywords: Saudi Arabia; Type 2 diabetes; Health Belief Model; Medication adherence

Introduction

In 2014, the World Health Organization (WHO) estimated the global prevalence of diabetes at approximately 9% for adults, with type 2 diabetes comprising approximately 90% of these, and projects that diabetes will be the 7th leading cause of death in 2030.¹ The Centers for Disease Control and Prevention (CDC) reports that the prevalence of diagnosed diabetes of all types in the United States (US) is 9.3%, with total costs related to treating the disease and lost productivity at more than 245 billion dollars per year. In Saudi Arabia, the prevalence of diagnosed diabetes is substantially higher compared to the US. In fact, the International Federation of Diabetes ranks Saudi Arabia 7th in the world for diabetes prevalence. It currently affects 20.5% (90% T2D) of adults age between 20 and 79 years, and is projected to affect 24.5% of adults by 2035.²

Type 2 diabetes (T2D) is a major risk factor for cardiovascular disease (CVD) and microvascular complications including costly conditions like coronary heart disease, stroke, nephropathy, retinopathy,³ and others. Data about the association of T2D and cardiovascular complications in Saudi Arabia are limited, but two studies reported that Saudi T2D patients have a higher risk of coronary heart disease compared to the general Saudi population.^{4,5} Another study suggested coronary heart disease was already present in 23% of T2D patients.⁶ It has been shown that T2D is also associated with an increased risk of developing renal and vision complications; diabetic nephropathy accounted for 50% of end-stage renal failure incidence in Saudi Arabia⁷; retinopathy was estimated to affect 31% of Saudi diabetes patients.⁸

The risks for T2D complications and cardiovascular conditions can be reduced through adhering to medication therapies and adapting a healthier lifestyle.⁹ The potential positive blood

sugar control effects of medications have been limited by less than optimal adherence rates.¹⁰ In one Saudi study, 67.9% of patients were not taking their medications as prescribed.¹¹ In another Saudi T2D medication adherence study (2014), approximately 56% of patients had low medication adherence.¹² These studies were exploratory and highlighted the problem of non-adherence but did not use a theoretical framework to attempt to explain or predict why Saudi patients were nonadherent with their medication regimens as has been done in the US and other countries; this is important to assess, given the higher prevalence of T2D in Saudi Arabia than most other countries.

While a 100% adherence rate is therapeutically ideal, it is not always practical, and many studies reported in the literature consider 80% adherence to be an adequate adherence level for many chronic conditions. Blood sugar outcomes are often measured daily by patients via glucometer and by laboratory assessment for a longer term average (i.e., past 90 days) using the A1C. Medication adherence in T2D has been studied extensively with several established methods for measurement and/or definition of the target behavior.¹³ Most of these measures include a global measure of the general medication adherence behavior, which actually includes sub-behaviors a patient may be individually adherent or nonadherent with (e.g., taking the correct number of pills per dose). Existing measures do not capture the nonadherence problem from the perspective of individual adherence behaviors, which may also cause validity challenges for measurement of adherence in patients who are nonadherent with some medication-taking behaviors prescribed in the regimen but are adherent with others. Commonly studied factors associated with medication adherence or nonadherence have been identified as patient-related factors (i.e., demographic and psychological factors),

Download English Version:

<https://daneshyari.com/en/article/5551414>

Download Persian Version:

<https://daneshyari.com/article/5551414>

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