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● Research Article

Complementary and alternative medicine use in Iranian patients with diabetes mellitus

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ABSTRACT

OBJECTIVE: There is increasing interest in complementary and alternative medicine generally, and especially by those affected by chronic diseases, such as diabetes mellitus. We aimed to determine the prevalence and pattern of complementary and alternative medicine use among patients suffering from diabetes mellitus in Shiraz, southern Iran. Another objective was to explore associated factors for use of complementary and alternative medicine among patients with diabetes mellitus.

METHODS: A 19-item semi-structured questionnaire (open- and close-ended) was administered to 239 patients with diabetes mellitus in this cross-sectional study. It was carried out in two outpatient diabetes clinics affiliated with the Shiraz University of Medical Sciences, Shiraz, Iran.

RESULTS: One hundred and eighty patients (75.3%) used at least one type of complementary and alternative medicine in the last year prior to the interview. Patients with diabetes mellitus who were living in a large family (≥ 5 members), not taking insulin, and believed that complementary and alternative medicine have synergistic effects with conventional medicine, were independently and significantly (P values: 0.02, 0.04, and 0.01, respectively) more likely to use complementary and alternative medicine. Most of the users (97.7%) reported use of herbal preparations, and 89.4% of users did not change their medication, neither in medication schedule nor its dosage.

CONCLUSION: The use of complementary and alternative medicine, especially herbal remedies, is popular among diabetes patients in Shiraz, Iran. This use is associated with patients' family size, type of conventional medications and their view about concomitant use of complementary and conventional medicine.

Keywords: diabetes mellitus; complementary therapies; prevalence; medicine, herbal; Iran.

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1 Introduction

Diabetes mellitus (DM), an increasingly-prevalent disease, is one of the most important issues in public health today. In 2014, DM affected about 387 million people worldwide. The prevalence of DM in the Middle East and North African countries was estimated at around 37 million in 2014, which is ranked 2nd in the world. Iran is ranked 11th among these countries with a national prevalence of 8.64%^[1]. Despite the introduction of modern remedies, physicians and patients are still faced with many DM-related problems that can affect their quality of life in multiple ways. Moreover, once patients are put on DM medications, they typically stay on them for life; the medications do not offer a cure^[2,3].

Complementary and alternative medicine (CAM) is defined as remedies and practices that are not considered to be a part of conventional medicine. Specifically, complementary medicine is used in conjunction with conventional medicine, whereas alternative medicine is used in place of conventional medicine^[4]. There is a current growing interest in CAM in general^[5], especially in the treatment of chronic diseases such as DM^[6-8]. However, to the best of the author's knowledge there is no published data on the use of CAM among diabetic patients in Iran.

The primary aim of this study was to determine the prevalence and type of CAM use in patients with DM in Shiraz, southern Iran. In addition, this research aimed to assess demographic data, duration and complications of DM and other factors thought to be associated with use of CAM in this population.

2 Materials and methods

This is a cross-sectional study on 239 patients being visited in two outpatient academic clinics affiliated to the Shiraz University of Medical Sciences (SUMS) from June 2011 to September 2011. There was no database for diabetic patients, so the interview was done to a convenient sample of attending patients.

2.1 Ethical issues

The study protocol was reviewed and approved by the Local Medical Ethics Committee of SUMS. The treating physician was not involved in the interview process and the patients were assured (in writing) that their information would be secured.

2.2 Data gathering form

We developed a semi-structured questionnaire based on the current literature and our study goals. This questionnaire was piloted to establish its face validity and assess any additional questions needed. Therefore, the questionnaire was edited and then used in the main study. It was administered as a face-to-face interview lasting for about 15–20 min.

The questionnaire consisted of 19 questions including both open- and close-ended questions which were categorized into 3 fields. The first field consisted of 6 questions regarding demographic data. The second part consisted of 6 questions about the patient's DM diagnosis, duration, self-reported complications, conventional medication regimen for DM, the number of follow-up visit in the last year and the patient's attendance in clinical educational programs about DM. The third field consisted of 7 questions about use of CAM (within the last year), the type or types of CAM used, the recommending person or source for use of CAM, positive previous experiences about therapeutic potentials of CAM, local access to CAM centers, the patient's view about possible interactions of CAM modalities with conventional drugs, and finally about any self-modification of conventional medications during CAM use.

2.3 Inclusion and exclusion criteria

Diabetic patients who were older than age 18 years and were on conventional medications for diabetes were included in the study if they gave their informed consent. The patients were excluded if they could not successfully complete the interview process (*i.e.*, no language or cognitive disorders).

2.4 Statistical analysis

The data were analyzed by using descriptive statistics (mean and proportion), logistic regression, Chi-square and independent *t*-test. *P* values less than 0.05 were considered statistically significant. The Statistical Package for the Social Sciences version 15.0 (SPSS Inc., Chicago, IL, USA) software was used for all statistical analyses.

3 Results

3.1 Socio-demographic data

As shown in Figure 1, there were 239 diabetic patients who were included in the study, of which 180 patients (75.3%) used CAM (at least one type of CAM within the last year before the interview). Socio-demographic characteristics of the patients are shown in Table 1. No significant difference in rate of CAM use was observed between diabetic patients of different age ($P = 0.44$), gender ($P = 0.40$), marital status ($P = 0.68$), urban or rural residency ($P = 0.27$) and level of education ($P = 0.17$). Minimum and maximum of reported family members were 1 and 10. Living in a large family (≥ 5 members) was significantly more prevalent in CAM users than non-CAM users (38.3% vs. 23.7% $P = 0.04$). Logistic regression analysis showed that patients who lived in larger families (≥ 5 members) were 2.5 times more likely to use CAM than patients who lived in smaller families (≤ 4 members) ($P = 0.02$).

3.2 Diabetes-related data

Most of the patients had type 2 diabetes (222 type 2 and 17 type 1). In addition, most of them (43.9%) had been diagnosed with diabetes less than 5 years prior to

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