

• Research Article

Use of complementary and alternative medicine among Thai patients with type 2 diabetes mellitus

Ausanee Wanchai, Duangjai Phrompayak

Boromarajonani College of Nursing Buddhachinaraj, Muang, Phitsanulok 65000, Thailand

ABSTRACT

OBJECTIVE: Patients with diabetes commonly use complementary and alternative medicine (CAM). Little is known about types and factors related to CAM use in patients with diabetes in Thailand. This study aimed to examine types and factors that were associated with CAM use in Thai diabetic patients.

METHODS: A cross-sectional study of diabetic patients being treated in four primary healthcare units and two secondary hospitals in the north of Thailand was conducted. A questionnaire was used to collect data. Frequency, percentage, and Chi-square test were used to describe or analyze data.

RESULTS: The three most common types of CAM used by samples were Daode Xinxu (a modified version of Taichi), prayer and meditation. Women were more likely to use CAM than men ($\chi^2=5.038$, $P=0.018$). Patients aged between 40 and 69 years were more likely to use CAM than those aged younger than 40 or older than 69 years ($\chi^2=11.041$, $P=0.026$). Farmers were more likely to use CAM than those with other careers ($\chi^2=19.248$, $P=0.007$). Diabetes patients whose time since diagnosis was between 1 and 10 years were more likely to use CAM than those with a longer elapsed time since diagnosis ($\chi^2=8.407$, $P=0.038$). Marital status, religion, education, health insurance type and conventional treatment approaches were not associated with CAM use in diabetic patients.

CONCLUSION: The most common type of CAM used by Thai patients with diabetes was mind and body practice. CAM use was significantly associated with gender, age, career and duration of diabetes. However, marital status, religion, education, health insurance types and conventional regimen for diabetics were not associated with CAM use.

Keywords: diabetes mellitus, type 2; complementary therapies; Thailand; questionnaires; descriptive study

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1 Introduction

Diabetes mellitus (DM) is a metabolic disorder that is a major public health problem worldwide. The World Health Organization (WHO) reported that about 1.5 million people died from diabetes in 2012^[1]. Moreover, the WHO also reported that in 2014, 9% of adults aged 18 years and older had been diagnosed with DM and more than 80% of diabetes deaths occurred in low- and middle-

income countries. The WHO predicted that DM would be the seventh leading cause of death in 2030^[1]. The International Diabetes Federation^[2] predicted that by 2040 the prevalence of DM would rise to 642 million people and the annual global healthcare spending on DM would rise to \$802 billion. In Thailand, the Bureau of Non-communicable Disease, Ministry of Public Health^[3], reported that the rate of new patients with DM has increased from 795.04 cases per 100 000 people in 2010

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Correspondence: Ausanee Wanchai, RN, PhD; E-mail: wausanee@hotmail.com



to 1 032.50 in 2014. In addition, the death rate of Thai people from DM has increased substantially from 10.70 per 100 000 in 2010 to 17.53 per 100 000 in 2014^[4].

DM is a chronic disease that cannot be cured. To control stable blood glucose levels, patients and their families need to adjust and maintain lifestyle behaviors, including modifying eating habits, maintaining optimal body weight, exercising regularly and self-monitoring blood sugar levels. If patients do not comply with this type of disease management, they may develop various complications that lead to uncured diseases; these complications can include vascular complications such as blindness, kidney failure, heart failure, cerebrovascular disease and neurological complications, such as diabetic foot ulcers^[5,6].

The current treatments for patients with DM can be broadly divided into two approaches: modern medicine and alternative medicine. However, sometimes modern medicine alone cannot meet the needs of these patients. Consequently, some patients with DM were provided with supplemental care by using alternative medicine in addition to modern medicine^[6-8].

The National Center for Complementary and Integrative Health of USA^[9] defines complementary and alternative medicine (CAM) as a group of diverse medical and healthcare systems, practices and products that are not generally considered to be part of conventional medicine. CAM types can be categorized into two categories: natural products and mind and body practices. Natural products include a variety of products, such as herbs, vitamins, minerals and probiotics. Mind and body practices include a large and diverse group of procedures or techniques administered or taught by a trained practitioner, such as yoga, chiropractic and osteopathic manipulation, meditation, massage, acupuncture, relaxation techniques (*i.e.*, breathing exercises, guided imagery, and progressive muscle relaxation), Taichi, Qigong, healing touch, hypnotherapy and movement therapy. Other complementary health approaches that may not neatly fit into either of these two groups are the practices of healers from the traditions of Ayurvedic medicine, Chinese medicine, homeopathy, and naturopathy.

It has been reported that, compared to healthy people, people living with DM were 1.6 times more likely to use CAM^[10]. In studies of CAM use by patients with DM, the prevalence of CAM use varies from 17% to 80%, depending on the definition of CAM and the design of the study^[5]. Reasons for CAM use by patients with DM can also be complex. They depended on individual values, worldviews, spiritual or religious perspectives, beliefs, cultures and financial resources^[11,12]. The problem is that although some of these alternative medicines may be effective, the efficacy of most CAM types for glucose control remains unproven. In fact, some types of CAM

can be ineffective, be pharmacologically incompatible with patient medications or even create additional complications^[13-15]. More importantly, previous studies found that less than 40% of these patients disclose their CAM use to their healthcare providers^[10,16,17].

In Thailand, a previous study by Moolasarn *et al*^[18] reported that the prevalence of CAM use in Thai diabetic patients was 47.8%. The most common types of CAM used were yoga/exercise (32.8%), unchanged form of herbal medicine (29.9%) and changed form of herbal medicine (17.8%). The average cost of CAM use was \$8.58 per person per month. CAM use expenses for the whole country were about \$915 250–\$1 545 750 per month. More importantly, most patients (64.4%) who used CAM did not disclose their CAM use to their healthcare providers.

Therefore, it is important that healthcare providers understand the different approaches to healthcare that their patients may take so that they can help them to make safe choices. However, this previous study was conducted more than 10 years ago. Therefore, the purpose of the present study was to examine the types of alternative medicine currently in use by patients with type 2 diabetes mellitus (T2DM) and to identify factors that are associated with CAM use in patients with DM. The researchers expected that this study would help us to gather basic information about alternative medicine use by Thai diabetic patients. These data can be used to develop interventions for improving quality of life for patients with T2DM who take advantage of alternative medicines in their healthcare practices.

2 Materials and methods

This is a descriptive study. The target population was composed of 1 285 Thai patients with T2DM, who were receiving treatment for DM at 25 healthcare units and 8 hospitals in one province of north Thailand in 2015. The sample size was calculated using the G*Power 3 with the effect size of 0.5. Five hundred and eight patients with T2DM who visited four primary healthcare units and two secondary hospitals in the north of Thailand from October 2015 to November 2015 were recruited for this study. The response rate was 100%.

2.1 Ethical issues

The study protocol was reviewed and approved by the Ethics Committee of the Boromarajonani College of Nursing Buddhachinaraj. All participants were informed about the research purposes, procedures and their rights. They were also assured that their information would be kept strictly confidential and signed informed consent forms.

2.2 Data gathering form

The semi-structured questionnaire used in the present

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