

# Complementary and Alternative Medicine to Treat Diabetes Mellitus Type 1 in Southern Iran

## Dear Editor,

Type 1 diabetes mellitus (T1DM) is one of the most prevalent childhood chronic endocrine disorders, which cause short-term and long-term side effects if not controlled appropriately. Traditional medicine (TM) and complementary and alternative medicine (CAM) have been used extensively for prevention and treatment of T1DM in the past.<sup>1</sup>

We conducted a study to identify all alternative treatment methods to treat diabetes type 1, which is prevalent in southern Iran. We also attempted to identify whether these alternative methods are evidence-based.

This research was a cross-sectional study conducted in Shiraz, Iran. Patients with T1DM, who participated in an educational program about the management of diabetes, were enrolled. After obtaining oral informed consent, patients' data forms were filled out in order to understand the alternative treatment methods used so far (other than insulin) and to identify the person recommending it. Additionally, demographic information of the patients was also recorded. We also visited all traditional herbalists in Shiraz (as a fictitious patient) and asked for advice and herbal medicine for the treatment of diabetes type 1.

All data were analyzed using SPSS software, version 17.0 (Chicago, IL, USA). The Chi-square test was used to assess the relationship between sex, family history, residence, and application of TM/CAM. P values < 0.05 were considered statistically significant.

Among 145 patients with type 1 diabetes, participating in the educational program, 132 patients (91%) with T1DM filled out the questionnaire. The mean ( $\pm$ SD) age was  $33 \pm 19.92$  years, ranging from 2 to 27. So far, 43 (32.6%) patients have used alternative methods to control their diabetes. There was no significant relationship between demographic factors and the use of CAM.

Herbal medicine was the main complementary method used. Other methods were physical therapy, phlebotomy, acupuncture, and homeopathy. The most recommended products from the above-mentioned traditional herbalists were walnut distillate, fenugreek, and colocynth. Less recommended products were *Securigera securidaca*, *Otostegia persica*, *Teucrium polium*, sumac, green tea, and cinnamon.

The results of this study indicated that the usage rate of alternative medicine among the patients in our region is high and is not related to age, gender, and residence. These results are comparable with studies in other countries.<sup>2</sup>

Considering the cultural background of the people in southern Iran, the most frequent alternative method chosen by our patients was herbal medicine. Consequently, it is appropriate that the Iranian physicians, managing diabetes patients, be aware of different herbal medicine types that are extensively used in the region to control blood sugar. They should also be familiar with probable effects and complications in order to treat patients effectively.

According to the present study, the most frequently used plants to control diabetes in our region are walnut, fenugreek, and colocynth. A review article published in 2006, presented the profile of plants with hypoglycaemic effect where 176 species were listed. It indicated that different herbs are used in different countries. *Citrullus colocynthis*, which is one of the most common anti-diabetic herbs in our region, was mentioned in this review as one of the most studied anti-diabetic plants.<sup>3</sup>

Overall, although different investigations have been performed on the effectiveness of plants in controlling diabetes, so far, no definitive results have been achieved.<sup>4</sup> Due to extensive use of herbs in the management of diabetes worldwide, investigation on their effects and complications in a well-designed long term clinical trials is imperative.<sup>5</sup>

Looking at meaningful textbooks on traditional medicine, indeed there is a significant difference between treatments advised by traditional herbalists and diabetes management protocols. Diabetologists and researchers have a responsibility to perform randomized clinical trials on Persian herbs (e.g. walnut, fenugreek and Colocynth) to determine their effects and possible complications.

## Conclusion

Although many T1DM patients in southern Iran use herbal medicine, the safety and efficacy of the most frequently used herbs are not confirmed.

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