



Use of Different Types of Alternative Medicine in the Treatment of Diabetes Mellitus

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Diabetes is a chronic metabolic disorder whose hallmarks are hyperglycemia accompanied by persistent damage, dysfunction and failure of various organ systems.

Objectives of the Study: To assess the frequency of use alternative medicine for Diabetes Mellitus.

Methodology of the Study: This cross sectional study was conducted during June 2019 to April 2020 at Sahiwal Medical College, Sahiwal. Data regarding prevalence of alternative medicines usage in Pakistan, is not available. Thus, to calculate sample size, prevalence of India is being used which is 67%.

Results: The data was collected from 400 patients and there was 167 male and 233 female. The mean age was 52.93±12.97 years. There are 113 patients who was suffering from diabetes from less than 5 years and almost 187 patients who was suffering more than 10 years. There were 189 patients who have good diabetic control as compared to others. There are 158 patients who used CAM for diseases control.

Conclusion: It is concluded that patients might be less compelled to seek a CAM therapy or any other medical therapy if they have relatively few symptoms.

Keywords: *Alternative medicine; Diabetes Mellitus; hyperglycemia; chronic metabolic disorder; CAM therapy; hyperglycemia; persistent damage; dysfunction.*

1. INTRODUCTION

Diabetes is a chronic metabolic disorder whose hallmarks are hyperglycemia accompanied by persistent damage, dysfunction and failure of various organ systems [1]. Its worldwide prevalence in 2013 stood at 347 million [2]. The prevalence in Pakistan was recorded as affecting 12.9 million people (10%) in 2011 [3]. There is a fast emerging trend in the modern world for usage of Complementary and Alternative Medicine (CAM), in order to accomplish improved disease control [4]. CAM encompasses herbal remedies as well as other forms of therapy such as acupuncture, spirituality, energy therapies, and yoga [5]. It can formally be defined as, "A collection of medical and health systems, practices and products, not presently considered a part of Allopathic medicine" [6].

Worldwide disposition of CAM usage for diabetes has seen an increase ranging between 30%-57% [7]. Malaysia has a 62.5% prevalence of CAM usage [8]. India, a country similar in traditions, mind set and practices to Pakistan has recorded a very high rate of CAM usage -67%- among diabetic patients. [9]. No studies to assess prevalence of use among diabetics has been done in Pakistan, however there has been extensive work on the properties of the herbal medicine used [10]. Attractiveness of CAM use for Diabetes can be attributed to perception of decreased adverse effects, convenience, cost-effectiveness, dissatisfaction with conventional medication and positive reviews from other users [11].

Diabetes is quickly becoming a front runner of morbidity and mortality in today's times. It's ever increasing prevalence is almost being paralleled by an increase in people looking towards alternative medication, even without strong evidence of its efficacy [12].

Pakistan is currently placed 7th on the diabetes prevalence list by WHO, with its position expected to rise in the next few years [13]. Keeping this in mind, our study seeks to assess the frequency and effects of said treatments. Additionally, we hope to also get a glimpse into the thoughts and patterns of use regarding CAM. Gaining a better understanding of these treatments, as well as their advantages and disadvantages, may help start to bridge the communication gap between medical professionals and patients regarding alternative methods of treatment.

1.1 Objectives of the Study

1. To assess the frequency of use of alternative medicine for Diabetes Mellitus.
2. To characterize the use of Alternative Medicine in diabetics, including homeopathy, herbal medicine, acupuncture and spirituality.

2. METHODOLOGY OF THE STUDY

This cross sectional study was conducted during June 2019 to April 2020 at Sahiwal Medical College, Sahiwal.

2.1 Sample Size

Thus, to calculate sample size, prevalence of India is being used which is 67% [14].

$$n = \frac{z^2 p (1-p)}{d^2}$$

$$= \frac{(1.96)^2 (0.67)(0.33)}{(0.05)^2}$$

$$= 339$$

If we consider 20% wastage, the final sample size becomes,

$$n = 380$$

2.2 Sampling Technique

Non-probability Purposive Sampling.

2.3 Sample Selection

2.3.1 Inclusion Criteria

Diagnosed Type 1 and Type 2 Diabetics in medical OPDs.

2.3.2 Exclusion Criteria

1. Non-Diabetics
2. Those who refused to participate.
3. Those with Gestational Diabetes.

2.4 Data Collection Procedure

The investigations was carried out using pretested, self-administered questionnaires as well as personal interviews conducted by the investigators when needed.

2.5 Data Management and Statistical Analysis

Data entry and analysis will be done on SPSS v20. All categorical variables will be presented as percentages and frequencies. All numerical variables will be presented as mean and + standard deviation. Chi square test will be used to determine the association between categories. p-value of <0.05 will be considered significant.

3. RESULTS

The data was collected from 380 patients and there was 157 male and 223 female. The mean age was 52.93±12.97 years. There are 113 patients who was suffering from diabetes from less than 5 years and almost 187 patients who was suffering more than 10 years. There was 189 patients who have good diabetic control as compared to others. There are 158 patients who used CAM for diseases control.

39% of the respondents with diabetes revealed CAM use explicitly for treatment of the infection (an expected 3.6 million individuals in the US

populace). This condition-explicit CAM utilize basically elaborate lone petition or other profound practices (28%), in spite of the fact that there was humble utilization of business diet programs for weight reduction or gain and unobtrusive utilization of natural treatments (around 6%-7% each). A couple of respondents revealed utilization of society cures, self improvement gatherings, unwinding/reflection, high-portion megavitamins, and homeopathy for diabetes. No respondents announced utilization of chiropractic, needle therapy, way of life diets, yoga, or back rub for diabetes. Separated investigations showed no critical contrasts between insulin-treated patients and non-insulin-treated patients in paces of CAM use in the previous year.

4. DISCUSSION

Our investigation recommends that despite the fact that people with diabetes use CAM treatments at a rate like that among everyone, they don't appear to be utilizing CAM explicitly for their diabetes. Except for single petition, announced CAM use for the treatment of diabetes was moderately unprecedented [15].

Table 1. Use of CAM in selected individuals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	158	39.5	39.5	39.5
	No	242	60.5	60.5	100.0
	Total	400	100.0	100.0	

Table 2. Gender with faith in spiritual healing (Chi-Square test)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.559 ^a	2	.102
Likelihood Ratio	4.523	2	.104
N of Valid Cases	400		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.93

Table 3. Diabetes control * is spiritual prayer effective

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.701 ^a	4	.153
Likelihood Ratio	6.668	4	.154
N of Valid Cases	400		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.38

Past investigations of CAM use among people with diabetes have been restricted to comfort tests or profoundly chose ethnic populaces. These examinations have revealed a wide scope of CAM use, from utilization of spices among 9% of low-pay Mexican American patients in Texas to utilization of "customary home cures" among 65% of outsider Vietnamese patients in California. In the main other public review, Egede and associates, utilizing the 1996 Medical Expenditure Panel Survey, detailed that 8% of people with diabetes utilized CAM, a rate impressively lower than our gauge [16]. Their investigation, nonetheless, was restricted to CAM use in relationship with an expert visit and accordingly presumably downplayed generally speaking CAM use.

Interestingly, overviews of other explicit populaces have proposed higher paces of CAM use among people with different constant conditions (e.g., 42% among patients with asthma/rhinosinusitis, 80% among those with disease, 68% among those with HIV, and 54% among those with amyotrophic horizontal sclerosis). In any case, it isn't in every case clear whether use is condition explicit, and in certain occurrences this might be hard to characterize [17]. For instance, Fairfield et al. observed that numerous patients with HIV use CAM to mitigate torment, neuropathy, stress, melancholy, and queasiness that may be related with the essential ailment; in any case, not many use CAM for explicit antiviral impacts or to fix HIV [18].

5. CONCLUSION

It is concluded that patients may be less constrained to look for a CAM treatment or some other clinical treatment assuming they have generally couple of manifestations. Not at all like different conditions including intense indicative emergencies, for example, asthma or agony disorders, the main token of the presence of diabetes might be an unusual glucose esteem, especially from the get-go throughout the illness.

CONSENT

Informed consent was obtained from all the participants, assuring them of anonymity.

ETHICAL APPROVAL

Bilingual questionnaires was prepared (English and Urdu). Individual data was not shared unless the patient consents. Anonymity was maintained at all stages.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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