

Primary and Specialized Physicians' Knowledge of and Attitudes Towards the Use of Complementary and Alternative Medicine in Medical Practice

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ABSTRACT

Background: The use of complementary and alternative medicine (CAM) for treatment purposes in Saudi Arabia is a common practice by the public. Studies have found that using these products is not always a safe practice. Research has showed that many of CAM products could result in fatal adverse effects either when used alone or combined with conventional medicine. Health institutions are currently working on increasing the awareness of these adverse effects and the proper utilization of CAM, however addressing the knowledge gap among healthcare professionals is still an area of demand. Thus, this study aims to assess the knowledge and attitude of primary and specialized physicians at King Abdulaziz Medical City KAMC about CAM.

Method: This is a cross sectional study based on an interview structured questionnaire that was validated through pilot testing and distributed among physicians in the following fields at KAMC; internal medicine, family medicine, Surgery, pediatrics, and obstetrics and gynecology. We included physicians from both genders, any nationality, and excluded all physicians who have not been practicing for more than one year. The minimum sample size required was 231. All the data were entered and analyzed by SPSS software version 21. A confidence interval of 95% was used and a P value less than or equal.05 is significant.

Results: The research team was able to interview 220 physicians from different specialties and occupation with a response rate of 95.5%. The overall results were that the majority of participants (73.7%) had a poor knowledge about CAM. Also, it was found that there is no correlation between the level of knowledge and the specialty (P=0.26). Unlike Saudi physicians who believe in the beneficence of CAM, non-Saudis tend to have a more negative attitude toward this practice (P= 0.023). Resident and newly practicing medicine physicians had more positive attitude toward CAM compared to physicians with long history of practice (P=0.037). Almost 50% of our participants have obtained some knowledge about CAM from websites, books, and EBM articles. 81.1 % of the physicians insisted on the importance of receiving formal education about CAM.

Conclusion: In conclusion we recommend that education about CAM to be given in the form of seminars, lectures, or part of the medical school curriculum. We also emphasize that this education should not be given to a certain medical specialties as our result showed that the knowledge and attitude toward CAM does not have a correlation with specialty.

Keywords: Physicians' Knowledge, Complementary, Alternative Medicine

INTRODUCTION

According to the US National Center for Complementary and Alternative Medicine (NCCAM), complementary and alternative medicine (CAM) are defined as a practice that combines the use of health products and healthcare systems that are not currently part of conventional medicine. Although the words 'alternative' and 'complementary' are often used interchangeably, 'complementary' indicates a practice that is used alongside conventional medicine, while 'alternative' medicine is used instead of conventional medicine⁽¹⁾. CAM includes different therapeutic modalities, including manipulative and body-based treatments such as massage or acupuncture and herbal medicine, which is the main focus of this study⁽¹⁾.

Recently, the advances in research methods and an explosion of technology in this field havemade CAM one of the most commonly used treatment modalities around the world. Some people are able to manage various chronic and societally costly conditions, such as chronic pain and arthritis, and more life-threatening diseases such as heart

disease and cancer, by using CAM⁽²⁾. In 2005, the World Health Organization (WHO) reported that more than 80% of the population of developing countries uses herbal medicine to manage health conditions⁽³⁾. In 2007, 17.7% of Americans reported using natural, non-vitamin, non-mineral products. By 2012 this proportion had increased to 17.9% of the American population, and had doubled in the north-central region of the USA^(4,5). In 2002, US\$2.7 billion was spent on CAM in the USA, \$2.4 billion in Canada, and \$2.3 billion in the United Kingdom⁽⁶⁾.

In Saudi Arabia, most physicians and members of the public use 'TibbuNabawi' (prophetic medicine) in their practice. More than 70% of the population of the Riyadh region reported using practices related to prophetic medicine during their lifetime. Common types of CAM used were Holy Quran therapy (50.3%), honey (40.1%), black seeds (39.2%), myrrh (35.4%),and alhijama (cupping)^(7, 8). Insufficient data have been collected regarding the prevalence of the use of CAM in Saudi Arabia. However, several regional studies have found

tremendous use of CAM among patients visiting outpatient clinics in Saudi Arabia⁽⁹⁾. In Alqassim, 74% of a study sample of 1160 patients claimed to be using alternative medicine⁽¹⁰⁾.

Several studies have assessed physicians' knowledge of, and attitudes towards, the use of alternative medicine. A regional study in Trinidad found that 27% of physicians interviewed recommended the use of alternative medicine to their patients, but only 15.1% knew at least one side effect or drug interaction⁽¹¹⁾. In a study of Swedish surgical care staff, 95.7% of the interviewed sample had no or very little knowledge of alternative medicine⁽¹²⁾. In Hungary, 91.8% of family physicians felt it necessary to have some background knowledge of alternative medicine, yet 82.5% claimed not to have any such knowledge⁽¹³⁾. Each of these studies recommended that information about CAM should be provided to all healthcare practitioners across all fields.

Given the popularity of CAM among people in different populations, we felt it necessary to understand healthcare practitioners' views on their patients' use of CAM with conventional medicine. We also felt it important to assess physicians' knowledge of the side effects of herbal medicines, and their interactions with common drugs and procedures so as to ensure the provision of sufficient patient care. Thus, this study aimed at assessing the knowledge of, and attitudes to, CAM among primary and specialized physicians at King Abdulaziz Medical City (KAMC).

METHODOLOGY

This cross-sectional study used a structured questionnaire completed by physicians during interviews. It was validated via pilot tests, and distributed among physicians in the following fields at KAMC: Internal Medicine, Family Medicine, Surgery, Pediatrics, and Obstetrics and Gynecology. Male and female physicians of any nationality were included. Physicians who had not practiced medicine for more than 1 year were excluded. All physicians fulfilling the inclusion criteria were approached using a convenience sampling method until the appropriate sample size was obtained.

Using the online sample size calculator provided by Raosoft, Inc. (www.raosoft.com/sample_size.html), we assumed that the total number of physicians to select from was 576, thus with a 5% margin of error, 95% confidence interval (CI) and an anticipated response rate of 50%, the minimum sample size required was 231. The research team

interviewed 220 physicians. All participants gave their informed consent to complete the questionnaire, which was filled anonymously to ensure confidentiality. The questionnaire comprised three sections: demographic and work-related information, physicians' attitudes to the most commonly used herbal medications and remedies, and their knowledge of these medications and remedies.

Data analysis

Categorical variables in this study, i.e. gender, nationality, year and place of graduation, specialty, and current occupation, and answers to questions about attitudes to herbal medicines, are described in percentages. Numerical variables, i.e. age and number of years of practice, are described as means \pm SD.

Attitude scores were described as means \pm SD, then categorized as positive or negative based on the answers to questions B1–6. Each question for which a participant answered 'yes' received 1 point. Participants scoring 4 or more were considered to have a positive attitude.

Physicians' knowledge of herbal medicines was also described as means \pm SD, and was calculated based on the answers to questions C2–5 and C7. Each of these questions had only one correct answer, each scoring 1 point. Total knowledge score was categorized as 'good' or 'poor'. Participants achieving 3 or more correct answers were considered to have good knowledge.

Correlations between knowledge and attitudes were analyzed using the Chi-square test for goodness of fit for the categorical variables, and the Mann–Whitney U test for the numerical variables.

All data were entered and analyzed using SPSS software version 21. A CI of 95% was used, and a P-value ≤ 0.05 was considered significant.

Sample demographics

A total of 220 physicians and surgeons participated in this study with a response rate of 95.2%. The number of males was 156 (70.9%), and 83.9% were of Saudi nationality. Participants' mean age was 36.5 ± 9.50 years (range: 24–58 years). Participants graduated between 1985 and 2016, with the most commonly occurring year of graduation being 2013 (12%). The mean number of years of practice was 11.1 ± 8.06 years (range: 1–28 years). Eighty-two percent of participants graduated from a Saudi college of medicine, and around 84% continued their residency training in Saudi Arabia. Most participants were residents (37.3%) or

consultants (31.4%). Nearly 26% of participants were from medical specialties, and 22.5% were from surgical specialties (22.5%) (see Table 1).

Knowledge of and attitudes towards herbal medicines

Most participants (73.7%) had a poor knowledge of herbal medicines (see Graph 1), with scores ranging from 0 to 5 out of 6. The mean score was 2.34 ± 1.2 . The most-used sources of information about herbal medicine were family and friends (61.5%) and websites (35.9%), and the least-used were evidence-based medicine (EBM) articles (13.4%) and books (12.9%) (see graph 2). Almost one-fifth of physicians and surgeons (21.2%) reported that they do not ask their patients about their use of herbs when taking a medication history.

The mean attitude score was 3.8 ± 1.5 , with the highest score being 6 and the lowest 0. Sixty percent of participants had a positive attitude towards the use of herbal medicines. More than half of participants (55.5%) believed that herbal medicine is beneficial in the management of healthcare, 73.1% stated that they use it personally. Almost one-quarter of participants (26.8%) have recommended the use of herbal medicines to their patients, but only 11.4% have formally prescribed them. Around 15% of participants thought that herbal medicines should be limited to patients who have failed conventional therapy.

When participants were asked about continuing education in herbal medicines, 81.1% felt it to be important, with 56.8% giving the reason that they believe that herbal medicines are unsafe for many patients. However, 37.4% of participants believed that they are therapeutically beneficial. Other objections to continuing education in herbal medicines were a preference for conventional medicine (12.3%), and not believing in the effectiveness of herbal medicines (6.8%).

A statistically significant correlation was observed between physicians' level of knowledge and their place of graduation from their Bachelor's degree ($P=0.012$). Having a good level of knowledge correlated to the use of books ($P=0.014$) and EBM articles ($P=0.005$) as sources of information. Knowledge level was not affected by specialty ($P=0.26$), gender ($P=0.35$) or current occupation ($P=0.66$).

Nationality was found to have an effect on attitudes towards herbal medicines. Physicians of non-Saudi origin tended to have negative attitudes towards herbal medicines ($P=0.023$). Physicians older

than the average age of 36.5 years ($P=0.009$) and years of practice more than 11 ($P=0.037$) were associated with negative attitudes towards herbal medicines. Although the place of graduation has an effect on knowledge, it does not seem to affect attitudes. Attitude was affected by current occupation ($P=0.03$), with residents being more positive towards herbal medicines than other occupations. Attitude was not affected by level of knowledge ($P=0.55$).

RESULTS

Table (1): Demographics of participating physicians and surgeons (n=220).

Variable		N(%)
Gender	Male	156(70.9)
	Female	64(29.1)
Age (mean \pm SD, years)		36.5 \pm 9.50
Nationality	Saudi	183(83.9)
	Non-Saudi	35(16.1)
Place of graduation (Bachelor's degree)	Saudi Arabia	177(81.9)
	Middle East	32(14.8)
	Europe	5(2.3)
	US or Canada	0(0)
	Other	2(0.9)
Place of graduation (residency):	Saudi Arabia	173(83.6)
	Middle East	17(8.2)
	Europe	9(4.3)
	US or Canada	7(3.2)
	Other	1(0.5)
Number of years of practice (mean \pm SD, years)		11.1 \pm 8.06
Specialty	Internal Medicine	55(25.8)
	Surgery	48(22.5)
	Pediatrics	31(14.6)
	Obstetrics and Gynecology	29(13.6)
	Family Medicine	34 (16.0)
	Other	16(7.5)
	Professional level	Resident
Assistant consultant		26(12.2)
Associate		16(7.5)
Consultant		69(32.4)
Consultant		20 (9.4)
Staff physician		

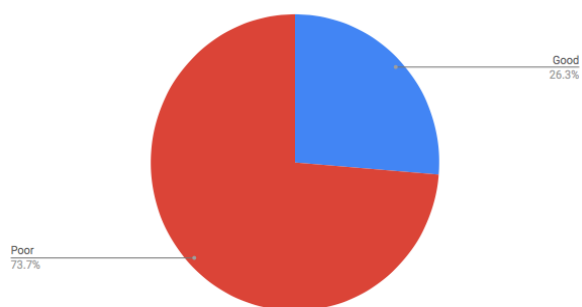


Figure (1): Level of knowledge of herbal medications among physicians at King Abdulaziz Medical City, Riyadh”

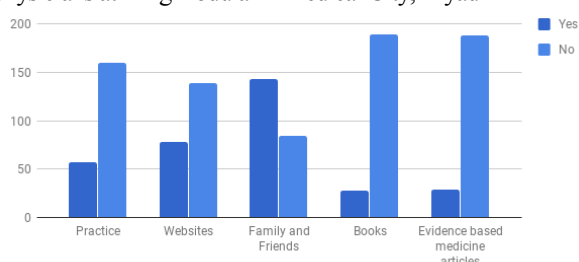


Figure (2): Resources used by physicians at king Abdulaziz Medical City to obtain knowledge of herbal medications.

DISCUSSION

Many studies have discussed people’s knowledge of, and attitudes towards, herbal medicines⁽¹⁴⁾. Including different subsets of the population, such as housewives, the elderly, and adolescents. Recent research in this area has focused on healthcare practitioners, but as far as we know, knowledge about CAM has never before been studied among physicians of different specialties (Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, Family Medicine, and others) in the Kingdom of Saudi Arabia.

Compared with similar studies, our study had a high response rate of 95.2%⁽⁷⁾. To avoid misconceptions and misunderstandings about what CAM is, the definition of CAM was discussed with all participants prior to completing the questionnaire.

Most participants (73.7%) had an overall poor knowledge of CAM. We found no correlation between a physician’s level of knowledge and their specialty (P=0.26). While physicians of Saudi origin tend to believe that CAM is beneficial, those of non-Saudi origin tended to have a more negative attitude (P= 0.023).

In our study, physicians employed as residents, and those new to practicing medicine, were more positive towards CAM compared with

physicians with a long history of practice (P=0.037). Perhaps, having encountered more patients over their working life, longer serving physicians have had more exposure to the side effects of CAM.

A study by El-Olemy and AlBedah reported that health practitioners with only a Bachelor’s degree had greater knowledge of CAM⁽⁷⁾. Our study supported this finding by showing not only that having a Bachelor’s degree reflects better knowledge, but there is also a significant correlation between knowledge and the place of one’s graduation (P=0.012).

Fifty-five percent of participants in our study believed that herbal medicines are beneficial in the management of healthcare conditions, supported by the fact that 73.1% of all physicians use them personally. However, only 26.8% recommended their use to patients, and only 11.4% have formally prescribed them. Perhaps the lack of evidence about the benefits of CAM treatments prevents physicians from officially using them in their practice.

Fifteen percent of the participants in our study believed that the use of CAM should be restricted to patients who have failed conventional therapy, and 85% considered CAM to be inferior to conventional medicine and thus is not beneficial to patients. A systematic review by Bishop and colleagues also found this, showing that dissatisfaction with conventional care is a major influence on the use of CAM in healthcare practice⁽¹⁵⁾.

In 2012, El-Olemy and AlBedah reported that only 8.1% of healthcare practitioners used reliable sources to access knowledge about CAM,⁽⁷⁾ yet almost 50% of the participants in our study reported that they obtained knowledge about CAM from websites, books, and EBM articles. This increase could be explained by the recent launch of several licensed and reliable electronic databases, for example the Natural Medicine Comprehensive Database (<http://www.naturaldatabase.com/>). Moreover, El-Olemy and AlBedah reported that only 29.08% of their sample used family and friends as a source of information about CAM, while our study showed that 61.5% relied on family and friends as their main source⁽⁷⁾.

In our study, 81.1% of physicians believed it important to receive formal education about CAM. On the other hand, 12.2% considered CAM is not important because they preferred conventional

medicine, and the remaining 6.7% did not think that formal education is necessary due to lack of belief in the effectiveness of CAM. Of those interested in continuing formal education, 56.8% prefer to learn more because they believe that CAM is harmful to patients. Only 37.4% of our participants were keen to learn more because they believe that CAM is therapeutically beneficial. Our results support the findings of several international studies that showed that 60–80% of physicians think that CAM education should be disseminated via EBM articles^(16,17).

CONCLUSION

Despite the increased availability of databases and other sources of information about CAM, family and friends remain a major resource used by community members, including physicians. For this reason, doctors have emphasized the importance of receiving formal education about the appropriate use and side effects of CAM. We recommend that this trend of education could be justified and implemented in medical schools in the form of seminars and lectures, or as a formulating part of the medical school curriculum. We also emphasize that this education should not be given to certain medical specialties, as our results showed that physicians' knowledge of and attitudes towards CAM is not correlated with specialty. Further studies should be conducted to assess whether there is any correlation between nationality and attitudes to CAM, to see if cultural awareness campaigns are necessary.

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