Knowledge and Interests of Students and Faculty Members at Hail Medical College in Traditional and Complementary Medicine

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ABSTRACT

Background: Public interest in traditional, complementary and alternative medicine (TCAM) has increased in the recent two decades in many parts of the world. Some medical schools have incorporated TCAM modules into their curricula; the success of this step depends mainly on the attitude of medical students and staff members.

The aim of study: to assess the knowledge, interest, attitude, and usage of TCAM among medical students and faculty staff members at Hail Medical College, and evaluate the potential influence of gender and the academic year of students on their attitude towards TCAM.

Methods: A self-administered questionnaire was distributed among medical students and staff members. The questionnaire was designed to assess the knowledge and attitude and was based on questionnaires of previous studies.

Results: Most the respondents had a past personal experience with TCAM methods and were satisfied with their healing effects. The most used TCAM methods included medicinal herbs, cupping, and cauterization. The majority of participants displayed interest and positive attitude towards TCAM. The total attitude scores were significantly higher in staff members than students. There was no significant effect of gender or the academic year on the attitude score.

Conclusion: the majority of respondents expressed interest and positive attitude towards TCAM methods. They recommended the incorporation of TCAM into the curriculum of medical colleges. However, concerns were raised as regards its safety and the probable interactions with conventional modern medicine; necessitating the launching of high quality studies to assure the safety and efficacy of TCAM.

Keywords: complementary medicine; alternative medicine; traditional medicine; acupuncture; herbal therapy; knowledge; attitude.

INTRODUCTION

Conventional medicine, which is usually referred to as Western medicine, involves health care provided by qualified medical or paramedical professionals. Traditional, complementary and alternative medicine (TCAM) includes healthcare systems, practices, and products that are not considered part of conventional medicine (Cheifetz et al., 2017).

The National Institute of Complementary Medicine (NICM) defines TCAM as "a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period". TCAM comprises a range of treatments such as naturopathy, acupuncture, massage therapy, yoga, herbal medicine, chiropractic, and homeopathy (NICM, 2017).

There is an ever growing use of TCAM among the general population. TCAM treatments are widely used by patients with gastrointestinal, liver and biliary disorders (Marignani et al., 2010; Wu, 2010). Up to 50% of adult patients and about 40% of children with gastrointestinal complaints use TCAM remedies including herbal medicines, massage therapy, dietary supplements, and acupuncture (Damião, 2017). The main predictors of TCAM use were side effects of or dissatisfaction with conventional therapies, female sex, higher education, use by friends or relatives, long-term progression of disease, and prolonged use of steroids (Cheifetz et al., 2017). The increased interest and use of TCAMs could be attributed to the increased availability of information from different sources especially the internet, besides the public recognition that many factors other than conventional therapies can contribute to health and well-being, and the consideration that TCAM is cheaper and safer than conventional treatments (Ventola, 2010).

Despite the evolving interest and increased utilization, most patients do not discuss their TCAM use with their physician. Lack of physician–patient communication regarding their TCAM use has been considerably reported. Unfortunately, this may result in losing important opportunities to discuss potential interactions between prescription drugs and TCAM therapies (McCuneet al., 2004; Robinson and McGrail, 2004; Chao et al., 2008). Reasons for such patients' nondisclosure include patient perception that physicians lack interest in TCAM, as well as the limited education and training of physicians regarding TCAM (Tasaki et al., 2002; Maha and Shaw, 2007; Sidora-Arcoleoet al., 2008).

It is of marked importance that healthcare providers be able to give patients advice and options for the management of diseases or pain that may involve consideration of TCAM therapies. Also, they need to be able to educate patients regarding the evidence for TCAM safety and efficacy, adverse reactions, and contraindications. To be able to accomplish this, healthcare providers should have a basic knowledge of different treatment options including TCAMs (55Walker et al., 2017).

There is limited research assessing knowledge and attitudes regarding the use of TCAM among Saudi medical professionals. Hence, this study aimed to assess the knowledge, interest, attitude, and usage of TCAM among medical students and faculty staff members at Hail Medical College and evaluate the potential influence of gender and the academic year of students on their attitude towards TCAM.

METHODS

Ethical considerations:

The study design was approved by the Ethics Committee of the University of Hail (UOH) Medical College. An informed consent was obtained from each participant. Confidentiality of the collected data and participants' privacy were assured, and data were used only for research purpose.

Study design:

This study had a cross-sectional design that was used to assess knowledge and interests in traditional and complementary medicine among medical students and faculty members at the UOH Medical College. This study was conducted during March, 2017 in Hail, which is located in the north west of Saudi Arabia, and it has a population around 600,000 inhabitants.

A sample size of 334 participants (both males and females) was recruited from medical students and faculty members at the UOH Medical College. Those who approved to take part in the study were included, but those not achieving inclusion criteria and those with incomplete data were excluded from the study.

Data collection instrument:

A self-administered questionnaire was used for data collection. The questionnaire had two parts. The first part was about personal information of the participants. The second part was about knowledge and attitude of participants regarding TCAM. The questionnaire was distributed to the participants by direct contact with them. Data were confirmed then coded and entered to a personal computer. Thanks and appreciations were used to inspire the participants to be involved in the study.

The total attitude score:

The attitude score was derived from responses to questions 7, 9, 13, 14 15, 16 17, 18, 19, 20, 21, and 22. A higher score indicated more favorable attitude towards TCAM.

Statistical analysis

Data analysis was carried out using SPSS version 22. Categorical variables were summarized as frequencies and percentages and association between variables was tested using Pearson's Chi square or Fisher-Freeman-Halton Exact Tests as appropriate. Total attitude scores were expressed as mean ± standard deviation and either Student's T test or one way analysis of variance (ANOVA) were used to compare between groups. A p-value of < 0.05 was considered statistically significant (Dawson and Trapp, 2001).

RESULTS

In this study, 334 individuals responded to the questionnaire; the majority of them were male and female medical students (n = 135, 166 respectively). Faculty members included 17 male and 16 female participants (Figure 1). Medical students belonged to different academic years, ranging from the second to the seventh year; with no significant difference between the male and female students as regards their grades (Figure 2). The majority of the respondents (88%) had a previous personal experience of TCAM, particularly female students, though no significant difference existed between the categories of participants (Figure 3). Among those who used TCAM, the majority were satisfied with the healing effect of traditional therapies, with no significant difference between the groups of participants (Figure 4). The most commonly used TCAM methods by the respondents included herbs, cupping, and cauterization. Chinese acupuncture was used only by the students (more in males than females) (Figure 5).

Most the participants agreed that modern medicine relied in its early stages on TCAM, yet a significantly higher percentage of female students and staff viewed this effect applied in few cases (p = 0.038). Most respondents described the role played by TCAM in presence of modern medicine as "complementary". Most respondents agreed that TCAM includes ideas and methods from which modern medicine could benefit. More than half the respondents believed that TCAM practitioners are always or sometimes capable to diagnose and/or treat illnesses just like physicians. Most of the respondents agreed that herbal medicine has a positive effect on patients; a higher frequency of male students attributed this effect to availability of medicinal herbs; the most chosen cause by female students was lack of harm; while medical staff chose low cost as the reason of positive effect. The most common reason for lack of positive effect, by those who opposed herbal medicine, was that medicinal herbs are unregulated and unmonitored (Table 1).

As regards the view that "TCAM medicines produce only a placebo effect, not a therapeutic one", most respondents were unsure and stated this to occur sometimes. Most respondents also believed that physicians should warn patients to avoid herbal medications until tested; that it is not ethical for physicians to recommend TCAM therapies; and that TCAM poses a threat to public health (Table 2).

The groups of respondents differed in the reasons they attributed for people to prefer TCAM over modern medicine; more than half the students chose ignorance of people, while most staff members referred this to the less cost. Higher frequencies of male students and staff chose also inability of modern medicine to treat chronic and incurable diseases; while higher percentage of female students and staff considered also the less harm of TCAM therapies and loss of trust in physicians. The reported worst outcome of seeking TCAM therapies was complications of the disease. The majority of respondents agreed that patients prefer Physicians who are knowledgeable of other methods of healing alongside modern medicine. A higher percentage of male students and staff believed that chronic and incurable diseases can be treated by methods other than modern medicine, while a higher percentage of female students opposed this, and female staff's opinion was neutral (Table 3).

Most respondents agreed that physicians should be trained & prepared to answer patient’s questions regarding the safety, efficacy & proper usage of common herbal medications; patients' expectations, health beliefs & values should be integrated into the patient care process; the college of medicine should add a TCAM course; and physicians & researchers should study the TCAM’s remedies & methods to prove/disprove their effects (Table 4).

Comparison of the total score of attitude of the respondents showed a significantly higher score of the staff members than the students (p = 0.043). Males had higher score than females; though statistically non-significant (p = 0.099). As regards the academic year of the students at time of questionnaire, the score showed a relative decrease during the 4th, 5th, and 6th years, then showed an upsurge at the 7th year (Table 5).

DISCUSSION

Traditional, complementary and alternative medicine is still used in many parts of the world, either as an adjunct to modern medicine or substituting it (Singh et al., 2004). Public interest

in TCAM has noticeably increased in the recent two decades (Eisenberg et al., 1998; Barnes et al., 2004; Mak and Faux, 2010). People differ in their attitude towards TCAM therapies, owing to variations in culture , religion, education, age and even gender (Pachter, 1994; Jasti et al., 2003; Kakai et al., 2003; Murguia et al., 2003; Hsiao et al., 2006). The incorporation of TCAM in medical education is implemented in many colleges and its success depends on the attitudes of medical students and staff members. Therefore, this study aimed to assess the knowledge, interest, attitude, and usage of TCAM among medical students and faculty staff members at Hail Medical College, and to evaluate the potential influence of gender and the academic year of students on their attitude towards TCAM.

In this study, we found that most respondents (88%) had a previous personal experience of TCAM; and the majority of TCAM users were satisfied with their healing effects. This prevalence of TCAM users is similar to other studies that report a prevalence of 70 to 80% of black South Africans (Peltzer et al., 2008); 84% of Nigerians (Onyiapat et al., 2011); and 85% of a sample of Riyadh city residents (Elolemy and AlBedah, 2012). However, lower rates of TCAM use were recorded in other studies: 10% to 70% of the USA population (Eisenberg et al., 1993; Eisenberg et al., 1998; Thomas et al., 2001; Barnes et al., 2008); 74% of Canadians (Esmail, 2007); about 60% of Australian general population (Armstrong et al., 2011); 55 to 66 of Ghanaian medical students (Ameade et al., 2016); and 57.6% of Iranian university health care staff (Adib-Hajbaghery and Hoseinian, 2014). Most of these studies - similar to ours - report a high satisfaction level with TCAM.

In the current study, the most commonly used TCAM methods were herbs, followed by cupping, then cauterization. Another study in Saudi Arabia (Riyadh city) mentioned that medical herbs (58.89%), prayer (54%), honey and bee products (54%), cupping (35.71%) and cauterization or medical massage (22%) were the commonly used methods (Elolemy and AlBedah, 2012).This is congruent with other findings of studies in United States(Lie and Boker, 2004), Iran (Adib-Hajbaghery and Hoseinian, 2014), and Ghana (Ameade et al., 2016) that showed herbal medicine to be the most common method. Interestingly, Chinese acupuncture was used only by the students in our study (more in males than females); a finding that the authors were unable to explore it due to the small number of medical college staff participating in the study.

In this study, most the participants showed fair knowledge about TCAM therapies, as regards its relationship with modern conventional medicine. They also displayed a positive attitude towards TCAM therapies and beliefs in their effectiveness. This was evidenced by their agreement about its positive effect on patients; its inclusion of ideas and methods from which modern medicine could benefit; ability of TCAM practitioners to diagnose and treat illnesses just like physicians; the necessity of training physicians to answer patient's questions regarding the safety, efficacy and proper usage of common herbal medications; the importance of integrating patients' expectations, health beliefs & values into the patient care process; and finally the need to add a TCAM course to the curriculum of college of medicine. This positive attitude is also shared by other studies: about 50% of German (Stange et al., 2008) and 75% of American (Zhang et al., 2010) physicians were in favour of some forms of TCAM (which varied according to cultural and regional beliefs) and encouraged its integration within the medical schools curricula. Even for sceptic physicians, they expressed the need of raising awareness of health care professionals about common forms of TCAM used by patients to avoid the emergence of adverse interactions with conventional care (Fugh-Berman, 2000; Hsiao et al., 2003).

There were few differences between the subgroups respondents in this study. As regards the reasons they attributed for people to prefer TCAM over modern medicine, more than half the students chose ignorance of people, while most staff members referred this to the less cost. Interestingly, most studies indicate that TCAM use is more among the highly educated individuals with higher income (Cassidy, 1998; Eisenberg et al., 1998). Educational level was revealed to be the best predictor of TCAM use among the sociodemographic variables (Astin et al., 1998). Higher frequencies of male students and staff chose also inability of modern medicine to treat chronic and incurable diseases; while higher percentage of female students and staff considered also the less harm of TCAM therapies and loss of trust in physicians. These causes altogether are consistent with those reported by other studies (Lee et al., 2004; Al-Faris et al., 2008). The majority of respondents agreed that patients prefer physicians who are knowledgeable of other methods of healing alongside modern medicine; which is attributed to the active engagement of TCAM practitioners with patients resulting in a more holistic health approach (Barnes et al., 2004; Oh et al., 2010). Conventional modern medicine is regarded by many patients - particularly those with chronic diseases - as costly, unavailable, depersonalized and sometimes not completely effective (Barnes et al., 2004).

Analysis of the positive attitude score showed also more differences between the respondents. The staff members had significantly higher positive attitude score than the students. Lie and Boker (2006) reported also that faculty staffs were likely to have more TCAM -positive attitudes compared to interns and students. This may be explained by the far higher clinical experience of staff members that enabled them to appreciate the interest of patients in this form of treatment and the positive effect that may result. This explanation is supported by the fact that TCAM use has increased among medical professionals (Cassidy, 1998; Eisenberg et al., 1998; Boon et al., 2003).

The attitude score of studied medical students showed insignificant decrease over the 4th, 5th, and 6th academic years, then increased again at the 7th year; that may be attributed to the lack of TCAM college education, thus the students regard TCAM methods as doubtful and entirely non-scientific. The score of the 7th year students may have improved after ample clinical training and contact with patients. Lie and Boker (2004) studied a cohort of medical students in 2004 and found a decrease in scores of attitude over time. However, the same authors (Lie and Boker, 2006) conducted another similar study later and found no change in the attitude of students over the study years. An important finding also in this study is that females had lower attitude scores than males; a finding shared also by Chez et al. (2001). A study of medical university staff in Iran elicited similar results as regards slightly higher male enthusiasm or preference for TCAM (Adib-Hajbaghery and Hoseinian, 2014). However, this finding is not consistent with the common observation in other studies in which women were more likely to favour TCAM methods (Greenfield et al., 2006). Meanwhile, Stange et al. (2008) and Zhang et al.(2010) found nearly no gender differences. These controversial reports about the effect of gender on the attitude towards TCAM may be attributed to cultural or ethnic differences between the studied populations as Hsiao et al. (2006) found only female African Americans and whites were more likely to use ethnic- specific TCAM. Moreover, women tend to suffer more than men from chronic diseases, and subsequently to seek health care services or TCAM methods (Wootton and Sparber, 2001).

A higher percentage of male students and staff believed that chronic and incurable diseases can be treated by methods other than modern medicine, while a higher percentage of female students opposed this, and female staff's opinion was neutral. The use of TCAM is common among patients suffering from chronic incurable diseases (Eisenberg et al., 1998; Boon et al., 2003) such as HIV/AIDS (Peltzer et al., 2008) and cancers (Chang et al., 2011; Jazieh et al., 2012).

Despite the positive attitude of most the respondents in this study towards TCAM therapies, they were unsure if that improvement is due to placebo or to actual therapeutic effect. They were also concerned about the safety of herbal medicines and believed that physicians should warn patients to avoid herbal medications until tested; that it is not ethical for physicians to recommend TCAM therapies; and that TCAM poses a threat to public health. This concern is congruent with other studies that raised a number of issues including safety, lack of proof of effectiveness, inadequate knowledge of doctors and absence of regulations for most therapies (Botting and Cook, 2000).

In the present study, most respondents agreed that physicians should be trained & prepared to answer patient's questions regarding the safety, efficacy & proper usage of common herbal medications; patients' expectations, health beliefs & values should be integrated into the patient care process; and medical colleges should add a TCAM course. Similarly, some studies have recommended the implementation of a greater integration of TCAM within conventional medicine, to address patients' needs and preferences (Greiner et al., 2000; Chez et al., 2001; Owen et al., 2001; Oberbaum et al., 2003; Van Haselen et al., 2004; Clement et al., 2005; Greenfield et al., 2006; Lie and Boker, 2006; Chaterji et al., 2007; Maha and Shaw, 2007; Hoellein et al., 2008; Stange et al., 2008; Ameade et al., 2016).

This increasing demand for TCAM has led some medical schools in many countries to incorporate TCAM into their curricula (Fenton and Morris, 2003). It was reported that 85% of Korean and 77% of Canadian schools taught TCAM (Kim et al., 2012). TCAM is often included in the form of elective study modules (Owen et al., 2001). A study that included 90 colleges in Saudi Arabia showed that there is low attention given to TCAM in medical education. None of the health colleges provides specialized TCAM postgraduate education. Only 11 colleges are teaching TCAM courses in their curricula and 15 colleges are teaching TCAM - related topics in different study subjects. Five colleges conducted TCAM related continuing medical education activities (Al-Rukban et al., 2012).

Most respondents in this study also recommended that physicians & researchers should study the TCAM's remedies & methods to prove/disprove their effects. The relatively lower number of researches on TCAM is due to lack of research funding as compared with conventional medicine (Ernst, 1996).

Conclusions: The majority of respondents possessed positive attitude towards TCAM methods and showed interest in it. They recommended the incorporation of TCAM into the curriculum of medical colleges and stressed on its importance in patient care. However, concerns were raised as regards its safety and the probable interactions with conventional modern medicine; necessitating the launch of high quality studies to assure the safety and efficacy of TCAM.

Strengths: This study possessed many points of strength: students from nearly all academic years were included, so as to ensure a full range of students' clinical experience;

as well as medical staff, who favor evidence and use critical thinking. The sample size of the students was adequate.

Limitations: The present study was subject to some limitations. All the participants belonged to one institution; therefore the results cannot be generalized to other regions and institutions. A small number of academic doctors were enrolled. The nationality of the participating staff members was not explored; and ethnic or cultural beliefs may have affected their attitude. Also, non-academic physicians were not included in the studied sample.

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