

RESEARCH ARTICLE

A cross-sectional evaluation of knowledge, attitude, and utilization of complementary and alternative medicine among medical students of North India

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ABSTRACT


Background: Use of complementary and alternative medicine (CAM) is increasing globally and it is much of concern for research nowadays. Although CAM has been practiced in India for thousands of years, there is no literature available on the extent of use, knowledge, attitude, and perception of utilizing CAM services among medical students. **Aims and Objectives:** The aim of the study was to assess the extent of use, knowledge, attitude, and perception of utilizing CAM services among medical students. **Materials and Methods:** It was cross-sectional, observational, and questionnaire-based study, conducted on 387 medical students of 1st, 2nd, and 3rd-years MBBS at the Himalayan Institute of Medical Sciences, Dehradun, India. The data were recorded and analyzed and expressed in number and percentage. **Results:** Of the studied subjects, 95.3% had awareness about CAM while 77.3% of participant's belief on CAM. About 64.9% student believed that CAM has fewer side effects, but 81.1% agreed that it is effective therapy somewhere. Only 19.4% of students used CAM therapy for the chronic problem, but the majority have taken it for acute conditions. The safety (78.6%) is the main reason to use, and Ayurveda (50.4%) and Homeopathy (35.7%) were the two most common CAMs used in the past. The positive attitude of students toward the inclusion of CAM and Yoga in the medical curriculum was 67.7% and 81.4%, respectively. **Conclusions:** This study showed most of the students believed in CAM and used in the past. They agreed with the inclusion of CAM courses in the medical curriculum. Majority of students suggested that more research is required in CAM.

KEY WORDS: Complementary and Alternative Medicine; Yoga; Knowledge and Attitude; Medical Students; India

INTRODUCTION

According to a 2012 national survey in the USA, more than 30% of American adults and about 12% of American

children use health-care approaches that are not typically part of conventional medical care or that may have origins outside of usual Western practice. This is called complementary and alternative medicine (CAM). When describing these approaches, people often use "Alternative" and "Complementary" interchangeably, but the two terms refer to different concepts. If a non-mainstream practice is used together with conventional medicine, it is considered "complementary." If a non-mainstream practice is used in place of conventional medicine, it is considered "alternative."^[1] The prevalence of CAM usage

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varies from 9.8% to 76% worldwide.^[2] It is being increasingly used globally.^[3-5] The reason for global acceptance of CAM has been found which enlighten its convenience, efficacy, safety, tolerability, and affordability, affected by personal, religious, and spiritual beliefs.^[6-8]

As per the world health organization reports, in developing countries, approximately 80% of the world population's faith on traditional medicines mainly of herbal sources, in their primary health care.^[9] As far as, India is concerned >90% of the people depend on it for primary health care.^[10] In India, lot of discovery in the medical field has occurred over thousands of years, through trial and error, exchange and assimilation between diverse cultures. The name of some evolved systems is Ayurveda, Unani, Siddha, Yoga, and Naturopathy. Recognizing their use, the Government of India (GOI) created the department of Indian systems of medicine and homeopathy in 1995 which was renamed as the department of Ayurveda, Yoga and naturopathy, Unani, Siddha, and Homeopathy (AYUSH) in 2003.^[11] India thus gave official recognition to multiple systems of medicine. Despite the existence and recognition of AYUSH by the GOI, there is a lack of understanding and even awareness about them among practitioners of allopathic medicine. Furthermore, CAM is still not a part of the conventional medical curriculum in the majority of medical colleges in India. As a result, the medical graduate may lack awareness about CAM.

Surveys on the use of CAM among doctors have shown variation in physicians' beliefs and practices with respect to CAM.^[12,13] Many doctors have views that CAM therapies as not part of legitimate medical practice. Although many have a positive attitude toward CAM, they discourage CAM therapies among patients because of their lack of knowledge about the safety and efficacy of CAM treatments.^[14,15] Although CAM has been practiced in India for thousands of years, there is no literature available on the extent of use, knowledge, attitude, and perception of utilizing CAM services among medical students. The medical student's perception matters a lot as they would be a future allopathic practitioner and deal with those patients who have a firm believe on CAM.

MATERIALS AND METHODS

The study design was a cross-sectional, observational, and questionnaire-based study, conducted at the Himalayan Institute of Medical Sciences (HIMS), Dehradun. The study participants were 387 medical students of 1st, 2nd, and 3rd years MBBS course. The study was conducted after approval by the Institutional Ethical Committee (IEC) of HIMS, Dehradun. IEC Approval No.-SRHU/HIMS/ETHICS/2015/141 Dated 19/10/2015 and written informed consent was obtained from all subjects in the study. The same data collector was instructed and brief about the questionnaire to all the subjects to maintain uniformity of data collection. The instrument

for data collection was a pre-tested, semi-structured, and validated questionnaire developed by the researchers. The questionnaire was pre-tested in eighteen people and a suitably modified version was finally administered to the willing respondents. The pro forma was divided into four parts. The first part was related to questions pertaining to the perception, knowledge, and attitude toward CAM and its utilization by the study subjects. The second part dealt with questions about Yoga/meditation. The third part was related to questions dealt with both CAM and Yoga/meditation. The fourth part had questions regarding the demographic. In our study, we defined the CAM as all the Indian systems of medicines other than allopathy such as homeopathy, Ayurveda, home remedies, Unani, and Siddha. The Yoga/meditation was separated-out for making easy in filling of the questionnaire by study subject. The data were recorded and analyzed using the Microsoft Excel worksheet (Microsoft office 2010), and the data were expressed in number (n) and percentage (%).

RESULTS

A total of 400 questionnaires were distributed to the medical students, out of which 387 students responded with filled questionnaires making an overall response rate of 76.18%, the 175 (45.2%) were males and 212 (54.8%) were females, and 90 (23.25%) were living in rural areas. Their age ranged from 18 to 22 years (mean = 19.78 ± 1.12) in case of male and 17 to 23 years (mean = 19.52 ± 0.90). All percentages related to demographics are shown in Table 1.

Of the studied subjects, 95.3% had awareness about CAM while 77.3% of participant's belief on CAM. About 64.9% student's belief that CAM has fewer side effects, but 81.1%

Table 1: Distribution of medical students according to demographic variable

Demographic variable	Division	Number of medical students (n=387)	Percent
Sex	Male	175	45.2
	Female	212	54.8
Religion	Hindu	328	84.8
	Muslim	40	10.3
	Christian	18	4.7
	Sikh	01	0.3
Residence	Rural	90	23.25
	Urban	297	76.75
Dietary habit	Vegetarian	182	47.02
	Non-vegetarian	205	52.98
Year of MBBS	1 st year	135	34.88
	2 nd year	134	34.63
	3 rd year	118	30.49

believed that it is effective therapy somewhere. Only 19.4% of students used CAM therapy for the chronic problem, but the majority have taken it for acute conditions [Table 2]. About 95% are in favor that CAM is being used for treating illness compare to promoting or preventing health. The safety is the most important reason for which they used the CAM in the past. The Ayurveda and homeopathy were the most common CAM used in past, as shown in Figure 1, and timing of use of CAM is shown in Figure 2. The family (33.9%), friends and relatives (31%), and news media (27.9%), all these three were the main source of advice for using CAM, as shown in Figure 3.

As far as, Yoga/meditation is concerned knowledge and altitude of the medical students is shown in Table 2. The attitude of percentage “yes” response among medical students for CAM and Yoga is shown in Figure 4.

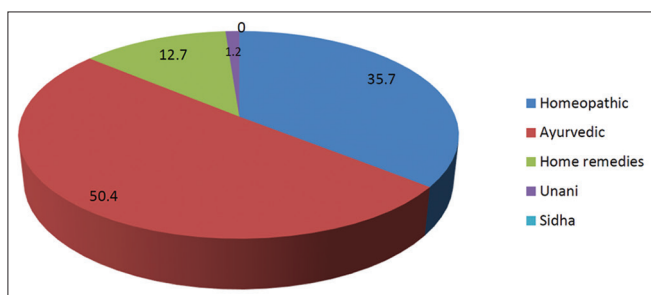


Figure 1: The response of medical students for complementary and alternative medicine which they use frequently (n=387)

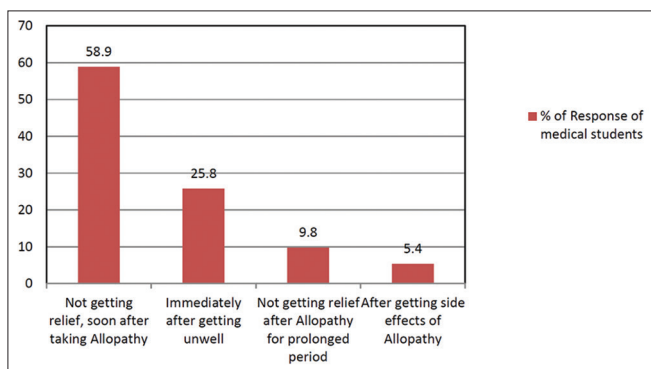


Figure 2: Timing of use of complementary and alternative medicine among medical students (n=387)

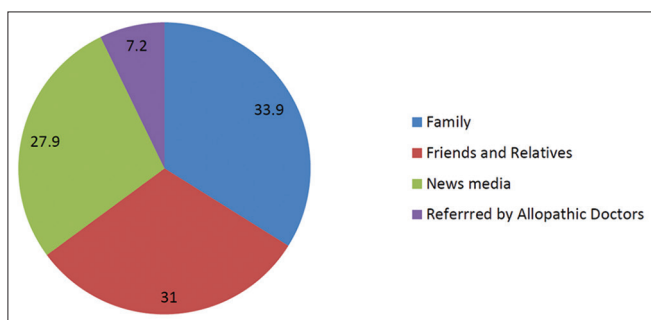


Figure 3: Sources of advice of complementary and alternative medicine among medical students (n=387)

DISCUSSION

It is noteworthy that the health care of the people in the developing world like India is underserved due to population and lack of sufficient resources; we believe that CAM has produced much greater implications than anticipated. It is pertinent to conduct such a study in India as it might change the way of thinking within the medical fraternity about CAM. It also might provide an insight into the Indian medical students’ perspective about CAM to the medical curriculum developers that may impact or provide lucrative modification in the curriculum in the future.

Many studies have been done to know the knowledge, attitude and usage of AYUSH and CAM among the general population, allopathic doctors, faculty members of a tertiary care institute/medical college, nurses, pharmacy students, and other health-care personnel. To the best of our knowledge, no study has been done among Indian medical students regarding CAM. This study is very much significant to understand the knowledge, attitude and usage of CAM by Indian medical students and it might be impactful by two manners; first, the GOI is planning to start a bridge course for doctors of AYUSH to enable them to practice allopathic and second, medical council of India has planned for introduction of new medical curriculum from August 2019.^[16] During the implementation phase of the new curriculum, multiple feedbacks to various stakeholders will be required to make modification in the curriculum and regarding this, this study may produce ignition for the inclusion of CAM and Yoga in the medical curriculum.

In our study, a total of 387 medical students participated and the response rate was 76.18%. This response rate is somewhat higher than the study conducted in Malaysia (64%)^[17] and lower than the other study from Pakistan (90%).^[18] There was a high inclination of the students toward the use of CAM in our study (78.3%), but it was somewhere lower than values observed in countries such as USA (>80%) and Singapore (85.0%).^[19-21]

The studies have shown that knowledge on CAM modalities differs among countries. Whereas in Singapore and Pakistan, acupuncture is the best known CAM, American students consider massage, herbal medicine, and meditation as their best known CAMs.^[19,22,23] The best-known CAM in this study was Ayurveda and homeopathy; 50.4% and 35.7%, respectively. The reason may be due to the popularity and existence of Ayurveda in India since about 4000 BC. The homeopathy is a German origin but widely practiced in India. These systems also take into consideration the psychological, ethical, religious, geographical, philosophical, and spiritual well-being of a person. Jaiswal *et al.* 2015 showed that Ayurveda 71.73%, followed by homeopathy 30.43% was the most common CAM used among the general population which supports the present study^[24] as medical students also

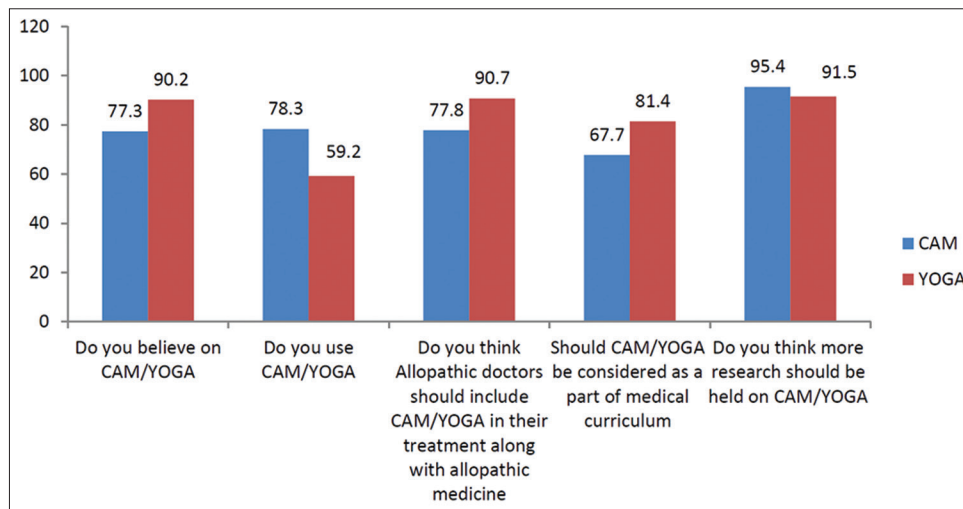


Figure 4: The attitude of percentage “yes” response among medical students for complementary and alternative medicine and Yoga (*n*=387)

Table 2: Knowledge, attitude and utilization of CAM and YOGA/Meditation among medical students

Questions	Response <i>n</i> (%)
Part-A: KAP questions related to CAM	
Are you aware of CAM?	Yes 396 (95.3) No 18 (4.7)
Do you believe on these CAM?	Yes 299 (77.3) No 88 (22.7)
Do you believe that this CAM has fewer side effects than allopathic medicines	Yes 251 (64.9) No 38 (9.8) No idea 97 (25.1)
Do you believe that this CAM is effective somewhere?	Yes 314 (81.1) No 22 (5.7) No idea 51 (13.2)
Do you use/used home remedies/herbal for acute medical problems like (Sore throat/Cough/Cold/acidity/Vomiting/abdominal pain/Fever etc.)	Yes 303 (78.3) No 84 (21.7)
Do you use/used alternative therapy for chronic medical problems like (Diabetes/Arthritis/asthma/hypertension/obesity/allergy etc.)	Yes 75 (19.4) No 312 (80.6)
Reason for use CAM?	Preventing illness 60 (15.5) Treating illness 272 (70.3) Promoting health 55 (14.2) More effective 34 (8.8) Less costly 30 (7.8) Safer 304 (78.6) Easily available 19 (4.9)
Why do you use CAM	
Are you aware of the fact that the majority of US medical schools are offering alternative medicines courses as part of their curriculum?	Yes 170 (43.9) No 217 (56.1)
Part-B: KAP questions related to Yoga	
Do you believe on Yoga/meditation	Yes 349 (90.2) No 38 (9.8)
Do you use Yoga/meditation for promoting health	Yes 229 (59.2) No 158 (40.8)
Did you feel any improvement after Yoga/meditation	Yes 324 (83.7) No 63 (16.3)

CAM: Complementary and alternative medicine, KAP: Knowledge, attitude, and practice

represent the general population in early years of their course. The Unani (1.3%) was the least known CAM modality in the present study that was used by only Muslim medical students.

A greater proportion of the students in this study (95.5%) stated that they aware of CAM but less number of participants (77.3%) believe. This result is comparable to those from Ireland, Turkey, and Pakistan.^[19,20,25] The knowledge and usage of CAM among medical students in the USA were; however, better than students in this study possibly due to the integration of CAM into their medical curriculum.^[21,26]

In our study, the main source of the advice for CAM was from friends ND relatives (41.3%) and family members (39.3%) confirm the assumption that Indian students are more affected with family and friends in terms of physical, spiritual, and emotional needs. It is supported by many studies and other factors such as the environment, personal interest, religious beliefs, and cultural background also influence a person's knowledge and attitude toward the use of CAM.^[20,23,27-29]

Our study clearly indicates the positive attitude of students toward the inclusion of CAM and Yoga/meditation in the medical curriculum, i.e., 67.7% and 81.4%, respectively. The same result also found in other studies conducted at different places worldwide. A majority of the students intended to incorporate CAM in their future medical practice, provided they had adequate training in its use. The high degree of receptivity for CAM suggests the need for both faculty training and curriculum development in this field.^[30-32] One study showed that medical doctors, even if they are not CAM practitioners themselves and have negative attitudes toward CAM, will from time to time feel the need to be able to provide guidance for their patients and be familiar with CAM methods at least at a minimal level for drug interactions and treatment effects.^[33] Despite increasing interest in CAM, many faculties of medicine do not provide structured CAM training, and those that do provide it has very different teaching goals and content.^[33-36] It must be noteworthy that it would not be easy to include all CAM applications into the curriculum and fit them into the medical course.

The limitation of the present study was lack of heterogeneous sample size; which limits the representativeness of our results. Furthermore, 4th and final years, medical students were not included due to the feasibility issue. Hence, more studies are needed to assess the absolute prevalence of CAM use in the medical students and more outcomes needed for the betterment of health care of India.

The present study focuses on the future perspective of CAM curriculum based on knowledge, skill, and attitude acquisition of medical students, evidence-based research on different CAM modalities and stepwise implementation in the new medical curriculum.

CONCLUSIONS

This study showed most of the students believed on CAM and used in the past. They agreed with the inclusion of CAM courses in the medical curriculum. Majority of students suggested that more research is required in CAM.

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