CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.1494122

Available online at: http://www.iajps.com Research Article

THE KNOWLEDGE AND BELIEFS OF MEDICAL STUDENTS AND DOCTORS ON COMPLEMENTARY AND ALTERNATIVE MEDICINE, AND TO IDENTIFY THE CURRENT PRACTICE OF CAM

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Abstract:

Introduction: *Over a period of the last few decades, a significant worldwide interest has been seen in Complementary and Alternative Medicine (CAM). Many countries have been practicing CAM for centuries, even including those where the mainstream health care facility available is biomedicine.(1) CAM plays an important role in terms of health promotion, prevention and cure which is also advocated by World Health Organization (WHO).*

Objectives: *To assess the knowledge and beliefs of medical students and doctors towards Complementary and Alternative Medicine (CAM) and to identify the current practice of CAM among the medical students and doctors.*

Methodology: *This study was conducted in the setting of Fatima Memorial Hospital and FMH College of Medicine and Dentistry, Lahore in a time duration of 6 months. The type of Study used was Descriptive; Cross Sectional Study with Probability; Stratified Random Sampling, sample size was 748 among which minimal calculated size for doctors was 373 whereas minimal calculated size for medical students was 375. The medical students were selected from all the five professional years and the doctors were selected from all the departments of the medical college and hospital. Self-administered questionnaire was provided to the participants, consent was taken and the confidentiality of the data was ensured. Approval from the IRB of Fatima Memorial System was taken.*

Results: *In this study, a total of 748 participants were enrolled out of which there were 373 (49.9%) doctors and 375 (50.1%) students of the private medical college and affiliated tertiary care hospital of Lahore. The mean age of the participants was 26.21 ± 7.33 S.D. There were 177 (47.5%) male and 196 (52.5%) female doctors who participated in the study, whereas among the students there were 143 (38.1%) male and 232 (61.9%) female. In terms of awareness, 61.7% Doctors and 44% Students were aware of the term CAM (p value 0.000).*

Conclusion: *On the basis of the findings of the current study, it is concluded that, doctors were more aware about CAM than the students. Media was the most common source of information and homeopathy was the most commonly known and used therapy among them. CAM was opted mainly due to no or less side effects, usage was need based and mostly for specific disease. Only a few participants experienced side effects. Majority of doctors and students recommended CAM to their patients and other people and were of the opinion that doctors should study and be an expert in alternative medicine, whereas only half of the participants thought that CAM should be an integral part of the medical curriculum. As there is little evidence about the beneficial effect of CAM and that the doctors and students are not formally trained, so it cannot justify the use of CAM as an alternative or additional treatment especially while recommending it to other people and patients and concrete strategies are needed to integrate CAM as a part of the curriculum and training.*

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Please cite this article in press Maha Aftab et al., ***The Knowledge and Beliefs of Medical Students and Doctors on Complementary and Alternative Medicine, And To Identify the Current Practice of Cam.,*** *Indo Am. J. P. Sci, 2018; 05(11).*

INTRODUCTION

Over a period of the last few decades, a significant worldwide interest has been seen in Complementary and Alternative Medicine (CAM). Many countries have been practicing CAM for centuries, even including those where the mainstream health care facility available is biomedicine.(1) CAM plays an important role in terms of health promotion, prevention and cure which is also advocated by World Health Organization (WHO). This is of special concern in developing countries where plan and policies are encouraged for incorporation of CAM in health system.(2) The National Centre for Complementary and Alternative Medicine (NCCAM) defines CAM as, "a group of diverse medical and health care systems, practices, and products that are not presently considered to be a part of conventional medicine.''(3)

The different types of CAM being practiced in developed as well as developing countries are: the whole body systems (e.g. traditional chinese medicine, homeopathy, unani tibb and ayurveda); mind–body medicine (i.e. prayer, meditation and mental healing); biologically based therapies (e.g. natural substances are used as herbs, herbal products, foods, dietary supplements and vitamins); manipulative and body-based practices (e.g. massage); and energy medicine (i.e. reiki). In Pakistan, homeopathy and tibb-e-unani are more in use.(2) The noticeable factors for utilization of CAM are physical, political, socioeconomic and cultural beliefs.

In the United States, use of CAM increased from 34% to 42% in last decade before the turn of the century, and thus has been increasing since then. Western studies show that 42% Americans, 52% Australians and between 20% and 65% of Europeans, use some form of CAM.(1) In a study conducted in a medical college in Karachi, Pakistan, 79.8% students had some awareness about CAM, whereas on the other hand the use of CAM among them was only 37.9%. Most of the students had the perception that that CAM and the conventional medicine should be used together.(10) In Rawalpindi and Islamabad, Pakistan, self-knowledge about CAM among general practitioners (GPs) and medical students was less than 71% and self-use and referring CAM to patients was less than 45%. From the previous studies, conducted elsewhere, it appears that in Pakistan, level of awareness and knowledge about factors which influences CAM, might be completely different from those in the West. Therefore, it is vital to assess the opinion of medical students and doctors regarding CAM in our country. Thus, this study was conducted in order to assess the knowledge, use and perceptions about CAM among medical students and doctors of a medical college and its' affiliated hospital.

OBJECTIVES

To assess the knowledge and beliefs of medical students and doctors towards Complementary and Alternative Medicine (CAM) and to identify the current practice of CAM among the medical students and doctors.

METHODOLOGY:

This study was conducted in the setting of Fatima Memorial Hospital and FMH College of Medicine and Dentistry, Lahore in a time duration of 6 months. The type of Study used was Descriptive; Cross Sectional Study with Probability; Stratified Random Sampling, **s**ample size was 748 among which minimal calculated size for doctors was 373 whereas minimal calculated size for medical students was 375. The medical students were selected from all the five professional years and the doctors were selected from all the departments of the medical college and hospital. Self-administered questionnaire was provided to the participants, consent was taken and the confidentiality of the data was ensured. Approval from the IRB of Fatima Memorial System was taken.

RESULTS:

In this study, a total of 748 participants were enrolled out of which there were 373 (49.9%) doctors and 375 (50.1%) students of the private medical college and affiliated tertiary care hospital of Lahore. The mean age of the participants was 26.21 ± 7.33 S.D. There were 177 (47.5%) male and 196 (52.5%) female doctors who participated in the study, whereas among the students there were 143 (38.1%) male and 232 (61.9%) female. In terms of awareness, 61.7% Doctors and 44% Students were aware of the term CAM **(p value 0.000).** 'Media' was the most common source of information among both doctors (52.2%) and students (58.8%) with the second most common source being 'relatives' in doctors (43%) and students (50.3%). The least common source of information was 'practical experience' among doctors (30.4%) and 'professional colleagues' among students (13.3% **p value 0.000).**

Among the types of CAM, most of the doctors were aware of homeopathy (69.6%), home remedies (61.3%), acupuncture (57%), and dietary supplements (52.2%) while the students were mostly aware of homeopathy (75.8%), home remedies (73.3% **p value 0.013**), yoga (65.5% **p value 0.000**), acupuncture (63.6%), meditation / prayer (61.2% **p value 0.002**), massage therapy (61.2% **p value 0.009**) and dietary supplements (60%).Significant p value

was observed for "spiritual healing" among students **(p value 0.001).** Doctors were less aware about colour therapy (20%), astrology (18.3%), reiki (17.8%), reflexology (16.5%) with least awareness about chiropractic (14.8%), whereas, students had less awareness about ayurveda (18.8%), chiropractic (14.5%), colour therapy (13.3%), reiki (13.3%) and reflexology (10.3%).

In this study, 47.4% Doctors and 64.2% Students experienced/used CAM **(p value 0.001).** The most common type of CAM used among doctors was homeopathy (47.7%) followed by home remedies (45%) and dietary supplements (45%) whereas among students commonly used CAM was homeopathy (51.9%) and meditation / prayer (51.9% **p value 0.017**) and next common ones being home remedies (50.9%) and dietary supplements (49.1%).Significant p value was observed for astrology **(p value 0.046)** among doctors and for Yoga **(p value 0.036)** among students. CAM which was being used the least among doctors was hijama / cupping (2.8%) and chiropractic (1.8%) respectively. CAM least used among students were ayurveda (0.9%) and hijama / cupping (0.9%) whereas no student (0%) was using astrology. The doctors mostly opted CAM because of no or less side effects (51.4%) followed by other reasons which included easy usage (42.2%) and easy availability (41.3%), and among students the most common reasons for using CAM were easy availability (49.1%), no or less side effects (48.1%) and easy usage (44.3%). Significant **p value (0.002)** was observed among Doctors suggesting CAM to be "More beneficial than allopathic medicine" and among students "Lack of interest or trust of allopathic doctors" showed significant **p value (0.040).**

Table 5: Duration of CAM usage

Duration of CAM usage	Doctors		Students	
	n	%	n	%
Less than a year	32	29.4	41	38.7
1 – 5 years	42	38.5	35	33.0
6 – 10 years	12	11.0	14	13.2
11 – 15 years	6	5.5	3	2.8
16 – 20 years	3	2.8	4	3.8
21 – 25 years	1	0.9	3	2.8
More than 25 years	13	11.9	6	5.7
Total	109	100	106	100

Most of the doctors i.e. 38.5% have been using CAM for 1 – 5 years while 38.7% students were using CAM since less than a year.

The frequency of CAM usage was mostly (84%) "need based". *For every problem,* 48.6% doctors and only 35.8% students used CAM, while others were using it for specific diseases. *The specific diseases* for which doctors were using CAM included allergy, backache, gastrointestinal problems, general health, joint pain, menstrual problems, migraine, nutritional needs, renal diseases, respiratory problems, skin diseases, stress and viral infections. Students were using CAM specifically for allergy, anxiety and depression, backache, dietary insufficiency, fever, gastrointestinal problems, general pain, headache, obesity, polycystic ovaries, respiratory problems and skin diseases.

Frequency of CAM usage as compared to allopathic medicine was less but the percentage of using CAM and allopathic medicine together was 67.9% in Doctors and 56.6% in students. 15.6% Doctors and 14.2% Students were reported to have experienced the side effects by CAM usage. Among which the most common side effect experienced by doctors was allergy (52.9%) followed by headache (41.2%), obesity (29.4% **p value 0.022**) and acne (17.6%) while students mostly experienced headache (66.7%) followed by allergy (33.3%) and acne (26.7%). 70.6% Doctors AND 68.9% Students recommended CAM to other people/patients. 53.9% Doctors and 47.9% Students believed that alternative medicine is tried, tested and safe. 48.3% doctors and 46.7% students had the opinion that CAM was popular due to 'trend' whereas only 31.3% doctors and 40% students thought that the popularity was due to 'pure beneficial effects'. Other reasons for popularity included apathy of medical care providers, illiteracy and publicity of CAM. 63% Doctors and 73.6% Students had the view that doctors should study and be expert in alternative medicine **(p value 0.002)**. Also, Majority of doctors (54.4%) and

students (56.5%) were of the opinion that CAM should be an integral part of the medical curriculum.

DISCUSSION:

People have been consulting traditional healers for ages and they will keep on doing so for various reasons. Keeping in mind the already over-burdened health systems of the developing world, we believe that Complementary and Alternative Medicine (CAM) carries much greater implications than anticipated. In this study 61.7% doctors and 44% medical students were aware of the term CAM, whereas according to two different studies conducted in Karachi, Pakistan, 92.8% doctors(12) and 79.8% students(10) were aware of the term respectively which indicates a higher rate of awareness as compared to our study. The study among German doctors and students showed that 73.8% and 40% respectively were aware of CAM but not knew much about it.(13) Similar result was seen in a study among students in Singapore.(8). In our study media was listed by doctors (52.2%) and medical students (58.8%) as the most common source of information about CAM and the least common source was by professional colleagues among doctors (31.7%) and medical students (13.3%). The results were same in a study listing media as the common source of information among students and doctors.(10,12,14) In other studies conducted, contrary results were seen with friends or relatives (98.8%)(15) and practical experience (68%) to be the most common source of information for students and doctors.(13). Among the types of CAM, most of the students were aware of Homeopathy (75.8%), home remedies (73.3%), yoga (65.5%), acupuncture (63.6%), meditation/prayer (61.2%), massage therapy (61.2%) and dietary supplements (60%) while doctors were aware of Homeopathy (69.6%), home remedies (61.3%), acupuncture (57%) and dietary supplements (52.2%). In different studies conducted the best known therapy among students and doctors was acupuncture, followed by herbal medicine, hikmat, hypnosis, spiritual healing and yoga.(8,10,13,16).

Our study showed that 47.4% doctors and 64.2% medical students had experience of using CAM. Among the doctors the most common CAM types used was homeopathy (47.7%), home remedies (45%) and dietary supplements (45%) whereas among students commonly used CAM were homeopathy (51.9%), meditation/prayer (51.9%), home remedies (50.9%) and dietary supplements (49.1%). In a study, spiritual healing, massage (75.2%), meditation (70.2%), hikmat (64.1%), homeopathy (64.1%), and acupuncture (63.1%) was used by students and found it to be useful(10) whereas, among doctors homeopathy (51.7%) and herbal medicine (46.7%) were the most commonly used CAM.(9,12) Another study conducted in California, USA, showed the massage therapy to be the most common modality followed by spirituality and herbals.(14). The doctors opted CAM because of no or less side effects (51.4%), easy to use (42.2%) and easily available (41.3%) while the students also used CAM for the same reasons, i.e. easily available (49.1%), no or less side effects (48.1%) and easy to use (44.3%). In contrast, according to a study, 60.2% students gave reason for using CAM because they did not want to take medications such as antibiotics.(14) In two other studies conducted it was noticed that 67% doctors and 73.3% students used CAM as they perceived it to be having a beneficial role than the conventional medicine, respectively.(9,10)

In our study, duration of CAM use showed that most of the doctors (38.5%) have been using it for 1-5 years while most of the students (38.7%) have been using CAM for less than a year. Frequency of using CAM was need based among doctors (83.4%) and medical students (84%) in our study as compared to 62.5% general practitioners (GPs') in Italy who practiced CAM occasionally(17) and 37.9% students who had used it at some point in time.(10)

CAM was used by 48.6% doctors and 35.8% students for every problem while rest of them used it for specific problems. The indications for using CAM were different with doctors and medical students. The most common indication among doctors were allergy, gastrointestinal problems, joint pain, menstrual problems, migraine, nutritional needs, respiratory problems, skin diseases, stress while in students use was specifically for allergy, anxiety and depression, backache, dietary insufficiency, fever, gastrointestinal problems, headache, obesity, polycystic ovaries, respiratory problems and skin diseases. According to a study conducted in 2014 in India indications for CAM usage among doctors were similar to ours which were low back ache (32%), arthritis (27%), bronchial asthma (21%), common cold (18%), baldness (16%) and other ailments (5%).(9). CAM was used together with allopathic medicine by 67.9% doctors and 56.6% students. These results are much similar to other two studies where 60% of the doctors and 76.3% students preferred to use CAM along with allopathic medicine.(9,10)

When the frequency of CAM was compared with use of allopathic medicine, 62.4% doctors and 68.9% students preferred the use of allopathic medicine more than CAM. Side effects with CAM were

experienced by 15.6% doctors and 14.2% students which included allergy (52.9%), headache (41.2%), obesity (29.4%) and acne (17.6%) among doctors while in students it was headache (66.7%), allergy (33.3%) and acne (26.7%). Apart from self-usage, 70.6% doctors and 68.9% students recommended CAM to patients and other people. According to a study, 25% doctors referred their patients to use CAM(12) while in contrast in another study, more than 33% of physicians did not advise their patients to take CAM therapy.(16). It was seen that 53.9% were of the view that CAM was tried tested and safe while on the contrary, 52.1% students had the opinion that CAM was not tried tested and safe. CAM is getting popular among 48.3% doctors and 46.7% students for being trendy, while other reasons for popularity included pure beneficial effects, fashion, apathy of medical care providers, illiteracy and publicity.

Regarding the fact that doctors should study and be an expert in alternative medicine, 63% doctors and 73.6% students gave a positive view whereas 54.4% doctors and 56.5% students thought that CAM should be an integral part of the medical curriculum. Similar results were seen where students believed that CAM should be incorporated in medical studies(7) and 86% students said that it some exposure should be introduced for students and doctors in syllabus(8) whereas at AKU, Karachi, 51.5% students' vote was in the favor of this incorporation.(10) Similarly, medical students recommended CAM to be part of their syllabus due to beneficial effects in many areas of medicine(13) whereas, academic doctors in UK and Hong Kong, had the consensus that there is a need to add CAM in curriculum of medical undergraduates.(18,19) On the contrary, results of a study showed that most physicians did not approve CAM to be included in the training of doctors or in the medical curriculum.(16).

CONCLUSION:

On the basis of the findings of the current study, it is concluded that, doctors were more aware about CAM than the students. Media was the most common source of information and homeopathy was the most commonly known and used therapy among them. CAM was opted mainly due to no or less side effects, usage was need based and mostly for specific disease. Only a few participants experienced side effects. Majority of doctors and students recommended CAM to their patients and other people and were of the opinion that doctors should study and be an expert in alternative medicine, whereas only half of the participants thought that CAM should be an integral part of the medical curriculum. As there is little evidence about the beneficial effect of CAM and that the doctors and students are not formally trained, so it cannot justify the use of CAM as an alternative or additional treatment especially while recommending it to other people and patients and concrete strategies are needed to integrate CAM as a part of the curriculum and training.

LIMITATIONS

The limitation of the study was that it was conducted at only one private medical college and affiliated hospital, so the obtained results may not be generalized to all the medical students and doctors of the country and thus further research can be conducted including other institutions as well.

RECOMMENDATIONS

Following are the suggested recommendations after conduction of this research work:

- As popularity of CAM usage is increasing, further studies might give more insight about its' use with the allopathic medicine which might prove useful in treatment of different diseases.
- To increase the knowledge of CAM, as a small part of syllabus, it may be incorporated into the medical curriculum for the students.
- Adequate training to doctors can be given regarding CAM, especially those working at primary level of healthcare.
- Policies can be developed, regarding CAM knowledge and uses, which in turn may prove beneficial in areas where beliefs strongly influence the population.

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