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## RESEARCH ARTICLE

# Knowledge, attitude and practice of complementary and alternative medicine among medical students in Al-Imam Muhammed Ibn Saud University, Riyadh, Saudi Arabia.

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## Abstract

**Introduction:** The healthcare which practiced outside healthcare system is defined as complementary and alternative medicine (CAM). The aim of the present study is to know the knowledge, attitudes, and practice of CAM among medical student at Al-Imam Muhammed University, Riyadh, Saudi Arabia.

**Method:** In this cross-sectional study, multi-items questionnaire were distributed among all years of college of medicine (from Preparatory year to fifth year) which consisted of 25 questions. Students before the third year was not yet study CAM course in the collage (not exposed), while the students from the third year and above have taken CAM subject (exposed). In this study we focused on the general knowledge (7 questions), attitude (14 questions), and general practices of CAM (4 questions). The data were analysed using the Statistical Package for Social Sciences (SPSS) software.

**Results:** Total of 257 students completed the questionnaire. 161 subjects have not exposed to CAM course in the college where 95 subjects were exposed. Most of participants 86.7% had previous knowledge about CAM in despite of CAM course. In exposed group, CAM course represented 75.8% of the source of knowledge followed by family or friends 69.5%, and then internet 45.3%. On the other hand, in non-exposed group the Internet represented 44.1%, followed by Family or Friends 41%, and then Advertisements 15.5%. Students' attitude toward CAM: it is not due to placebo effect 62.5%, should be taught in the medical colleges 61.8% and Workers in the field must be scientifically qualified 88.3%.

The most common practices of CAM in the exposed group are Ruqia, Honey and bee products Herbs, Hijama, Massage (88.4%, 70.5%, 64.2%, 50.5%, and 22.1%, respectively). In contrast, the most common practices in non-exposed group are Ruqia, Herbs, Honey & Bee products, Hijama, Massage (78.3%, 54.7%, 54%, and 13%, respectively). Eventually, 40% of exposed group and 33.5% of non-exposed group have used CAM practices as a treatment of their diseases.

**Conclusion:** Previous knowledge is noted in most of the included participants regardless of CAM course exposure. The attitude is generally positive. Ruqia was the most common practices of CAM in the exposed and non-exposed group.

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## Introduction:-

National Center for Complementary and Alternative Medicine (NCCAM) defines conventional medicine as “medicine as practiced by holders of M.D. (doctor of medicine, or allopathic medicine) or D.O. (doctor of osteopathy) degrees and by their allied health professionals such as physical therapists, psychologists, and registered nurses.”<sup>[1]</sup> According to WHO, “The terms “complementary medicine” or “alternative medicine” are used interchangeably with traditional medicine in some countries. They refer to a broad set of health care practices that are not part of that country's own tradition and are not integrated into the dominant health care system”.<sup>[2]</sup> It comprises a diverse set of healing philosophies, therapies, and products.<sup>[3]</sup> It also can be defined as “a group of diverse medical and health care systems, practices and products that are not presently considered to be part of conventional Western medicine”.<sup>[1]</sup> As an example, where complementary and alternative medicine is defined to include “all practices that do not systematically taught in the faculties of Medical Sciences”, and this of course does not apply to States that have introduced complementary and alternative medicine in the curriculum of medical colleges.<sup>[4]</sup>

CAM represents “a major and growing proportion of health care as a whole,” with estimates suggesting that at least a third of consumer demand for healthcare services is directed at CAM.<sup>[5]</sup>

According to the results of a survey of national health information in the United States, the national survey of health information in the United States showed that 36% of adults use complementary and alternative medicine, and of this percentage 62% if the religious supplications considered part of complementary and alternative medicine.<sup>[6]</sup> In the year (2007) there were four out of every ten people have used complementary and alternative medicine in during the preceding twelve months.<sup>[7]</sup>

In Islamic countries especially Saudi Arabia religious therapies accounts a major share in CAM in the form of Quran (Ruqia), honey healing and cauterization.<sup>[8]</sup>

In 2007 a study on fourth and fifth-year pharmacy students in Saudi Arabia was conducted revealing that 52% percent has used CAM, and among who did not use CAM 38% said response to CAM is due to placebo effect.<sup>[8]</sup>

In 2007 a study conducted on a school of nursing and a faculty of medicine in Turkey revealed in term of attitude to CAM that 57.8% of nursing students and 32.6% of medical student agreed that CAM practices should be included in clinical care. In term of knowledge of CAM modalities the nursing students had sufficient knowledge of mostly massage 56% and imagery 54%; and medical students had sufficient knowledge of mostly diet therapy 40%, vitamins 35% and prayer 33%.<sup>[9]</sup>

A study in Georgetown University School of Medicine (GUSOM), Washington, DC conducted on first and second year medical students both male and female. Showed that 80% of male and 94.8% has agreed clinical care should integrate the best of conventional and CAM practices, and 85.4% male and 97% female agreed CAM includes ideas and methods from which conventional medicine could benefit. In terms of Barriers to Use of CAM in Western Medical Settings both male 85.2% and female 90% agreed lack of evidence for practices is a major obstacle.<sup>[10]</sup>

In spite of this widespread use of Complementary and Alternative Medicine, studies have indicated that the health care providers, even in developed countries lack the knowledge and ability to answer questions from patients who are looking to use it. In fact, most of whom did not know that his patients are using complementary and alternative medicine.<sup>[5]</sup>

## Methods:-

This is a cross-sectional study carried out at Medical College of AL-Imam Muhammad Bin Saud University. Self-completed online questionnaire was conducted among medical students also; the questionnaire was distributed as hardcopies due to the facts that the study was performed during break times; the students are usually busy during this time; and completing the questionnaire takes a long time. The questionnaire was distributed among all years of the college (from Preparatory to fifth year). Students before the third year was not yet study CAM course in the collage (not exposed), while the students from the third year and above have taken CAM subject (exposed). The students were informed that their participation in the study was anonymous and was voluntary. A 25-item questionnaire was formulated based on literature available. In this study we focused on the general knowledge (7

questions), attitude (14 questions), and general practices of CAM (4 questions). Eight therapies mentioned in the questionnaire are fair representations of what are the currently used CAMmodalities in Saudi community. Our sample was about 263 students.

7 questionnaires were excluded due to incompleteness. Thus, 256 students composed the study's final sample. The development of the questionnaire was based on the Literature review of similar publications published earlier in the scientific publications.

The data were analyzed using SPSS 23.0, we used the Likert scale to evaluate the degree of agreement of students to questions related to the attitude.

### **Results:-**

Out of 263 samples, 7 incomplete questionnaires were excluded. Therefore, 256 subjects completed the survey. 161 subjects have not exposed to Complementary and Alternative (CAM) course in the college where 95 subjects. Most of participants 86.7% had previous knowledge about CAM (*Table 1*).

In exposed group, university represented 75.8% of the source of knowledge on CAM followed by family or friends 69.5%, and then internet 45.3%. On the other hand, in non-exposed group Internet represented 44.1%, followed by Family or Friends 41%, and then Advertisements 15.5% [*Figure 1*].

The most common practices of CAM in the exposed group are Ruqia 88.4%, Honey and bee products 70.5% Herbs 64.2%, Hijama 50.5%, Massage 22.1%. In contrast, the most common practices in non-exposed group are Ruqia 78.3%, Herbs 54.7% , Honey & Bee products 54% Hijama 54% , Massage 13% ( $p=0.011$ ) (*Figure 2*).

According to the students' answers of attitude questions as mentioned in (*table2*), we found the following: The effects of CAM are not due to placebo effect (62.5%). CAM should be taught in the health colleges (61.8%). Workers in the field of CAM must be scientifically qualified (88.3%). Medical students generally know little about CAM (73.9%). Doctors must integrate CAM along with modern medicine (67.2%).

39% of non-exposed group have never used CAM practices previously, in contrast, 16% of exposed group have never used CAM practices previously.

40% of exposed group and 33.5% of non-exposed group have used CAM practices as a treatment for their diseases. Regarding the usage of CAM among the students, we found that 4.3% are always using CAM while 14.8% often, 50% sometimes and 30.9% never used it before. 35.9% have used CAM practices as a treatment for their diseases, while 64.1% are not. 15.6% of the students have the intention to study CAM in future while 52.7% are not and 31.6% didn't decide yet whether to study it or not.

Table (1): previous knowledge of studied subjects about CAM according to academic year.

Do you have previous knowledge about Complementary and Alternative Medicine?		Academic Year						Total
		Preparatory year	First year	Second year	Third year	Fourth year	Fifth year	
Yes	N	61	37	19	45	36	24	222
	%	27.5	16.7	8.5	20.3	16.2	10.8	100
No	N	13	6	12	2	0	1	34
	%	38.235	17.647	35.3	5.9	0	2.941	100
Total	N	74	43	31	47	36	25	256
	%	28.9%	16.8%	12.1%	18.4%	14.1%	9.8%	100.0%

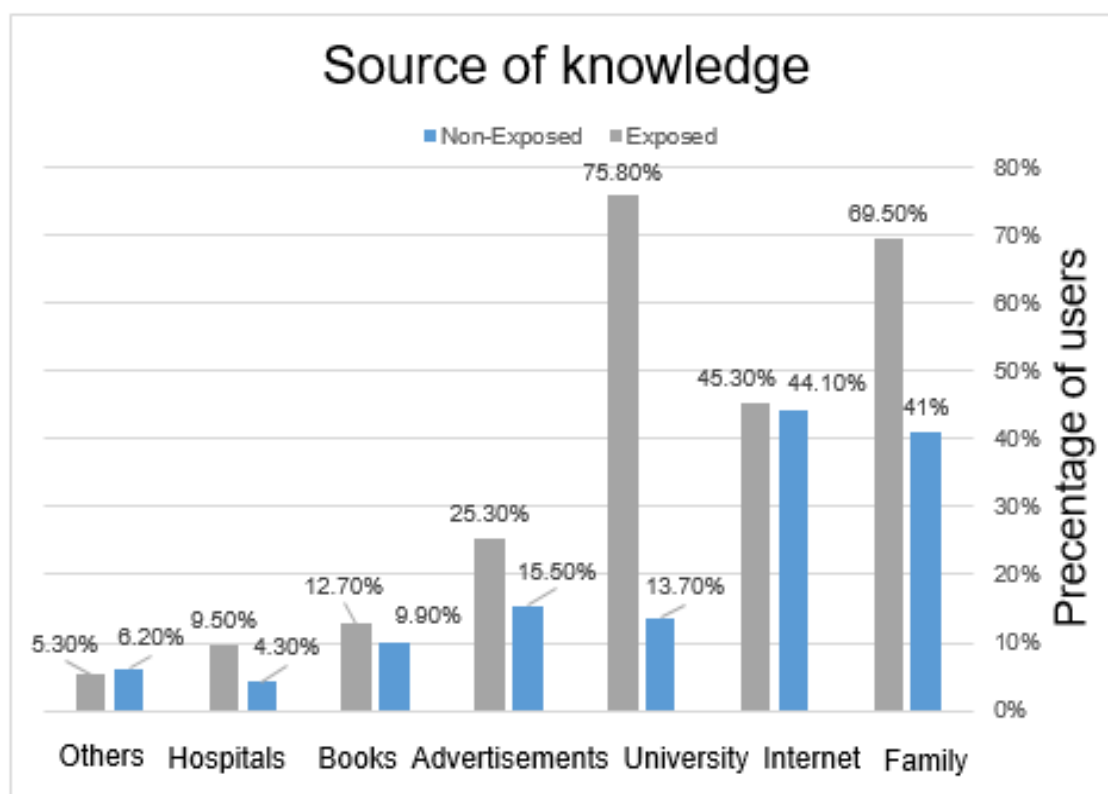


Figure (1) sources of knowledge about CAM.

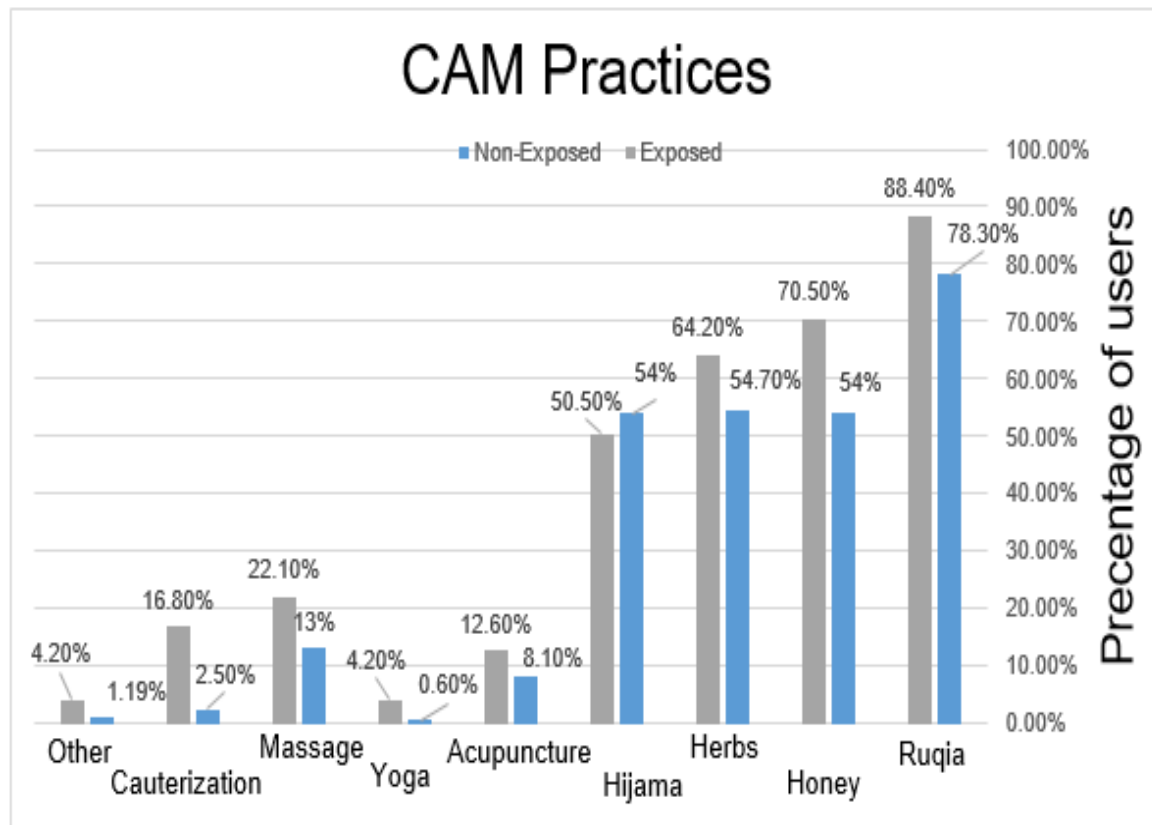


Figure (2) CAM use among studied subjects



Table (2) attitudes of studied subjects towards CAM.

Statement	Total agreement		I don't know		Total disagreement	
	Exposed	Non-exposed	Exposed	Non-exposed	Exposed	Non-exposed
<b>CAM only effective in the treatment of simple diseases and illnesses</b>	53.7% N=51	50.3% N=81	20% N=19	29.2% N=47	26.3% N=25	20.5% N=33
<b>Drugs used in CAM have less side effects than drugs used in modern medicine</b>	48.4% N=46	41.8% N=67	18.9% N=18	34.8% N=56	32.6% N=31	23.6% N=38
<b>Treatment using CAM practices is safer than modern medicine</b>	32.6% N=31	11.1% N=34	14.7% N=14	21.1% N=34	52.7% N=50	57.8% N=93
<b>The results of CAM are in most cases due to a placebo effect</b>	22.1% N=21	9.9% N=16	20% N=19	24.8% N=40	57.9% N=55	65.2% N=105
<b>There is a need to practice CAM</b>	72.6% N=69	66.5% N=107	11.6% N=11	18.6% N=30	15.8% N=15	14.9% N=24
<b>CAM should be taught in the health colleges</b>	70.5% N=67	56.6% N=91	10.5% N=10	16.1% N=26	19% N=18	27.3% N=44
<b>CAM practices should be used hospitals</b>	65.2% N=62	45.4% N=73	13.7% N=13	19.3% N=31	21% N=20	35.5% N=57
<b>CAM practices are scientifically proved</b>	54.7% N=52	29.8% N=48	21.1% N=20	49.7% N=80	24.2% N=23	20.5% N=33
<b>There is a need to establish specialized centers for CAM practices</b>	90.5% N=86	70.2% N=113	2.1% N=2	12.4% N=20	7.4% N=7	17.4% N=28
<b>Workers in the field of CAM must be scientifically qualified</b>	92.6% N=88	85.7% N=138	3.2% N=3	7.5% N=12	4.3% N=4	6.8% N=11
<b>Workers in the field of CAM are able to give more time to listen to the patient compared to workers in the field of modern medicine</b>	54.3% N=43	32.3% N=52	31.6% N=30	47.8% N=77	23.2% N=22	19.9% N=32
<b>Only doctors should allowed to practice CAM</b>	46.3% N=44	49.7% N=80	22.1% N=21	23.6% N=38	31.6% N=30	26.7% N=43
<b>Most practitioners of CAM practice it by experience not by learning in colleges or specialized institutes</b>	87.4% N=83	78.9% N=127	6.3% N=6	14.3% N=23	6.3% N=6	6.8% N=11
<b>Medical students generally know little about CAM</b>	75.7% N=69	72.6% N=117	14.7% N=14	18.6% N=30	9.5% N=9	8.7% N=14
<b>Most CAM practices are dangerous on the patient's health</b>	47.3% N=45	25.4% N=41	25.3% N=24	45.3% N=73	27.4% N=26	29.2% N=47
<b>Doctors must integrate CAM along with modern medicine</b>	73.7% N=70	63.3% N=102	8.4% N=8	17.4% N=28	17.9% N=17	19.3% N=31

## Discussion:-

According to this study, preparatory, first, and second year students have less knowledge about CAM than third, fourth, and fifth year students due to the exposure to CAM course at the college. The religious believes have a great impact on practices of CAM and this is obvious as the most common used practices are Ruqia 82%, Honey & Bee products 60.2%, Herbs 58.2%, Hijama 52.7% and This was in agreement with Elolemy et al (2012) who found that Medical herbs, prayer, honey and bee products, Hijama and cauterization were the most frequent CAM practices.<sup>[11]</sup> In study conducted in 2009 on school student aged 15-19 in Saudi Arabia found that 58% has used honey treatment as part of use of CAM in their lifetime.<sup>[12]</sup>

In USA; naturopathy, relaxation, meditation, chiropractic and Yoga were the most common CAM practices in addition to religious practices.<sup>[13]</sup> Medical students generally know little about CAM 73.9% and this is because most of medical schools in Saudi Arabia are focusing only on conventional medicine, although most of students in Imam University 61.8% stated that CAM course should be taught in all medical colleges because of its importance. 66% of the students agreed that doctors must integrate CAM along with modern medicine, this is supported by Elolemy et al (2012) study which states that nearly half of the doctors involved in the study are willing to convert their patients to CAM clinics.<sup>[14]</sup> Although there are many points that favor using modern conventional medicine over CAM:

1. There is a lack of proven effectiveness for many or most CAM modalities.
2. Perceived effectiveness is the result of the placebo effect, rather than a CAM therapy's intrinsic benefits.
3. CAM endangers the patient's health, either actively (due to the effects of the treatment itself, including drug interactions) or passively (because the opportunity cost of using alternative care is that the patient may forgo effective conventional medicine).<sup>[15]</sup>

The majority of medical colleges all over the world have no medical course that is designed to teach CAM for medical students.

There is a shortage and a clear disparity in the interest of health colleges in Saudi Arabia to teach complementary and alternative medicine despite the popularity of alternative and complementary, as it was clearly evident lack of a clear policy in alternative medicine and complementary and within the health education system in Saudi Arabia. In addition, there is a severe shortage in the number of specialists in complementary and alternative medicine.<sup>[4]</sup>

The limitations of this study are that since it represented medical college at Imam University only, the results cannot be generalized to cover all medical colleges in Saudi Arabia

## Conclusion:-

There is some previous knowledge in most of included participants in the study regardless of CAM course exposure. The attitude is generally positive. In exposed group, university represented 75.8% of the source of knowledge on CAM followed by family or friends 69.5%, and then internet 45.3%. On the other hand, in non-exposed group Internet represented 44.1%, followed by Family or Friends 41%, and then Advertisements 15.5%. The most common practices of CAM in the exposed group are Ruqia 88.4%, Honey and bee products 70.5% Herbs 64.2%, Hijama 50.5%, Massage 22.1%. In contrast, the most common practices in non-exposed group are Ruqia 78.3%, Herbs 54.7%, Honey & Bee products 54% Hijama 54%, Massage 13%. Despite the increased knowledge, the practice was limited. In the light of this result, we recommend including CAM course in the curriculum of all medical colleges in Saudi Arabia. We recommend that workers in the field of CAM must be scientifically qualified, and CAM clinics should be involved within the hospitals. CAM field require more evidence based knowledge and research.

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