

Medical student attitudes towards Complementary and Alternative Medicine (CAM) in medical education-a critical review.

INTRODUCTION

Patient visits to complementary and alternative medicine (CAM) practitioners – a wide range of practitioners (such as acupuncturists, chiropractors, naturopaths and traditional medical system practitioners) who traditionally exist outside the conventional medical setting – has been exponentially increasing internationally over the previous two decades (1, 2). In some areas, CAM practitioner visits are now similar in numbers to visits and use of conventional medical approaches, and CAM practitioners numbers are similar to conventional physician numbers (3). In addition to increasing levels of patient utilization, CAM is being increasingly integrated into healthcare systems, and in some countries (such as China) is already highly integrated into healthcare (4). Despite the rising popularity of CAM and exponential increase in prevalence of CAM use, philosophical divergence between conventional and CAM approaches to health has often resulted in significant professional tensions between CAM and biomedical practitioners, with significant and high-profile opposition to CAM use and integration in parts of the biomedical community (5-7).

Given findings that most people use CAM and conventional approaches concurrently (1), competition and resultant lack of collaboration between CAM and biomedical practitioners may be an incongruous situation that could ultimately be detrimental to patient / practitioner relationships. There is also general consensus, that even if they choose not to incorporate CAM practices, medical students may need to comprehensively understand other systems of healthcare that exist in their communities, basic information as to what these other health systems entail, and that they are very likely to encounter patients and practitioners who use them (7). As such, medical accreditation bodies have endeavoured to promote implementation of CAM content into medical curriculums to try and keep up with the communities' CAM activity and to bridge the gap between patients' CAM and biomedical care (8, 9). These efforts have been productive, with US data indicating that in 2008, 90% of US medical schools had CAM familiarisation courses in their curriculum (10).

Stated reasons for the inclusion of CAM familiarisation courses into medical curricula include: the discussed exponential rise in CAM use amongst patients; poor, minimal or no medical student knowledge of CAM; and confusion as to appropriate referral practices and subsequent poor CAM referral skills, medical student interest and curiosity in learning CAM (especially

in the pre-clinical years of medical school) and to decrease possible communication deficits around their future mainstream medicine patient's CAM use (8, 10-25). In addition to improving medical student knowledge of current CAM practices, CAM familiarization courses and externships also appear to lead students to new attitudes and perceptions towards CAM (20, 21, 24, 26).

However, time allotted to CAM familiarization in medical schools varies internationally. While in Australia (8), Hong Kong (13), and the UK (12) it appears to be minimal (with less than five hours over an entire medical degree), in other countries such as Brazil (20) and South Korea (10), CAM familiarisation is far more substantial, and may incorporate practical integration of CAM therapies. For example, the Brazilian program provides a long term pathway in the form of a 5760 hour medical residency in Chinese Acupuncture of traditional Chinese medicine (TCM), for those biomedical students who wish to take their training further (26).

Despite the increasingly acknowledged need to develop CAM curriculum content in medical courses, there has been little formal examination of this topic in the peer-reviewed literature of how different approaches to incorporation are perceived by medical students. This paper aims to remedy this gap by presenting the first critical review of the literature on major themes relating to medical students perceptions and attitudes towards CAM. Considering there has been no formal examination of medical students attitudes to these interventions and no summary to guide educators, research in this area is needed to examine any possible gaps in knowledge that may exist and to guide further research.

METHODS

A comprehensive search of the literature in MEDLINE, CINAHL, AMED and PSYCINFO databases was conducted to obtain the major peer-reviewed literature on attitudes and perceptions of medical students to CAM. All databases were searched from their inception to January 2014. Databases were searched using standard terms and subject headings for complementary medicine, alternative medicine and integrative medicine, as well as terms for specific disciplines (such as Chinese medicine, naturopathy, homoeopathy, acupuncture and chiropractic) and terms for specific CAM products (herbal medicine, supplements, vitamins etc). Appropriate terms and subject headings for medical education and medical students were also included. Database searches were supplemented by hand searches and all reference lists of papers reviewed for further references. Issues identified as being relevant to medical

education and CAM were added to the search strategy using an iterative process. Articles were confined to those published in English.

The search identified 917 articles using these search criteria. Of these, 815 were excluded as ineligible and abstracts and full-text of the remaining 102 were read to compile a critical review of medical students attitudes and perceptions of CAM and CAM education. 21 articles met the selection criteria to be included in the final review. Figure 1 summarises the search strategy employed in this review. The results are examined in terms of three broad areas: perceptions, attitudes and knowledge of medical students around CAM and CAM training; factors influencing medical student attitudes and perceptions around CAM and perceived impact of CAM training on future medical practice.

<INSERT FIGURE 1 ABOUT HERE>

RESULTS

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Medical students' attitudes, perceptions and attitudes towards CAM

Most studies of medical student perceptions showed that medical students: thought increased CAM knowledge was of importance for their future as physicians (22); wanted to advise and refer patients (and in some cases personally provide the CAM services as formally qualified medical personnel) (28) (25); felt that CAM had not been covered adequately in their curriculum (and therefore wanted CAM content introduced or expanded) (10, 16, 20-25); and, as a student body, felt that they had too little consultation with CAM practitioners compared with other health students. Although variability existed, medical students also: had generally positive student attitudes towards CAM and its effectiveness (15); thought being able to discuss their future patients CAM use could enhance patient/physician communication (16, 18, 21); desired the opportunity to formally learn and create their own opinions of different CAM modalities (16); wanted to receive a basic knowledge of the most frequently and most important CAM modalities (16). Medical students also believed that CAM should be studied by biomedical practitioners before integration with modern medicine could occur (21). Among

students of healthcare, medical students had the least knowledge of CAM, with comparative studies of medical students versus nursing and pharmacy students showing higher levels of CAM knowledge amongst these non-medical health student groups (15, 23, 25, 29).

The popularity of CAM modalities among medical students (in relation to the importance that they be considered in the medical curriculum) varied between regions (for example traditional Chinese medicine being more popular in Asia and homeopathy being more popular in Europe). Acupuncture was particularly identified as important for future inclusion in the medical curriculum, being the most or second most popular CAM modality for inclusion in seven of the medical student surveys (15, 16, 30-32). Other individual CAM modalities or disciplines that were seen as important for inclusion were herbal treatments (15, 16, 22, 23), homeopathy (16, 30), massage (22), traditional Chinese medicine (15), hypnosis (23), chiropractic (9) and nutritional supplements ???. Spirituality and prayer were also indicated to be one of the more popular CAM modalities measured, though this modality was excluded from most studies (22).

There was a high preference for evidence-base as a pre-requisite to inform CAM inclusion in medical curriculum, with eighteen papers highlighting this strong preference among medical students, clinicians and faculty (10, 12, 13, 15, 19, 20, 23, 24, 28-30, 33). This preference was not absolute, with 41% of Singaporean medical students also suggested that they would accept CAM based on long-standing traditions (such as TCM), even if it had not been tested in a scientific way (15). However, while evidence-base and quality of CAM practitioner education were identified by medical students as important considerations for determining what CAM should be taught in the medical curriculum, and how they should interact with CAM practitioners in clinical practice, standards that were perceived as 'too high' could in fact adversely affect the support for CAM among medical students. For example, focus group interviews with Hong Kong biomedicine students found that biomedical students perceived that traditional Chinese medicine practitioners posed a threat to their future, as the training of TCM practitioners at their university was thought to be equal to or superior to the level of biomedical training (13).

Factors influencing medical student attitudes perceptions and knowledge of CAM

A variety of factors may influence the perceptions and attitudes towards CAM, and its place in the medical curriculum. A study of Turkish medical students highlights the heterogeneity of factors that influence CAM perceptions in the medical curriculum. In this study, the reasons offered by students as to why CAM should be incorporated in the medical curriculum included:

there was a strong student interest in CAM; some students thought CAMs had therapeutic value; some students had family members who used CAM; students acknowledged weaknesses in the biomedical model and believed that other models should therefore be explored; students thought their future patients had the ability to choose between conventional medicine and CAM and therefore medical practitioners were obligated to learn about CAM, and; some students believed that spiritual experiences affected wellbeing, and that these were acknowledged more by CAM than by conventional medicine (23).

One of the key factors influencing medical student attitudes and perceptions of CAM was exposure to CAM-specific training in their medical curriculum, with educational exposure to CAM generally correlated with an increased perceived usefulness of CAM. A three week CAM rotation in a US medical school, for example, saw medical student's knowledge and subsequent willingness, in the future, to integrate CAM and to refer to CAM practitioners grow sixteen fold, as well as significant increases in perceived CAM efficacy (24). A study of an acupuncture rotation by British medical students also resulted in three-quarters of respondents perceiving their placement would "definitely" increase their referrals to CAM practitioners in the future (12). A Brazilian study of acupuncture in the medical curriculum also saw the perceived effectiveness of CAM increase substantially among medical students post placement or education (21). After only a six hour introduction to acupuncture in a Brazilian medical school, medical students felt it necessary to incorporate it formally in the medical curriculum, as the introduction was not felt to be adequate and simply increased medical students' desire for further CAM information (20). CAM education may simply make medical students aware of the evidence-base of some CAM therapies, and this itself may result in changed attitudes and perception: CAM therapies studied in the medical curriculum improve medical students' recognised efficacy of CAM (where evidence exists) while the evidence was not recognized for those CAM therapies not included in the medical curriculum (17).

The holistic principles of CAM were also seen as a motivator for medical students to further explore and understand CAM. In one study of medical students in the United Kingdom, 77% of students agreed with the statement that CAM was more holistic than (conventional) biomedicine, and there was high level of agreement that this holistic underpinning was the main reason for the success of CAM –both in relation to clinical treatment and public support(17). In some instances medical students not only saw positive applications of incorporating holistic CAM principles, but also saw the potential threat to biomedicine through non-incorporation of these principles. A focus group study of Hong Kong biomedical student

perceptions of traditional Chinese medicine highlighted that they saw a potential threat to biomedicine from traditional Chinese medicine as treating the whole person as a diagnostic principle in TCM was perceived by biomedical students as being superior to the perceived reductionism of the diagnostic principles of biomedicine (13).

One interesting factor that appeared to influence medical students' perceptions and attitudes towards CAM in the medical curriculum was the religiosity of individual medical students. This was found to be both a negative and positive association, with an Irish study showing that if a student had no self-reported religion they had a significantly lower interest in learning about CAM (22) and a survey of British medical students indicated that students who rated themselves as more religious were more likely to support increased CAM content in the medical school curriculum (17). An additional study showed that 57% of medical students agreed that religious, personal or spiritual faith inspired them to trust CAM therapies (15).

Perceived impact of CAM training on future clinical practice

Medical students believed that patients should inform their doctors of CAM use (13) but acknowledged that as current knowledge deficits are causing doctors to be so hindered by their inadequate instruction in CAM, medical graduates are limited in their ability to in any way, wisely help with patient autonomy in CAM use (11). Medical students also thought that incorporation of CAM into the medical curriculum could lead to better communication, stronger relationships and collaborations between biomedical and CAM practitioners, subsequently fostering potential improvements in patient care (12). However, without adequate knowledge and legal guidelines around CAM, it was perceived that as doctors medical students would choose to avoid referring to CAM practitioners (12, 17, 19) (10, 20, 21).

Interest in CAM appears to decline after the pre-clinical years of medical school. This may relate to poor knowledge of medical students of CAM, with an Irish study showing low confidence associated with low knowledge levels resulting in clinical medical students being hesitant to discuss, use or refer to CAM with their patients (22). Peer pressure may also be a factor in this decline: with a Norwegian study exploring the impact of role models on CAM perceptions and attitudes suggesting that medical students want to “look like, be like and behave like” most other senior doctors, and these role models have been found to definitely be more skeptical of CAM than the students (33). Final year medical students in Turkey believed CAM was only able to treat simple disease, was unscientific, obscure and ambiguous, and believed that CAM treatments were actually harmful to patients, contrasting with first year

medical students in the same study, who thought many modalities of CAM were effective, demonstrated a desire to receive further training and perceived that they would actively recommend them to their future patients (23). A longitudinal survey of medical students in the United Kingdom found that all measurements regarding current knowledge, effectiveness and future training in CAM decreased between first and third year of medical school, and the same occurred for preparedness to refer to CAM practitioners. While first year students in this study were generally positive about the role of CAM in health care, third year students thought CAM had a low status within the health system and 84% of third year students in the study stated there were many “quacks” in CAM (17).

DISCUSSION

This article provides the first critical review of CAM in medical education. As this article demonstrates, medical students are interested in learning CAM, and often see it as important and highly relevant to their broader medical education and their future care of patients after graduation. Medical students are aware that there is a growing public interest in, and public demand for CAM, and as such they should reflect on this phenomenon, from a clinical, social and legal perspective.

However, despite clear interest of medical students to engage with CAM in their medical curricula, there appears to be little integration of CAM into medical curricula and medical students appear to have lower levels of knowledge of CAM than other providers. This may be occurring for many reasons including faculty opposition within the medical schools, lack of possibilities of a dedicated budget, time constraints, lack of appropriate teaching staff and a possible inability due to lack of necessary resources to formulate appropriate and well encompassed course materials. There has been recent high profile opposition to inclusion of CAM content in the university (and specifically medical education) sector [5] (6), and this controversy may cause medical schools to be hesitant in including CAM content. However, to date there has been no formal examination of medical curricula across regions or institutions to see if medical CAM curricula appropriately reflects community use, whilst ensuring critical application.

The fact that interest in CAM declines after the pre-clinical years of medical school is an unusual phenomena that warrants further examination, as it suggests different educational interventions may be necessary at different stages of the medical curriculum. This could also be the result of external pressures and opposition in the biomedical community to CAM, but

could also have other underlying reasons that warrant further examination. Previous studies of physicians have suggested that previous positive clinical experience with CAM therapies is one of the most predictive factors of support for specific CAMs (34). It is possible that medical students in their clinical years have not been in practice long enough to observe such positive experiences. It may be equally possible that medical students in their clinical years are influenced by negative or ineffective use of CAM. The impact of clinical peers, or prioritization of newly applied conventional techniques by medical students, may also affect CAM interest. The effects of medical education itself, and the critical skills this infers, in particular warrants further examination. The medical education focus on didactic, evidence-based, logical and rational deductive reasoning may not be perceived as entirely congruent with the paradigm of CAM (35), and this could influence medical student opinion. Developing an understanding of the prism through which students critically appraise CAM at different stages of their medical education is essential to ensuring that CAM education is appropriate and relevant.

The effects of religiosity of medical students and the draw of spirituality with respect to medical student attitudes and perceptions towards learning CAM warrants further exploration. Spirituality and religiosity have been associated with increased CAM utilization among the general public (36), and this phenomenon among medical students may simply reflect similar social trends as is observed in the broader population. The impact of prayer, suggested in some surveys – including those of medical students – to be among the most popular CAM, may confound these results. Nonetheless, several CAM share philosophical similarities to faith and religion more generally such as the modality of Qigong meditation where it is the individual who experiences the possible benefits. This individual focused or experience model is in contrast to the well known randomized controlled trial over a whole population approach used to legitimize biomedicine. Moreover, the holistic principles of CAM generally was seen as a motivator for medical students to want to learn more about CAM, and the attraction of holistic principles of CAM, which encourage and promote a connection between mind, body and spiritual health (37), may also influence further reflection of CAM users (and supporters) on spiritual aspects of health, and vice versa. The influence of these factors on CAM use, perceptions and attitudes appears consistently significant, though largely unexplored, among medical students as well as the broader population, and as such may provide a fertile area of study around cultural factors in health care and in health care education.

Being able to communicate with future patients about their CAM was a major motivation for medical students to learn about CAM, and a factor for medical student support of further

incorporation of CAM content in the medical curricula. This reflects research in this area which highlights deficiencies in CAM-conventional communication between physicians and patients, and improvements in care that may result from improved communication (37). It is clear the CAM community (both CAM users and CAM practitioners) and the medical profession need to understand each other and the best place to create this is to provide continual and adequate CAM training to medical students at university level. Some commentators highlighted, in regard to patient/practitioner relationships, they could even be held accountable as doctors for not recommending or informing a patient about a safer and equally efficacious CAM therapy and as such, lack of knowledge around CAM could be detrimental to clinical practice [7]. Also, as patients rarely inform their doctors of their CAM use (13), the increase in knowledge and skills gained from learning about CAM could well further enhance the patient/practitioner relationship and may change the attitudes of medical students towards the field of CAM.

Educational exposure to CAM in many forms and in many papers was shown to significantly affect medical student attitudes to CAM. This may be reflective of the fact that, outside direct CAM training, there may be limited accessible opportunities for medical students. Evidence of CAM interventions was seen as the most important inclusion in CAM familiarization courses, but biomedical journals may not cover clinically relevant aspects of CAM such as effectiveness and efficacy, focusing instead on issues of safety and risk (38). Media (medical and lay) coverage of CAM may present results more negatively than they would for conventional medicine (39) meaning that students would need to venture further into the peer-review literature for information, which may be beyond their scope of training or difficult to access. As such, the medical school environment may provide one of the few opportunities medical students will have to access CAM information that is critical, objective and trusted.

CONCLUSION

The rise of CAM as a social and clinical phenomenon necessitates consideration of further inclusion of these topics in the medical curriculum, if future physicians are to be able to fully discharge their role as care providers in an increasingly medically pluralistic world. However, the inclusion of CAM needs to be done in an objective and critical manner, which is relevant to the learner.

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Table 2. Empirical Studies of medical student perceptions and attitudes to CAM

Country	Authors	Research Focus	Method	Sample Size	Main Findings	Main themes discussed
UK	Perkin et al (25)	Comparison of attitudes to CAM of GP's, hospital doctors and biomedical students	Survey	N=437	Medical students were the least informed but most enthusiastic respondents. The majority of respondents felt that alternative medicine should be available on the NHS and that medical students should receive some tuition about alternative therapies.	<i>1, 2, 9</i>
Norway	Syverstad et al (33)	Measurement of changes of perceptions of biomedical students to CAM through the processes of medical school	Survey	N=421	After four more years in medical school, many more medical students would not use acupuncture if they had a condition that, in a traditional sense, acupuncture could treat. Changes in perceptions from the initial study to the follow-up study were significant in a negative direction.	<i>9, 10</i>
UK	Greenfield et al (30)	Pre- and post CAM education	Survey	N=20	Pre-exposure, there was a range of views towards CAM ranging from skepticism to acceptance though students saw the CAM exposure as a	<i>3, 10</i>

		questionnaire of medical student attitudes to a study module in CAM			positive experience. Twelve of the students considered practicing CAM, most commonly acupuncture.	
UK	Furnham & McGill (17)	Medical students attitudes to CAM	Survey	N=311	Third year medical students thought CAM was less effective than first year students and were also less interested in studying CAM therapies.	4, 6, 7, 8, 9
Singapore	Yeo et al (15)	Medical students knowledge, attitudes and perceptions of CAM	Survey	N=555	Medical students were most knowledgeable about acupuncture as a CAM therapy and no medical students were knowledgeable about chiropractic, osteopathy, Ayurvedic medicine, homoeopathy and naturopathy. A large number of students had incorrect knowledge about CAM and they considered scientific evidence the main barrier to the integration of CAM with mainstream medicine. Overall medical students attitudes to CAM were very positive.	1, 2, 3, 4, 5, 9, 10
China	Hon et al (29)	Medical student towards CAM (Traditional Chinese Medicine- TCM)	Survey	N=780	“Effectiveness of CAM”, “fewer side effects than Western medicine”, “illness not completely treated by Western medicine” and “recommendation from family and friends” were common perceptions of these medical students to CAM (TCM in this instance) that led many of them (33%) to use CAM in the past year.	2, 9, 10
China	Wong et al (13)	Medical student attitudes to TCM	Focus group interviews	N=28	This study explored medical student attitudes of TCM and its impact on future medical training. Lack of modern scientific evidence and no regulation were major barriers but the students thought understanding was of importance for future patient practitioner communication. They also thought that the future of medical education needed to change to integrate such practices.	5, 7, 10

USA	Torkelson et al (24)	Pre and post CAM education intervention evaluation of a CAM rotation in a medical school	Survey	N=24	The post CAM exposure results indicated that medical student confidence in CAM increased substantially. Also, the positive pre-course perceptions were maintained or increased and general perceived effectiveness of CAM increased, post exposure.	1, 8, 10
USA	Ranjana et al (28)	Medical student attitudes to CAM in the curriculum and in practice	Survey	N=266	91% of medical students surveyed thought “CAM includes ideas and methods from which Western medicine could benefit”. 85% of medical students thought “knowledge about CAM is important to me as a clinician” and 75% thought CAM should be included in the medical curriculum.	1, 10
USA / China	Mao et al (40)	Medical students attitudes and perception of CAM after an international CAM elective	Focus group interviews	N=80	Results showed that an international placement in acupuncture made medical students more open to other health systems.	9
Israel	Shani-Gershoni et al (32)	Measuring knowledge and attitudes of internists compared to medical students regarding acupuncture	Survey	N=122	With no differences between the variables of the sample, this study showed the following; that 93.4% had never received training in acupuncture and that 84.4% had never undergone acupuncture. The medical students level of CAM knowledge was extremely low. Despite this the participants believed acupuncture was more than placebo and that it would be beneficial to include acupuncture in the medical curricula.	3, 7
USA	Hoellien et al (11)	Evaluation of CAM knowledge and clinical skills after CAM exposure	Analysis of formal assessment results	N=92	After a four hour CAM exposure workshop attendees performed significantly better on varied CAM testing.	5

Switzerland	Nicolao et al (16)	Medical dean and faculty perception and opinions on how CAM should be taught to medical students	Survey	N=775	72.6% of medical students are positive towards CAM education especially acupuncture, phytotherapy and homeopathy. The most popular ways that medical students and experts would like CAM education to be provided was through electives in the clinical years in the form of lectures and seminars.	1, 3, 5
UK	Donald et al (12)	Medical student attitudes to CAM, before and after a short CAM (acupuncture) placement	Survey	N=40	There was a significant drop in skepticism of CAM of medical student's post- placement. 90% of students observed or performed acupuncture and 76% of students who participated said that the placement would definitely affect the rate of their future referrals to CAM practitioners.	5, 6, 8, 10
Brazil	Amedera et al (21)	Medical student attitudes after CAM study (in acupuncture)	Survey	N=25	98% of medical students who concluded the course replied that the course was good or very good, 85% considered themselves at least partially able to perform acupuncture and 79% stated that the course influenced them in their medical education.	1, 6, 8
Austria, Germany & Switzerland	Brinkhaus et al (31)	Analysis of integration of CAM into medical school curriculum	Survey	N=1017	40% of medical students had positive perceptions of CAM, 28% were neutral, 29% had negative opinions and 3% were unsure. The most popular CAM modalities were acupuncture, osteopathy and naturopathy. The majority of respondents favoured the integration of CAM into the medical curriculum but only 34% stated that CAM had already been integrated into their teaching.	3
South Korea	Kim et al (10)	Analysis of CAM content in the undergraduate medical curriculum	Survey	N=41	CAM was taught in 85% of medical schools and 91.4% provided credit for these courses. The most common courses included in respective order, introduction to CAM or integrative medicine, traditional Korean medicine, homeopathy, naturopathy and acupuncture. The most common format was	1, 6, 10

USA	Anderson et al (19)	Student assessment of a CAM/biomedicine exchange program in Chinese medicine	Survey	N=37	lectures. The reasons why CAM was not taught include not enough time, a perceived lack of evidence base of CAM and unreliable CAM references. In this program it was found that the medical students who took part found it highly valuable and a unique learning experience. The medical students stated that the main reason it was a positive experience was that it gave them a significant amount of referral information.	6, 10
Turkey	Akan et al(23)	Medical student knowledge and attitudes of medical students towards CAM	Survey	N=943	The most well known modalities that appeared in the results from the medical student surveys were, in respective order, herbal treatment (81.2%), acupuncture (80.8%), hypnosis (78.8%), body based practices (77%) and meditation (65.2%). First year students and females had the most positive perceptions of the different groups involved. Willingness to attend CAM training and positive attitudes towards CAM dropped as the number of years studying medicine increased.	1, 2, 3, 9, 10
Brazil	Guerreiro de Silva (20)	Analysis of CAM content (specifically acupuncture) in the medical curriculum	Survey	N=128	Using the survey scale it was found that medical students would like more information, CAM study time was inadequate and acupuncture is an important part of the medical curriculum.	1, 6, 8, 10
Ireland	Loh et al (22)	Medical student knowledge, perceptions and interest in CAM	Survey	N=1585	78.4% of medical students thought that knowledge of CAM is important for their future as medical professionals (low response rate- 20.1%), 65% stated they had not received adequate knowledge of CAM at medical school and 52.2% of medical students thought CAM should be integrated into the medical curriculum. 49.4% of medical students thought CAM should be taught in the pre-clinical years. Knowledge of CAM was rated as minimal or none by these students. There was a positive correlation between students who believed in religion and acceptance of CAM.	1, 3, 4, 9

Massage, spirituality and acupuncture were most popular CAM modalities.

Clinical students were generally less interested in using CAM.
