

# Perceptions of complementary and alternative medicine amongst medical students in Singapore

## – a survey

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### Abstract

**Background** In view of the current upsurge of interest in, practice of, and research into, complementary and alternative medicine (CAM) worldwide and locally, a survey was conducted to gauge the understanding, interest and knowledge of CAM amongst medical students in a local university.

**Methods** A total of 555 first to fifth year medical students completed a questionnaire (54% response rate) designed to assess their knowledge, beliefs and attitudes to CAM in general and 16 common CAM therapies.

**Results** Acupuncture was the best known therapy, with 57% claiming to know at least something about it. No students claimed they knew a lot about chiropractic, osteopathy, Ayurvedic medicine, homeopathy and naturopathy, and many had not ever heard of these therapies. Knowledge of commonly held beliefs about the 16 CAM modalities was generally poor, even for modalities which students claimed to know most about. A significant number of students had knowledge about CAM that was erroneous. Lack of scientific support was considered to be the main barrier to implementation of CAM. Attitudes to CAM were positive, with 92% believing that CAM includes ideas and methods from which conventional medicine can benefit, 86% wishing to know more about CAM and 91% stating that CAM would play an important role in their future medical practice.

**Conclusion** As the public's use of various healing practices outside conventional medicine accelerates, ignorance about these practices by the country's future medical practitioners risks broadening the communication gap between the public and the profession that serves them. The majority of medical students recognise this risk and are keen to bridge this gap.

### Keywords

*Complementary and alternative medicine, acupuncture, medical student, education, survey.*

### Introduction

Medical practice outside mainstream or conventional medicine has always been an important part of public health care in some countries. In recent years, the use of complementary and alternative medicine (CAM) has grown in popularity worldwide. In the United States, use of CAM increased from 34% in 1990 to 42% in 1997.<sup>1,2</sup> CAM therapies were used by 20% to 50% of the population in European countries and 52% in Australia.<sup>3-5</sup>

In Singapore, although modern Western medicine is the main form of health care, CAM enjoys considerable popularity, with traditional

Chinese medicine (TCM) being the most popular.<sup>6,7</sup> It is estimated that about 45% of the population in Singapore has consulted a TCM practitioner previously, and about 12% of outpatient attendances daily are to TCM practitioners.<sup>6</sup> A recent local survey also revealed that 67% of respondents used traditional medicine and believed in its efficacy, while 49% of the public were ignorant of the hazardous effects of the preparations of traditional medicine that are marketed.<sup>7</sup>

The TCM Practitioner Act was passed on 14 November 2000 to regulate TCM practitioners. It aimed to register all acupuncturists by 1 January

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2002, and all TCM practitioners by 1 January 2004.<sup>8</sup> The Traditional and Complementary Medicine Branch of the Ministry of Health, Singapore regulates TCM practitioners, implements tight control of Chinese medicinal materials and establishes baseline information on the status of various forms of CAM in Singapore.<sup>8</sup>

Surveys conducted in Australia,<sup>9</sup> Europe,<sup>10-12</sup> North America,<sup>13-17</sup> and the Middle East,<sup>18-20</sup> have shown that medical students have a high level of interest in and positive attitudes toward CAM. In contrast, few such studies come from East Asia where traditional oriental medicine is widely practised. A survey conducted in Hong Kong on the attitudes of medical students toward different modalities of treatment for cancer showed that the students used a Chinese versus non-Chinese cultural framework in conceptualising modalities of treatment (including Qi Gong, TCM and traditional Chinese religions) outside the conventional Western medical model.<sup>21</sup> In view of the recognition that TCM is becoming established in Singapore and the fact that, to the best of our knowledge, no such study has been done locally, we aimed to gauge the understanding, interest and importance of CAM among medical students in a local university. In addition, given the limited time available in the current syllabus for the teaching of CAM, it is hoped that the results of this survey may provide useful information for a review of the medical curriculum.

### **Methods**

A self-completed questionnaire survey was conducted among the medical students of the Faculty of Medicine, National University of Singapore. Prior approval to conduct the survey was obtained from the Dean's office. There is no formal teaching of CAM in our curriculum, although there is an elective on acupuncture which attracts 5-10 students per year.

### **Subjects**

The study was originally targeted at the entire cohort of 1,023 first to fifth year medical students. Due to time constraints and the scattering of clinical year students between six teaching hospitals, we tried to approach groups of students after major lectures and class tests so as to obtain

as high a response rate as possible. As the purpose of this survey was to determine the knowledge of the students at the point of administration of the questionnaire, the option of completing the survey through the internet or via email was not pursued as that might have introduced bias. The students were told that their participation was anonymous and entirely voluntary, and there was no reward for taking part. They were invited to complete the questionnaire immediately. The authors were present on hand to answer questions or clarify any doubts that they might have. The questionnaire was administered to the subjects between December 2001 and March 2002.

### **Design of questionnaire**

The questionnaire was adapted and modified from several similar previous overseas surveys.<sup>9-21</sup> In the introduction to the survey, complementary therapies were defined as:

'Approaches to healing not usually included in a doctor's undergraduate training nor offered in public hospitals. Included are traditional medicines, practices and beliefs borrowed from other cultures, the so-called natural therapies, the plant-based medicines of homeopathy and herbalism, and the manipulative techniques of chiropractic, osteopathy and massage. It does not include physiotherapy, occupational therapy, or self-medication with non prescribed treatments such as vitamins.'

The questionnaire was divided into three portions: A, demographic information; B, knowledge of CAM; C, general attitudes/perceptions of CAM. The questions on knowledge of CAM were designed with the help of a CAM text that used an evidence-based approach.<sup>22</sup>

Sixteen complementary therapies were chosen that are commonly used locally by different ethnic groups, from the complete list of modalities asked about in previous surveys. The 16 were acupuncture, herbal medicine, traditional Chinese medicine, chiropractic, osteopathy, massage, Tai Chi, Qi Gong, reflexology, aromatherapy, Ayurvedic medicine, naturopathy, yoga, homeopathy, hypnosis, meditation and relaxation techniques.

The results were calculated as sums and percentages of the cohort. The planned statistical comparison between the preclinical and pre-

clinical students was not carried out as only 45% of the clinical students (years 3 to 5) participated in the survey.

## Results

### A Demographic information

A total of 555 students participated in this survey, an overall response rate of 54%. Table 1 gives the breakdown by year, including the response rate for each year. Most of the students surveyed were Chinese. There were 508 (92%) Chinese, 11 (2%) Malays, 26 (5%) Indians, 5 (1%) Eurasians, and 5 (1%) of other races. The majority of participating students were Christians, Buddhists or 'free-

thinkers'. Two hundred and twenty six (41%) students described themselves as Christians/Roman Catholics, 121 (22%) as Buddhists, 16 (3%) as Taoists, 16 (3%) as Muslims, 14 (3%) as Hindus, and 162 (29%) as 'free-thinkers'.

### B Knowledge of CAM

#### Students' self-perceived state of knowledge about CAM therapies

For the majority of the CAM therapies listed, most students either have heard of, or know something of, the particular therapy, as shown in Table 2. The best known therapy was acupuncture, of which 315 (57%) knew either 'something' or 'a lot'. This was followed by TCM (290 [52%]) and herbal medicine (276 [50%]). However, few students claimed that they knew 'a lot' for each therapy: the highest was acupuncture, with 48 (8%) students claiming they knew 'a lot'. No students claimed they knew 'a lot' about chiropractic, osteopathy, Ayurvedic medicine, homeopathy and naturopathy, and many had not ever heard of these therapies.

There was little difference in the claimed knowledge about CAM between students in their pre-clinical and those in their clinical years.

Table 1 Respondents to questionnaire, by current year in medical school

Medical class	Number of students	Percentage response of year group
Year 1	161	69
Year 2	137	64
Year 3	139	70
Year 4	80	40
Year 5	38	22
Total number of participants 555		

Table 2 Students' knowledge, perceived effectiveness and harmfulness of the various CAM modalities

CAM modalities	Know something/ a lot of...	Heard of...only	Never heard of...	Effective	Not effective	Not sure of effectiveness	Harmful	Not harmful	Not sure of harmful effects
Acupuncture	315 (56.8)	234 (42.2)	6 (1.0)	429(77.3)	5 (0.9)	121 (21.8)	49 (8.8)	183 (33.0)	323 (58.2)
TCM	290 (52.3)	258 (46.5)	7 (1.2)	343(61.8)	17 (3.1)	195 (35.1)	115 (20.7)	118 (21.3)	322 (58.0)
Herbal medicine	276 (49.7)	274 (49.4)	5 (0.9)	344(62.0)	13 (2.3)	198 (35.7)	137 (24.6)	93 (16.8)	325 (58.6)
Tai Chi	263 (47.4)	286 (51.3)	6 (1.1)	265(47.7)	23 (4.2)	267 (48.1)	101 (18.2)	138 (24.9)	316 (56.9)
Aromatherapy	250 (45.0)	288 (51.9)	17 (3.1)	165(29.8)	49 (8.8)	341 (61.4)	27 (4.9)	169 (30.4)	359 (64.7)
Massage	246 (44.3)	297 (53.1)	14 (2.5)	299(53.9)	20 (3.6)	236 (42.5)	28 (5.1)	215 (38.7)	312 (56.2)
Meditation/Relaxation	233 (42.0)	303 (54.6)	19 (3.4)	288(51.9)	17 (3.1)	250 (45.0)	26 (4.7)	217 (39.1)	312 (56.2)
Reflexology	214 (38.6)	320 (57.7)	21 (3.7)	229(41.3)	38 (6.8)	288 (51.9)	24 (4.3)	194 (35.0)	337 (60.7)
Qi Gong	193 (34.8)	350 (63.1)	12 (2.1)	262(47.2)	23 (4.2)	270 (48.6)	102 (18.4)	132 (23.8)	321 (57.8)
Yoga	187 (33.7)	351 (63.2)	17 (3.1)	210(37.8)	26 (4.7)	319 (57.5)	35 (6.3)	166 (29.9)	354 (63.8)
Hypnosis	162 (29.2)	364 (65.6)	29 (5.2)	145(26.2)	33 (5.9)	377 (67.9)	66 (11.9)	82 (14.8)	407 (73.3)
Chiropractic	94 (16.9)	292 (52.6)	169 (30.5)	168(30.3)	19 (3.4)	368 (66.3)	45 (8.1)	77 (13.9)	433 (78.0)
Osteopathy	56 (10.1)	279 (50.3)	220 (39.6)	80(14.4)	18 (3.3)	457 (82.3)	25 (4.5)	50 (9.0)	480 (86.5)
Homeopathy	51 (9.2)	213 (38.4)	291 (52.4)	56(10.1)	22 (4.0)	477 (85.9)	19 (3.4)	53 (9.5)	483 (87.1)
Ayurvedic medicine	49 (8.8)	183 (33.0)	323 (58.2)	112(20.2)	32 (5.8)	411 (74.0)	20 (3.6)	105 (18.9)	430 (77.5)
Naturopathy	31 (5.6)	178 (32.1)	346 (62.3)	53 (9.6)	20 (3.6)	482 (86.8)	14 (2.6)	54 (9.7)	487 (87.7)

All figures are number of students with percentages in brackets

**Table 3 Numbers and percentages of students who claimed that they ‘did not know’ the efficacy, uses and side-effects of various CAM modalities**

Questions asked	Correct response	Did not know
St John’s Wort is commonly use for the treatment of mild to moderate depression	60 (11)	415 (75)
Echinacea is commonly used for cold and flu symptoms	55 (10)	409 (74)
Long-term use of Echinacea is recommended	43 (8)	419 (75)
Garlic can lower blood lipid levels	213 (38)	271 (49)
Ginseng can be used safely in people with high blood pressure	58 (10)	367 (66)
Ginkgo biloba is commonly used in people with Alzheimer’s disease	173 (31)	311 (56)
Acupuncture can be used to decrease withdrawal symptoms from drugs	109 (20)	246 (44)
Acupuncture can be used to relieve pain	493 (89)	58 (10)
Chiropractic specialises in spinal manipulation and is used to treat lower back pain	94 (17)	288 (52)

All figures are number of students with percentages in brackets

### *Students’ knowledge of CAM*

We posed some specific questions on common knowledge of CAM. Again, knowledge of acupuncture was greatest (89%), at least in its use for pain (Table 3). The majority of the students ‘did not know’ the efficacy, uses and side effects of St John’s Wort, echinacea, ginseng, and ginkgo. Other questions that a surprisingly high number of students ‘did not know’ included whether acupuncture can be used to decrease withdrawal symptoms, whether chiropractic specialises in spinal manipulation, or whether garlic can lower blood lipid levels. However, among those who believed they knew, most of them got the fact right. However, 70% of students who believed that they knew the answer to the statement ‘ginseng can be used safely in people with high blood pressure’ were incorrect.

### *C General attitudes and perception of CAM effectiveness and harmful effects of various CAM modalities*

Most students, whether in their clinical or pre-clinical years, were not sure of the effectiveness of many CAM therapies, with the exception of acupuncture, herbal medicine, TCM, massage and meditation (Table 2). However, in general, more students believed that the various CAM therapies were effective rather than ineffective. Most students believed in the effectiveness of acupuncture (429 [77%]), herbal medicine (344 [62%]), TCM (343 [62%]), massage (299 [54%]) and meditation (288 [52%]).

Similarly, the majority of the students were not sure of the harmful effects of the various CAM

therapies, though they believed that the various therapies were not harmful. On the contrary, a significant proportion of students believed herbal medicine (137 [25%]), TCM (137 [21%]), Qi Gong (102 [18%]), Tai Chi (101 [18%]) and hypnosis (66 [12%]) had harmful effects.

Comparing students’ views on herbal medicine and on TCM in pre-clinical and clinical stages of their education, among the pre-clinical students 26% and 24% respectively believed these two therapies were not harmful, while 12% and 14% believed they were harmful. Among students in their clinical years only, only 16% and 9% respectively believed these therapies were not harmful, while 31% and 38% respectively believed they were harmful.

Osteopathy, homeopathy, naturopathy and Ayurvedic medicine are the therapies which the greatest number of students was unsure of either effectiveness or harmful effects (Table 2).

### *Perceived need for CAM education*

When asked if they desired some introduction or exposure to CAM during their course of study as a medical student or a practising doctor, 479 (86%) students indicated that they did. The positive responders were then asked which of the 16 CAM modalities interested them. The five modalities of greatest interest amongst students were acupuncture (440 [79%]), TCM (359 [65%]), herbal medicine (273 [49%]), hypnosis (208 [38%]) and meditation and relaxation techniques (207 [37%]).

Students were also asked to state their preferences for the part of the curriculum they would like this teaching to be included in, and

were allowed more than one option. The pre-clinical and clinical year students had similar preferences, with 35% favouring pre-clinical introduction, 33% favouring introduction during the clinical years and 23% electing to have it in their own time. Only a small minority welcomed the other available options, such as introduction of CAM during the pre-registration or medical officer training years.

#### *Attitudes towards efficacy of CAM as opposed to Western medicine*

Of those surveyed, 365 (66%) are of the opinion that CAM is more efficacious than Western medicine in the treatment of certain ailments, with no differences between the pre-clinical and clinical cohorts. Some of the common ailments which they believe respond better to CAM include chronic pain, psychiatric disorders such as depression, bone and joint problems such as sprain and arthritis, 'heatiness', and headaches. Other conditions suggested were viral infections eg HIV and influenza, nausea and vomiting due to chemotherapy, liver cirrhosis and control of hypertension and blood cholesterol levels. A small minority also believed CAM to be more efficacious but were unable to specify any specific conditions.

#### *Perceived barriers to the utilisation of CAM practices*

When asked about the perceived barriers to the use of CAM practices in a Western medical setting (Table 3), 532 (96%) students believed that a lack of scientific evidence was the main reason and 462 (83%) felt that a lack of trained professionals posed a significant barrier. The pre-clinical and clinical students differed in their perceptions of the relative importance. While more students in their clinical years felt that concerns about legal issues took precedence over a lack of appropriate equipment, students in their pre-clinical years felt otherwise. However, both groups concurred that the length of time required for treatment procedures and the healing process were the least of the barriers.

#### *General attitudes towards CAM*

In our survey, we included nine statements to which they could either agree/agree strongly, or

**Table 4 Perceived barriers to the use of CAM in Singapore**

Perceived barriers	Preclinical*	Pre-clinical
Lack of scientific evidence for practices	1	1
Lack of trained professionals	2	2
Lack of appropriate equipment	3	4
Lack of government subsidies	4	5
Concerns of legal issues	5	3
Long time for recovery	6	7
Long time for treatment	7	6

\* Students in each group were asked to indicate if they perceived any of the above barriers to be present. The numbers 1 – 7 indicate the relative number of students who chose each barrier in descending order.

disagree/disagree strongly. Five of these statements were general statements, and four were constructed to elicit each individual's personal stance towards CAM (Table 5).

The great majority of students agreed that CAM includes ideas and methods from which conventional medicine can benefit, with 69% agreeing and a further 23% agreeing strongly with the statement. In line with this, the majority (60%) did not believe that the results of CAM can be attributed mostly to a placebo effect, and as many as 90% agreed that clinical care should integrate the best of conventional and CAM practices, (with 31% agreeing strongly). Similar positive attitudes were displayed by the high level of agreement that health care professionals should be able to advise their patients about commonly used CAM modalities, and that knowledge of CAM is important to them as future practising health professionals. However, patients' responsibilities in this area were reflected by the high belief that patients should inform their doctors of their use of CAM. Interestingly, over 40% of students did not agree with discouraging CAM therapies that have not been tested in a scientific manner.

When asked if personal spiritual or religious beliefs influenced their attitudes toward CAM, 314 (57%) students agreed and 241 (44%) disagreed. Between the two largest religious groups represented in the survey cohort, 47% of the Christians agreed and 53% disagreed, while 55% of the Buddhists agreed and 45% disagreed that their religious beliefs played a part in their attitude towards CAM.

Table 5 Medical students' attitudes to CAM

Statement	Agree and strongly agree	Disagree and strongly disagree
CAM includes ideas and methods from which conventional medicine can benefit.	513 (92.4)	42 (7.6)
The results of CAM are in most cases due to a placebo effect.	220 (39.6)	335 (60.4)
CAM therapies not tested in a scientific manner should be discouraged.	328 (59.1)	227 (40.9)
Clinical care should integrate the best of conventional and CAM practices.	507 (91.4)	48 (8.6)
Health care professionals should be able to advise their patients about commonly used CAM methods.	483 (87.0)	72 (13.0)
My spiritual/ religious beliefs influence my attitudes toward CAM.	314 (56.6)	241 (43.5)
Knowledge about CAM is important to me as a future practising health professional.	504 (90.8)	51 (9.2)
Patients should inform/consult their doctors about their use of CAM.	524 (94.4)	31 (5.6)
It is important to have CAM practices available to patients in my practice or referral network.	423 (76.3)	132 (23.7)

All figures are number of students with percentages in brackets

#### *Use of CAM after graduation*

Thinking about their future practice as health professionals, 362 (65%) students felt that they would neither encourage nor discourage their patients from using CAM in conjunction with prescribed Western therapy in the event that the patient should bring up the issue. One hundred and forty-six (26%) students felt that this should be encouraged, while 47 (9%) thought it would be wiser to discourage. Four hundred and sixty-four (84%) students also indicated that they would be willing to actively discuss with patients the options of using CAM as a form of treatment

#### *Exposure to CAM education*

Prior to the survey, 480 (87%) students had never attended any course or module in CAM, while another 75 (14%) students had done so either with National University of Singapore (NUS) or other organisations. Of the 14% who had, more than half had attended a two weeks elective on acupuncture offered by the Department of Anaesthesia, NUS. It was also noted that the majority of these students (61%) who had attended the course or module were in their clinical years.

### **Discussion**

#### *Knowledge of CAM*

This survey showed that most students have limited knowledge of CAM. Most of them were unaware of CAM modalities that are commonly practised in the West (such as naturopathy, homeopathy, osteopathy and chiropractic) and

were deficient in specific knowledge on the efficacy of CAM modalities which they claimed to know about. The two CAM modalities that the students claimed to know something about were acupuncture (57%) and TCM (52%). This could be due to the cultural background of the students (92% Chinese), but also these two modalities have been widely used by the general public.<sup>6,7</sup>

Recent reports have highlighted the need for physicians to have basic knowledge of CAM, especially the use of herbs.<sup>23,24</sup> For example, while the efficacy of St. John's Wort as a treatment for mild to moderate depressive disorders has been demonstrated by evidence-based medicine,<sup>25</sup> dangerous herb-drug interactions involving hepatic cytochrome P450 microsomal oxidase enzymes have been reported.<sup>22,26</sup> The lack of knowledge on CAM modalities suggests that medical students will not have sufficient knowledge to advise patients properly upon graduation.

When comparing the results of our study against those of other countries, it is pertinent to note the CAM modalities included in the questionnaires of the various studies. In our study, Ayurvedic medicine, Tai Chi and Qi Gong were included because these were specific to the major ethnic groups in Singapore, namely the Chinese, Malays and Indians. In contrast, these modalities were not included in questionnaires designed for predominantly Caucasian societies.<sup>9,10,13</sup> Nevertheless our questionnaire did include CAM modalities found in the other studies, such as meditation, herbal medicine and acupuncture. Thus, we hope that our study will facilitate comparisons between

medical student communities across national and cultural boundaries.

Studies in other countries revealed a geographical difference in the knowledge of CAM modalities among medical students. The Australian students' self-perceived knowledge of acupuncture, meditation and massage was the highest,<sup>9</sup> British students' knowledge of acupuncture, yoga and homeopathy were highest,<sup>10</sup> whilst the American students were most knowledgeable on massage, herbal medicine and meditation.<sup>13</sup> There were many CAM modalities which students of all four countries were found to have more knowledge of, namely acupuncture, meditation and massage. The therapies that were most understood by students were also perceived as most effective – a finding consistent with other studies.<sup>9,14</sup>

#### *General attitudes and perception of CAM*

While the majority believed in the efficacy of common CAM modalities, many were not sure of their possible harmful effects. In fact, many students believed that the various therapies were not harmful. A higher number of clinical students than pre-clinical students perceived TCM and herbal medicine as harmful, probably due to the former's greater knowledge on pharmaceutical drug interactions. Moreover, the majority of the students who had attended the CAM module were in their clinical years.

There were other similarities between our findings and those of the three above-mentioned studies.<sup>9,10,13</sup> The students in all four studies were trained in Western medicine and the majority were not exposed to CAM. Most students had limited knowledge of CAM modalities and professed interest in learning CAM, so that they could better advise their patients on this subject.

Most (86%) students welcomed the inclusion of CAM in the medical curriculum, a finding that is similar to that of other surveys.<sup>9,14,18</sup> Wetzel et al suggested that a good starting point for the inclusion of CAM is to equip students with knowledge of the therapies commonly used by the local population,<sup>27</sup> which, in our context, are acupuncture and TCM.<sup>7</sup> This coincides with the modalities which our respondents expressed the desire to know about the most.

Although 96% of the students cited the lack of scientific evidence as the major barrier to wider application of CAM, 41% of the students would accept CAM techniques that had not been tested in a scientific manner. This could signal the growth of CAM in Singapore in the future, despite the lack of scientific evidence. Similar sentiments were also expressed by Australian students.<sup>9</sup> The teaching of CAM should be evidence-based, as are other therapies. More and better research using various investigations is needed to guide choices in this uncharted territory.<sup>28</sup> There were only slight differences in the perceived barriers to CAM between pre-clinical and clinical students, amongst which, legal issue was a greater priority with clinical students. This is possibly due to their superior knowledge of the medico-legal aspects of clinical practice.

As half of the students believed that their spiritual and religious beliefs influenced their attitudes towards CAM, this could pose a problem when managing patients with different religions or beliefs who are undergoing CAM treatment. However, observing the opinions of Christians and Buddhists, it is noted that students from the different religious groups were almost equally divided. This implies that these believers were not really affected by their specific religion per se but by their individual perceptions and convictions towards their own religion.

Although there is no information on the views of practising physicians on CAM, this survey showed that the medical practitioners of the future are open to CAM. Many students acknowledge that they will encounter CAM in their medical practice in future; 91% felt that knowledge of CAM is important to them as practising health professionals. Most would neither encourage nor discourage patients from using CAM with Western therapy, but the majority (84%) are open to discussion of CAM with their patients. Many also felt that CAM includes ideas and methods which conventional medicine can benefit from. These feelings were shared by medical students in other countries.<sup>9,13,14</sup>

Despite our effort to obtain a high response rate, the overall response rate of the study was only 54%. We acknowledge that the opinions in this study may not be representative of students in

their clinical years (45% responded), particularly those in their final year (22%), and that there may be limitations to our results.

As the public's use of healing practices outside conventional medicine accelerates, ignorance of CAM by future medical practitioners can cause a communication gap between the public and the profession that serves them. It is encouraging that the majority of medical students in this survey recognise and are keen to rectify this lack of knowledge. The results of this survey are timely in view of the changing legal status of acupuncturists and TCM practitioners in Singapore.

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