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A survey of attitudes to Traditional Chinese Medicine in Hong Kong pharmacy students

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Summary *Objectives*: To study the attitudes and personal experiences with Traditional Chinese Medicine (TCM) use in pharmacy students. *Design*: Prospective cross-sectional study. *Setting*: University School of Pharmacy. *Methods*: Pharmacy students were asked 17 questions according to an anonymous survey questionnaire. Results: All 91 students (46% males) participated in the survey. The attitude toward TCM use was positive in 40%, neutral in 59% and negative in only 1%. On scales from 0 to 10, the mean (SD) scores for the adequacy of the current curriculum in TCM training and state of TCM knowledge were 3.2 (2.0) and 3.6 (1.6), respectively. Of the 35 participants who had used TCM in the past year, nearly half did so without any TCM practitioner consultation. Seventy-four percent reported that they had not been told of any side effects of TCM. When comparing the third year with first or second year students, there was no significant difference between any of these findings. *Conclusion*: The training in TCM within this 3-year pharmacy curriculum appears inadequate. Most students are not aware of any possible side effects in TCM. The attitude and practice do not appear to vary significantly between successive year of pharmacy students.

Introduction

Use of Traditional Chinese Medicine (TCM) for various diseases has been popular but scarcely studied in Hong Kong. Often, the fallacy on the parts of parents or caregivers is that they believe herbs possess therapeutic effects without any harmful consequence. This fallacy is especially prevalent in the caregivers, and possibly in the medical and para-medical professions. Burg et al. surveyed teaching staff in a Health Science Centre in the USA and found that allied health and nursing staff had the highest use of complementary therapies while pharmacy and medical staff use were among the lowest.[1] It is also important to study the attitudes to TCM use in pharmacy students as an integral part of the medical profession and to investigate if the education they receive on TCM is adequate or otherwise. Wilkinson and Simpson studied nursing,

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pharmacy and biomedical science students and found that many of these students had favourable attitudes towards complementary therapies and that many chose to use them as part of normal healthcare.[2] The School of Pharmacy at the Chinese University of Hong Kong is the only pharmacy school in Hong Kong. It is a 3-year course, and approximately 30 undergraduate pharmacy students are enrolled every year. Within the pharmacy curriculum, pharmacognosy is a subject which deals with medicinal use of natural products. In response to the popular use of TCM in Hong Kong, the training of future pharmacists will require not only the knowledge of Western medicine (WM) but also the basic knowledge on alternative therapies, including TCM. The small size of our single-school setting is ideal for studying the attitudes of a complete cohort of pharmacy students. The purpose of this study was to investigate the attitude on TCM use in pharmacy students as future healthcare providers.

Methods

The study was conducted in the middle of the academic year 2002. In order to include as many students as possible in each class, the questionnaire was distributed to the students prior to a group pharmacy lecture (unrelated to Complementary and Alternative Medicine (CAM)/TCM) where the whole class would attend. Students were reassured by the tutor that their participation was voluntary and the questionnaire anonymous. They were asked 17 questions according to the survey questionnaire (see Tables 1 and 2). The questionnaire was based on a similar questionnaire piloted in more than 100 parents to assess the extent of alternative and TCM use in a paediatric outpatient clinic. At the end of the lecture, the secretary collected the questionnaires. The internal Survey and Behavioural Research Ethics Committee of the Chinese University of Hong Kong approved this survey.

Statistical analysis

Numerical data were expressed as mean and standard deviation (SD) and compared between groups by one-way ANOVA. Categorical variables were analysed among three classes of pharmacy students by Pearson χ^2 test. All comparisons were made two-sided using SPSS 10.1 for Windows (Chicago, IL, USA). *P* values less than 0.05 were considered significant.

Results

All 91 students in the School of Pharmacy participated in the survey (100% response rate). There was remarkable uniformity in the age distribution of the three classes, possibly reflecting the competitiveness of the Hong Kong education system to

Table 1 Characteristics of survey's 91 participants.

Characteristics	1st year ($n = 31$)	2nd year ($n = 31$)	3rd year ($n = 29$)	P^*
Mean (SD) age in years	19.4 (0.6)	20.4 (0.5)	21.2 (0.4)	<0.0001
Used TCM in past year	13 (42)	9 (29)	13 (45)	0.403
Tried TCM ever before	29 (94)	29 (94)	29 (100)	0.376
Attitude towards TCM				
Positive	13 (42)	13 (42)	10 (34)	0.650
Negative	0	0	1 (3)	
Neutral	18 (58)	18 (58)	18 (62)	
Change in TCM attitude after studying Western medicine				
No change	24 (77)	23 (74)	22 (76)	0.891
More positive	6 (19)	7 (23)	7 (24)	
More negative	1 (3)	1 (3)	0	
Adequacy of TCM training (scale 0–10), mean (SD)	3.2 (2.3)	3.3 (2.1)	3.2 (1.5)	0.991
Status of current TCM knowledge (0–10), mean (SD)	2.6 (1.9)	2.6 (1.4)	2.5 (1.6)	0.974
Like to take more TCM courses				
Yes	26 (84)	25 (81)	26 (90)	0.621
No	5 (16)	6 (19)	3 (10)	

Results were expressed in numbers (percentages) unless stated otherwise.
* Analysed between three groups by Pearson χ^2 or ANOVA as appropriate.

Table 2 Details on TCM use and attitudes in 35 participants who have used TCM in the past year.

Characteristics	1st year ($n = 13$)	2nd year ($n = 9$)	3rd year ($n = 13$)	P^*
Number of TCM practitioner consultations in the past 12 months				
Nil	7 (54)	3 (33)	7 (54)	0.361
Once	2 (15)	1 (11)	0	
Two or more	2 (15)	5 (56)	4 (31)	
Others[a]	2 (15)	0	2 (15)	
Circumstances leading to TCM usages[b]				
URTI	6 (46)	9 (100)	8 (62)	0.413
Skin diseases	1 (8)	1 (11)	3 (23)	
GI diseases	4 (31)	1 (11)	2 (15)	
Others	3 (23)	1 (11)	2 (15)	
Usual practice in using TCM				
TCM without CMP	4 (31)	5 (56)	3 (23)	0.410
CMP first, then TCM	3 (23)	2 (22)	1 (8)	
WMP first, then TCM	3 (23)	2 (22)	5 (38)	
Others	3 (23)	0	4 (31)	
Types of TCM used[b]				
Herbal tea or soup	11 (85)	8 (89)	10 (77)	0.589
Over-the-counter Chinese medicine	6 (46)	5 (56)	5 (38)	
TCM Cream or ointment	2 (15)	1 (11)	3 (23)	
External application of herbs	2 (15)	1 (11)	3 (23)	
Others (e.g. acupuncture)	0	0	1 (8)	
Know of TCM practitioner or treatment[b]				
From family members or friends	11 (85)	7 (78)	9 (69)	0.689
By chance (i.e. just pick any one)	3 (23)	2 (22)	3 (23)	
By advertisement	0	1 (11)	1 (8)	
Others	0	0	1 (8)	
Reasons for taking TCM[b]				
Effective	4 (31)	3 (33)	6 (46)	0.436
Less side effects than Western medicine	5 (38)	4 (44)	4 (31)	
Illness not completely treated by Western medicine	5 (38)	5 (56)	7 (54)	
Economically reasonable	4 (31)	0	3 (23)	
Recommendation from family/friends	5 (38)	5 (56)	4 (31)	
Customary	2 (15)	1 (11)	2 (15)	
Easily accessible	2 (15)	7 (78)	4 (31)	
Others	0	0	1 (8)	
Know or been told of TCM side effects				
Yes	5 (38)	2 (22)	2 (15)	0.389
No	8 (62)	7 (78)	11 (85)	

CMP, Chinese medicine practitioner; GI, gastrointestinal; URTI, upper respiratory tract infection; TCM, traditional Chinese medicine; WMP, Western medicine practitioner. Results were expressed in numbers (percentages) unless stated otherwise.

[a] Include uncertain answers, such as seldom, as necessary, etc.

[b] Percentage exceeds 100% as subjects could choose more than one answer

[*] Analysed by Pearson χ^2 or ANOVA as appropriate.

exclude the more mature students in this highly professional career. (Table 1). Forty-six percent of the participants were males. Thirty-eight percent of the participants reported that they had used TCM at least once in the past year, and 96% reported that they had tried TCM some time before. The attitude was positive in 40%, neutral in 59% and negative in only 1%. Seventy-six percent reported no change in attitudes towards TCM after studying WM, whereas 22% reported that they had 'become more positive' and 2% had 'become more negative'. On a scale from 0 to 10, the mean (SD)

scores for the adequacy of the current TCM training and their state of TCM knowledge were 3.2 (2.0) and 3.6 (1.6), respectively. Eighty-five percent of participants reported that they wanted to take more courses in TCM. Students were offered 10 possible sources for their TCM information: television, newspaper, radio, Internet, textbooks, journals, family members or friends, medical affiliated organizations, government bodies (Department of Health, etc.) and others. Fifty-three (58%) students reported three sources, 16 (18%) reported two and 21 (23%) reported one source. Thirty-eight (42%) of the 91 participants had found information about TCM from the Internet.

In the 35 participants (38%) who had used TCM in the past year (Table 2), 48% did not make any TCM practitioner consultation in the past 12 months, 9% consulted once and 31% consulted twice or more. Upper respiratory tract infections (URTI) were the commonest circumstance leading to TCM usages. Asked what they would in circumstances that could lead to use of TCM, 34% said they would take TCM without first consulting a Chinese medicine practitioner. Seventeen percent would consult a Chinese medicine practitioner first, and then take the recommended TCM. Twenty-nine percent would consult WM physician(s) first, and resort to TCM if WM is ineffective. The commonest type of TCM, used by 83% of these participants, was herbal tea or soup; and 46% had used over-the-counter (OTC) Chinese medicine. Seventy-seven percent of participant knew of the TCM practitioner or treatment from family members or friends, but 23% would pick one by chance. There were various different reasons for taking TCM, the commonest being that the illness was not completely treated by WM. Seventy-four percent reported that they had not been told of any side effects of TCM. When comparing the third year with first or second year students, there was no significant difference between any of these findings.

Discussion

TCM has long been popular in China and many Asian cities, and is becoming increasing popular throughout the world. TCM is a form of CAM and is considered as solutions to chronic medical problems.[3-7] Lewith et al. found that at least 1 in 10 UK specialist physicians are actively involved in CAM treatments, but only 13% had received any CAM training.[8] Harmsworth and Lewith studied the attitudes to TCM amongst trained doctors in the People's Republic of China and found that doctors were influenced in their choice of treatment by their training, clinical experience and the available published research.[7] To our knowledge, this is the first cross-sectional study to investigate the attitudes and practice of pharmacy students in Hong Kong.

Use of TCM in pharmacy students

Approximately one in three pharmacy students have used TCM at least once in the past year, and nearly all have ever tried TCM. Only 1% of our students displayed a negative attitude toward TCM. This implies that TCM is well accepted by the students in pharmacy. The findings of this study are in agreement with other studies which found medical and non-medical students to have a skeptical but positive attitude to complementary medicine[9,10] and that students did not seem particularly concerned about the scientific evaluations of treatment.[11]

Pharmacy education and attitude towards TCM use

Three quarters of students reported no change in attitudes towards TCM after studying WM. Despite this, 22% of students did report that they had 'become more positive' towards TCM. Only 2% had 'become more negative'. This study also revealed that the current curriculum for TCM training within a 3-year pharmacy undergraduate course may be inadequate, and the state of TCM knowledge was only fair. It is important to note that in general, pharmacy curricula mainly focus on Western (conventional) medicines. From a separate questionnaire conducted recently, some students commented that an additional year to our current 3-year curriculum will be useful. Currently, a series of 10 lectures on TCM are offered to our third year students. These lectures provide students basic knowledge on TCM theories, TCM materia medica and herbal formulary, processing, toxicity, quality assurance and regulatory affairs of TCM. It is interesting to note that the extra 10-h lectures on TCM taken by third year students did not improve the scores for either adequacy of the current curriculum in TCM training or state of TCM knowledge, as compared with the first or second year students. With our 3-year curriculum (versus at least 4 years pharmacy curriculum in other countries), it would be difficult to further expand the area on TCM without cutting down other teaching course materials. However, Hong Kong is a city in which both Western and Chinese medicines are popularly used by the public. Hence, in the present study, over 80% of participants reported that they wanted to take more courses in TCM.

The finding is in agreement with findings of studies in medical and other students.[9-11] To bridge the gap, the departmental curriculum committee of the School of Pharmacy has been considering the possibility of offering postgraduate courses (e.g. diplomas, certificates, etc.) on TCM for graduate pharmacists. Similar CAM modules have been developed in Europe and in the United States.[12,13] Contrary to the findings by Wilkinson and Simpson[2] that only a small percentage of pharmacy students used the Internet for information, more than one third of our students reported that they used the Internet for TCM information. Web-based distance learning curriculum may also be an option.

TCM as alternative therapy

From the 35 participants who had used TCM in the past year, nearly half did not consult any TCM practitioner beforehand. Also, nearly half of the students reported using OTC Chinese medicine. Asian people commonly use TCM as a form of alternative therapy, and it is interesting to see similar phenomenon in pharmacy students who are supposed to be educated to use and to respect all forms of medicinal use. As mentioned above, other investigators found that students did not seem particularly concerned about the scientific evaluation of treatment.[11] Perhaps they recovered independently of the use of TCM. Lewith and Chan suggested that the choice of treatment was based largely on the type of illness from which they were suffering.[14] In this survey, URTI was the commonest reason for use of TCM, and one third of students said they would immediately take TCM without consulting a Chinese medicine practitioner whereas another third would consult WM physician(s) first. Only one in six students would consult a Chinese medicine practitioner first. Surprisingly, three-quarters reported that they had not been told of any side effects of TCM. Even among these pharmacists-in-training, the potentials of adverse effects of TCM are probably underestimated. When comparing the third year with first or second year students, there was no significant difference between any of these findings, which implies that pharmacy education alone may not alter the attitude and practice of TCM among the pharmacy students. The Southampton experience demonstrates that a special study module on CAM can result in a significant change in student attitudes to CAM and was well received by the medical students.[15] The module also seems to be effective for other paramedical professions, such as nurses and chiropractors.[16]

One limitation of this study is that the survey is a self-administered questionnaire instead of an interview. The reliability of the answers cannot be verified. Also, it is not feasible to eliminate the possibility of recall bias for use of 'TCM ever' unless the data are obtained prospectively. The students may not know or remember events pertinent to TCM use in childhood. Also, the sample size of 91 students may be too small to detect a difference between groups (different years). The participation of all the students eliminates selection bias. The fact that there is only one School of Pharmacy in Hong Kong eliminates any possibility of studying inter-school variability, and means we were unable to increase the sample size. Most importantly, English is used in the survey in this Asian city, which obviates the problems with language and translation as encountered in the study in Shenyang.[7]

Although it should not be assumed that what the respondents would do for themselves would be the same as they would advise their patients, personal familiarity with complementary therapies is associated with willingness to refer others to complementary therapies.[1]

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