

## Attitudes of Alberta Pharmacists Pertaining to Traditional Chinese Medicine Practice and Complementary Alternative Medicine

Kathie Tam and Hoan Linh Banh\*

Department of Family Medicine, Faculty of Medicine and Dentistry, University of Alberta, 1706 College Plaza, 8215 112th Street, Edmonton, AB, T5S 1K9, Canada

### Abstract

**Objective:** To evaluate the perceived attitudes toward the use of Complementary Alternative Medicine (CAM) and Traditional Chinese Medicine (TCM) by pharmacists in Alberta

**Methods:** An online survey was created using Google Documents®. The URL link was distributed to all registered pharmacists through Alberta College of Pharmacists monthly electronic newsletter "The Link".

**Results:** A total of 217 (5%) pharmacists completed the survey. Over half (54%) of pharmacists either approve or strongly approve, 20% either strongly disapproved or disapprove with the use of CAM and TCM. Sixty-four percent of pharmacists felt that they were not prepared to counsel patients regarding CAM and TCM, while 88% of pharmacists agree that TCM and CAM should be integrated in the pharmacy curriculum at the University of Alberta.

**Conclusions:** Pharmacists felt they are not prepared to counsel patients regarding CAM and TCM. While most pharmacists have a positive attitude towards the use of CAM and TCM, it has also been identified that CAM and TCM courses should be included in the curriculum to better prepare future pharmacists.

**Keywords:** Alternative Medicine; Traditional Chinese Medicine; Complementary and alternative medicine

### Introduction

Complementary and alternative medicine (CAM) defined by the National Institute of Health (NIH) as "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine or western medicine". (1) According to NIH definition CAM includes [1]:

1. Natural health products (NHP);
2. Mind-body medicine (including practices such as yoga and acupuncture);
3. Manipulative and body-based systems; and
4. Traditional Chinese medicine.

Traditional Chinese Medicine (TCM) is defined by modalities such as "Chinese herbal medicine, moxibustion, acupuncture or Tuina". TCM encompasses "herbs, herbal materials, herbal preparations and finished herbal products ... [and] may contain non-plant substances" [2]. Approximately 5% of patients in a Vancouver Chinatown survey had used both Chinese and Western medicine concurrently [3]. More than 50% of population in the world use CAM concomitantly with western medicine [4]. CAM is used to treat simple conditions such as back problems, anxiety, and headaches or more complex conditions such as depression, rheumatic diseases, and cancer [5,6].

On January 1, 2004, the Natural Health Product Directorate (NHPD) became the regulatory body for natural health products (NHP) sold in Canada. Based on the survey conducted in 2005, consumers anticipate a growth in the use of NHP in Canada [7]. The majority of Canadians agree that they need additional information on NHPs and that initiative to inform Canadians about NHPs is essential. In 2010, the Ipsos-Reid survey reports that 73% of Canadians have used a CAM product, compared to 71% reported in the 2005 Ipsos-Reid survey [8]. Numerous studies indicate that consumers of CAM generally choose products based on information or recommendations from the Internet®, family, friends, pharmacy assistants, naturopaths, herbalists, physicians,

health food store staff, and their pharmacists [5,8,9]. A study showed that 92% of the Australian pharmacy customers agree that pharmacists should be providing customers with information regarding safety and efficacy of CAM products, and 87% believe that pharmacists should be knowledgeable in recommending CAM products that are effective and safe [9]. Major barriers preventing pharmacists from providing holistic patient care is due to non-disclosure from patients regarding CAM use [10]. The main reasons patients do not disclose the use of CAM are 1) they believe that health care providers do not have the need to know about their CAM use, 2) negative responses from the health care provider if the patient disclosed CAM use; and 3) lack of health care provider initiation in assessing CAM use [10].

Studies have identified lack of regulation, lack of scientific evidence and unfamiliarity with CAM practices as key issues that hinder the inclusion of CAM in patient centered care by health care providers [11,12]. More importantly, pharmacy and medical students recommend including CAM in the curriculum [13-16].

Pharmacists are the most easily accessible health care providers in many countries including Canada and are often the providers whom patients commonly refer to seek advice on CAM products. Yet, pharmacists in Canada have identified a lack of knowledge regarding CAM products as a major barrier, especially in a lack of knowledge regarding specific mechanisms of action, adverse effects, drug-herbal interactions and doses of certain CAM products [17-22]. The

\*Corresponding author: Hoan Linh Banh, Associate Professor, Department of Family Medicine, Faculty of Medicine and Dentistry, University of Alberta, 1706 College Plaza, 8215 112th Street, Edmonton, AB, T5S 1K9, Canada, Tel: 780-993-1759; Fax: 780-488-2396; E-mail: [hoan@ualberta.ca](mailto:hoan@ualberta.ca)

Received April 16, 2014; Accepted May 13, 2014; Published May 20, 2014

**Citation:** Tam K, Banh HL (2014) Attitudes of Alberta Pharmacists Pertaining to Traditional Chinese Medicine Practice and Complementary Alternative Medicine. J Pharma Care Health Sys 1: 108. doi:10.4172/jpchs.1000108

**Copyright:** © 2014 Tam K, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Parameters	n (%)
Gender	
Male	64 (29.5)
Female	152 (70)
Prefer Not to Disclose	1(.5)
Age (y)	
20 - 30	58 (26.7)
31 - 40	53 (24.4)
41 - 50	53 (24.4)
51 - 60	38 (17.5)
>60	12 (5.5)
Prefer Not to Disclose	3(1.5)
Practice Setting	
Community	153 (70.5)
Hospital	33 (15.2)
Community/hospital	9 (4)
Academia/consulting	5 (2.3)
Primary care	9 (4)
Other	8 (3.6)
University Graduated From	
University of Alberta	165 (76)
University of Saskatchewan	22 (10)
University of British Columbia	5 (2.3)
University of Toronto	4 (1.8)
University of Manitoba	5 (2.3)
Memorial University of Newfoundland	1 (.5)
Dalhousie University	2 (1)
University from USA	4 (1.8)
Other	9 (3.6)

Table 1: Demographics.

2010 Ipsos-Reid survey reported 41% of consumers prefer asking pharmacists for information regarding CAM products compared to the 27% in 2005 [8]. Under the Standards for Pharmacist Practice from the Health Professions Act, pharmacists in Alberta “must take reasonable steps to... provide information to a person who... requests assistance in making a choice about a... health care product” [23]. This means that with respect to CAM practices such as the use of natural health products and TCM, pharmacists must be able to provide patients with appropriate information to help patients make informed decisions. Most pharmacists believe that they have a professional responsibility to provide information to patients regarding CAM [5]. With Alberta pharmacists expanding their scope of practice, it is important to evaluate the perceived attitudes and knowledge of pharmacists regarding TCM and CAM practices in Alberta. The purpose of this study is to investigate the perceived attitudes and knowledge competency of pharmacists practicing in Alberta regarding TCM and CAM practices.

## Materials and Methods

### Study design

An online survey was created through Google Documents®. Answers to most of the questions were in a 5 point Likert scale. The

URL link to the survey along with a letter of information was circulated to all registered pharmacists through Alberta College of Pharmacists electronic newsletter “The Link”.

### Data collection

Data were recorded on to a spreadsheet using Google Documents®

### Statistical analysis

Data were collected on a spreadsheet using Google Documents. Each survey was assigned a sequential number as data were being collected. Data analyses were primarily limited to descriptive statistics. All variables were reported as proportions or mean and standard deviations, where applicable.

### Ethics approval

The Research Ethics Board from the University of Alberta granted approval for this study.

### Results

The survey was circulated three times in three months. A total of 219 surveys were completed. Two responses were omitted: one due to incomplete response, and the other due to the unclear status of the responder. Therefore, 217 surveys were included for analysis. A total of 4200 pharmacists registered in Alberta at the time the survey was circulated which resulted in a response rate of only 5%. Over 70% of the pharmacists were female and a majority of responders were less than 50 years of age. Pharmacists practiced in the following settings: 71% (153) in community pharmacies, 24.4% (33) in hospital and 14% (31) in others. Three quarter of pharmacists (163) graduated from University of Alberta, 15% (22) from University of Saskatchewan. Other demographic data are listed in Tables 1-3.

Almost 70% of pharmacists used CAM or TCM. Majority of pharmacists felt they are not prepared to provide patient education or counseling on CAM and TCM upon graduation. Interestingly, the number of pharmacists who felt confident in providing education or counseling on CAM and TCM are similar to those does not feel confident. Most pharmacists expressed interest in obtaining further education in CAM and TCM. Nearly 90% of pharmacists agree or strongly agree that CAM and TCM should be included in the pharmacy curriculum (Table 4).

Regarding the patient assessment of CAM and TCM use, 79% either agreed or strongly agreed that it is essential part of standard patient care (Table 5).

### Discussion

CAM and TCM practices remain controversial despite the increased use worldwide. It has been shown schools that offer elective

Age	Prepared to Counsel/Educate					Confident to Counsel/Educate					Desired Further Education				
	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA
20 – 30	4	28	11	15	0	6	22	17	12	1	2	5	10	32	9
31 – 40	9	16	16	11	1	6	19	14	11	3	4	5	9	26	9
41 – 50	20	18	9	4	2	8	15	15	9	6	5	2	6	25	15
51 – 60	14	19	5	0	0	5	10	7	16	0	1	3	5	19	10
> 60	6	4	1	1	0	1	4	2	4	1	1	1	3	3	4
Prefer Not to Disclose	0	1	2	0	0	0	1	1	0	1	0	0	2	0	1

SD – Strongly Disagree; D – Disagree; N – Neutral; A – Agree; SA – Strongly Agree

Table 2: Education on CAM or TCM by Age Group.

Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
Prepared to provide patient education and counseling for CAM after graduation	53 (24)	86 (40)	44 (20)	31 (14)	3 (2)
Confident in counseling patients on CAM or TCM	26 (12)	71 (33)	56 (26)	52 (24)	12 (6)
CAM and TCM should be included in pharmacy curriculum	9 (4)	4 (2)	14 (6)	116 (54)	74 (34)
Expressed interest in obtaining further education in CAM and TCM	13 (6)	16 (8)	35 (16)	105 (48)	48 (22)

Table 3: Perceived Education on CAM and TCM.

	CAM n (%)	TCM n (%)	Both n (%)	Neither n (%)
Adequate research or evidence to support practice	47 (22)	9 (4)	70 (32)	91 (42)
More effective than Western medicine in treatment of certain ailments such as cancer	6 (3)	10 (5)	14 (6)	187 (86)
Most accepted by patients	122 (56)	5 (2)	33 (15)	57 (26)

Table 4: Pharmacists attitudes toward CAM and TCM.

Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
Assessment of CAM use by a pharmacist is crucial in patient centered care	7 (3)	8 (4)	30 (14)	121 (56)	51 (23)
Regular assessment of patient CAM use is part of the standard patient care	9 (4)	23 (11)	37 (17)	105 (48)	43 (20)

Table 5: Use of CAM and TCM in practice.

CAM education reports increased self-assessed knowledge, and more positive attitudes towards CAM [4,5,24-28]. By incorporating CAM education into pharmacy curriculum over several years leads to an increase in students' knowledge [4].

Most of the surveyed pharmacists from our study did not feel prepared or confident to provide patient counseling or education on CAM or TCM. The results from our study are consistent with previous studies [9,18,19]. This is not surprising given the lack of formal education about CAM and TCM in pharmacy curricula. It has been shown that pharmacy students scored higher in herbal knowledge scores when these courses are mandatory [17]. A CAM elective course was offered as an elective stand alone course at university of Alberta from 2000 - 2008. Topics included were herbs, functional foods, CAM modalities, vitamins/minerals, homeopathy, and other supplements [17]. Currently the elective course is no longer offered as required or elective stand alone course in the pharmacy curriculum at the University of Alberta. Since then, a new pharmacy curriculum was implemented where the diseases/conditions are being taught as modules. Concepts of CAM and TCM are to be integrated into each module throughout the 4 year pharmacy curriculum. Although, CAM was offered as an elective for 8 years, interestingly, pharmacists in all age groups do not feel prepared to provide patient counseling or education. They all desired further education on CAM/TCM. This is in keeping with the previous study that students retain the information better when the course is mandatory [17].

Community pharmacists are the most visible and accessible health care providers. Patients could go to a pharmacy anytime without an appointment. Over 70% of pharmacists completed the survey worked in community pharmacies in Alberta, yet, 51% of these pharmacists do not feel confident in providing patient counseling or education on CAM and TCM. About 40% of community pharmacists do not feel prepared to provide patient counseling or education on CAM and TCM upon graduation. Overall, 95% pharmacists approved the use of CAM and TCM.

The results from the survey indicated a need to include CAM and TCM to pharmacy curriculum at University of Alberta. A needs assessment should be conducted to identify the best way for current pharmacists to obtain further education on CAM and TCM.

## Limitations

The electronic link to the survey was distributed through Alberta College of Pharmacists electronic monthly newsletter. Unfortunately, not every pharmacist read the electronic newsletter. This may explain the low (5%) response rate for the study. Also, a possible lack of interest in the topic may have resulted in a low response rate.

## Conclusion

It appears that pharmacists in Alberta do not feel confident or prepared to provide patient counseling and education on CAM and TCM. Most desired to obtain further education on CAM and TCM.

## References

1. National institutes of health. what is complementary and alternative medicine?
2. Benchmarks for training in traditional /complementary and alternative medicine: World health organization
3. Wong LK, Jue P, Lam A, Yeung W, Cham-Wah Y, et al. (1998) Chinese herbal medicine and acupuncture. How do patients who consult family physicians use these therapies? *Can Fam Physician* 44: 1009-1015.
4. Tiralongo E, Wallis M (2008) Integrating complementary and alternative medicine education into the pharmacy curriculum. *Am J Pharm Educ* 72: 74.
5. Koh HL, Teo HH, Ng HL (2003) Pharmacists' patterns of use, knowledge, and attitudes toward complementary and alternative medicine. *J Altern Complement Med* 9: 51-63.
6. Ernst E (2000) Prevalence of use of complementary/alternative medicine: a systematic review. *Bull World Health Organ* 78: 252-257.
7. Natural health products directorate. Baseline natural health products survey among consumers: Final report. natural health products directorate
8. Braun LA, Tiralongo E, Wilkinson JM, Spitzer O, Bailey M, et al. (2010) Perceptions, use and attitudes of pharmacy customers on complementary medicines and pharmacy practice. *BMC Complement Altern Med* 10: 38.
9. Robinson A, McGrail MR (2004) Disclosure of CAM use to medical practitioners: a review of qualitative and quantitative studies. *Complement Ther Med* 12: 90-98.
10. Harris IM, Kingston RL, Rodriguez R, Choudary V (2006) Attitudes towards complementary and alternative medicine among pharmacy faculty and students. *Am J Pharm Educ* 70: 129.
11. Kaczorowski J, Patterson C, Arthur H, Mith KS, Mills DA (2002) Complementary therapy involvement of physicians: implications for practice and learning. *Complement Ther Med* 10: 134-140.

12. Greiner KA, Murray JL, Kallail KJ (2000) Medical student interest in alternative medicine. *J Altern Complement Med* 6: 231-234.
13. Hopper I, Cohen M (1998) Complementary therapies and the medical profession: a study of medical students' attitudes. *Altern Ther Health Med* 4: 68-73.
14. Sahar T, Sallon S (2001) [Attitudes and exposuer of Israeli medical students to complementary medicine--a survey]. *Harefuah* 140: 907-910, 991.
15. Yeo AS, Yeo JC, Yeo C, Lee CH, Lim LF, et al. (2005) Perceptions of complementary and alternative medicine amongst medical students in Singapore--a survey. *Acupunct Med* 23: 19-26.
16. Johnson T, Boon H, Jurgens T, Austin Z, Moineddin R, et al. (2008) Canadian pharmacy students' knowledge of herbal medicine. *Am J Pharm Educ* 72: 75.
17. Clauson KA, McQueen CE, Shields KM, Bryant PJ (2003) Knowledge and attitudes of pharmacists in missouri regarding natural products. *Am J Pharm Educ* 67: Article 41.
18. Chang ZG, Kennedy DT, Holdford DA, Small RE (2000) Pharmacists' knowledge and attitudes toward herbal medicine. *Ann Pharmacother* 34: 710-715.
19. Rickert K, Martinez RR, Martinez TT (1999) Pharmacist knowledge of common herbal preparations. *Proc West Pharmacol Soc* 42: 1-2.
20. Dvorkin L, Gardiner P, Whelan JS (2004) Herbal medicine course within pharmacy curriculum. *J Herb Pharmacother* 4: 47-58.
21. Shields KM, McQueen CE, Bryant PJ (2003) Natural product education in schools of pharmacy in the united states. *Am J Pharm Educ* 67: 108.
22. Alberta College of pharmacists. Standards of practice for pharmacists and pharmacy technicians.
23. Cornman BJ, Carr CA, Heitkemper MM (2006) Integrating CAM into nursing curricula: CAM camp as an educational intervention. *Explore (NY)* 2: 226-231.
24. Torkelson C, Harris I, Kreitzer MJ (2006) Evaluation of a complementary and alternative medicine rotation in medical school. *Altern Ther Health Med* 12: 30-34.
25. Brown CM, Barner JC, Shah S (2005) Community pharmacists' actions when patients use complementary and alternative therapies with medications. *J Am Pharm Assoc* (2003) 45: 41-47.
26. Dolder C, Lacro J, Dolder N, Gregory P (2003) Pharmacists' use of and attitudes and beliefs about alternative medications. *Am J Health Syst Pharm* 60: 1352-1357.
27. Naidu S, Wilkinson JM, Simpson MD (2005) Attitudes of Australian pharmacists toward complementary and alternative medicines. *Ann Pharmacother* 39: 1456-1461.
28. Fearon J (2003) Complementary therapies: knowledge and attitudes of health professionals. *Paediatr Nurs* 15: 31-35.