Personal use and professional recommendations of complementary and alternative medicine by Hong Kong registered nurses

Charlie CL Xue 薛長利
Anthony L Zhang 張　林
Eleanor Holroyd 賀雅琳
Lorna KP Suen 孫桂萍

Objective To provide an understanding of Hong Kong registered nurses' personal and professional use of complementary and alternative medicine.

Design Cross-sectional questionnaire study.

Participants Registered nurses who were members of the Hong Kong College of Nursing were invited to participate.

Main outcome measures Demographic data of the respondents, prevalence of personal and professional use of complementary and alternative medicines, including their use for detailed clinical conditions.

Results A total of 187 nurses participated in this study. Nearly four fifths (80%; 95% confidence interval, 74-86%) of the participants had used at least one form of complementary/alternative medicine. In addition to the personal use of such treatment, over two fifths (41%; 95% confidence interval, 34-48%) had recommended at least one form of complementary/alternative medicine to their patients. These included bone-setting (20%), Chinese remedial massage (*tuina*, 19%), and meditation (19%). Specifically, registered nurses recommended acupuncture or acupressure to patients with musculoskeletal disorders, chronic pain, or headaches/migraines.

Conclusions Personal use and professional recommendations for complementary and alternative medicine by registered nurses in Hong Kong is substantial. Registered nurses played an active role in advising such treatment for their patients based on their personal knowledge of perceived benefit in specific conditions. Further investigations with a larger sample size should focus on registered nurses' educational needs in respect of complementary and alternative medicine and the advice they recommended.

Division of Chinese Medicine, School of Health Sciences, The WHO Collaborating Centre for Traditional Medicine, RMIT University, Melbourne, Australia
CCL Xue, BMed, PhD
AL Zhang, MPH, PhD
Division of Nursing and Midwifery, School of Health Sciences, RMIT University, Melbourne, Australia
E Holroyd, RN, PhD (Medical Anthropology)
The Nethersole School of Nursing, The Chinese University of Hong Kong, Sha Tin, Hong Kong
LKP Suen, MPH, PhD

Correspondence to: Prof E Holroyd
E-mail: eleanor.holroyd@rmit.edu.au

Introduction

Complementary and alternative medicine (CAM) consists of a diverse range of therapeutic approaches (eg acupuncture, chiropractic, aromatherapy, and music therapy). In a number of countries they have gained increasing popularity over the last two decades.[1,2]

In Hong Kong, Chinese medicine (CM) is widely used among the general population[3] and increasingly given policy recognition to co-exist alongside more conventional biomedical health care.[4] The practice of CM in Hong Kong includes Chinese herbal medicine, acupuncture, and bone-setting techniques. In recent years the role of nurses in the popular uptake of CM for chronic illnesses has been a topic of debate within the profession.

In 1999, the status of CM was officially recognised by the Hong Kong SAR Government in the form of a 5-year university education programme (eg the Chinese University of Hong Kong, Hong Kong Baptist University). In response to such recognition, the Nursing Council of Hong Kong recently commended a mandatory 40 hours of CAM (including CM) theory for all undergraduate nursing courses.[5]

In recent years, a number of studies on the use of CM for specific conditions such as fatigue and nausea in post-cancer treatment[6] and oral health[7] were completed in Hong Kong. A larger survey conducted in 1999 examining knowledge, attitudes, and

behaviours towards CM drew on registered nurses (RNs) in public hospitals in Hong Kong,[8] and found a high level of understanding and positive attitudes towards its use. According to this survey, the most frequent use was in Hong Kong's postnatal wards, and it identified personal health consciousnesses as a significant factor influencing personal use of CM by RNs.

Despite the fact that in Hong Kong both CM and western medicine are widely practised concurrently in the community, the rationale for health choices remains largely based on lay understanding of the nature of the illness.[9] There are little empirical data on current understanding of the principles, practices, and scope of CM by Hong Kong RNs. Moreover, there remains a knowledge gap in respect of their personal and professional use of CAM, and CM in particular, despite the increasing international attention directed at the progression of holistic health care.[10] The current study aimed to provide an understanding of the relationship between CAM knowledge, personal use and professional recommendations and nursing in Hong Kong.

Methods

This cross-sectional survey was conducted between March and June 2006 after obtaining approval from the ethics committee of the Chinese University of Hong Kong.

Instruments

The survey instrument comprised three components: the UC Irvine Survey of Health Care Use and Practice questionnaire developed by Lie and Boker[11]; the subscales of knowledge and attitudes of a survey on the use of CM by health professionals[8]; and demographic data (ie age, gender, ethnicity, educational background, working experience [in years], and clinical specialty).

The UC Irvine Survey questionnaire is a validated instrument that measures learner outcomes regarding CAM health beliefs and integrative medicine attitudes. The Cronbach's coefficient alpha in the psychometric testing is 0.83.[11] The Tzeng's RN survey instrument has established validity and reliability in Chinese populations,[8] with Cronbach's alpha being 0.76 and 0.79 for attitude and utilisation subscales, respectively.

Data collection

A letter of invitation to participate in the study, an information sheet, a survey sheet, and a self-addressed, stamped return envelope were sent to RNs who were members of the Hong Kong College of Nursing. Recipients were asked to return the envelope to the principal investigator within 3 weeks

對香港註冊護士個人及專業應用輔助及替補醫學的研究調查

目的 探討香港註冊護士個人及專業應用輔助及替補醫學的情況。

設計 橫面問卷調查。

參與者 香港護理學院的註冊護士。

主要結果測量 填寫問卷者的基本資料，個人及專業應用輔助及替補醫學的比率，包括對輔助及替補醫學具體的臨床疾病應用。

結果 共有187名護士參與本研究。接近八成（80%，95%置信區間：74至86%）護士曾經至少一次個人應用過輔助及替補醫學。此外，超過四成護士（41%，95%置信區間：34至48%）曾經推薦她們的病人應用輔助及替補醫學。其中最常見的是跌打骨傷(20%)，中醫推拿(19%)以及靜坐(19%)。具體而言，香港註冊護士常常會推薦針灸和針壓療法給有肌骨失常、慢性疼痛、頭痛及偏頭痛的病人。

結論 香港註冊護士個人和專業應用輔助及替補醫學廣泛。她們按輔助及替補醫學對不同疾病帶來的好處的認識，在推薦病人中成主導。將來有必要進行一項針對護士對於輔助及替補醫學教育培訓及其對病人的建議的大型研究。

of receiving the material.

Data analysis

All questionnaires were de-identified (coded numerically) to preserve anonymity of participants. Data were analysed using the Statistical Package for the Social Sciences (Windows version 15.0; SPSS Inc, Chicago [IL], US). Proportions, with 95% confidence intervals, were used to report prevalence estimates. Where appropriate, t tests and Chi squared tests were used to determine the significance of differences in the use of CAM between groups of nurses. A significance level of $P<0.05$ was set for all statistical analyses.

Results

Characteristics of participants

As shown in Table 1, a total of 187 nurses responded to the invitation letter; 77% were female and 23% male. With respect to their role in the nursing profession, 83% were practising general nursing with a smaller proportion employed as nursing specialists, nursing educators, and nursing administrators. The most common areas of nursing practice were general medicine (29%), intensive and critical care (23%), accident and emergency (14%), and surgery (10%). Regardless of their areas of practice and professional

TABLE 1. Self-reported demographic characteristics, educational backgrounds, nursing experience, health status, and complementary and alternative medicine (CAM) use of all participants and CAM users

Characteristic	Participants		CAM users	
	n	%*	%	P value
Gender				0.07
Female	144	77	83	
Male	43	23	70	
Age (years)				0.64
20-29	75	41	80	
30-39	81	44	83	
40-49	25	14	72	
≥50	3	2	67	
Educational background				0.42
Certificate/diploma	18	10	78	
Bachelor	140	76	78	
Postgraduate	27	15	89	
Previous training in CAM				0.18
Yes	45	24	87	
No	142	76	78	
Nursing experience (years)				0.15
0-5	51	28	75	
6-10	65	35	88	
11-15	35	19	86	
16-20	19	10	74	
>20	14	8	64	
Self-reported health status				0.71
Excellent	4	2	75	
Good	109	58	78	
Fair	70	37	81	
Poor	4	2	100	
Religion				0.12
No religion	109	59	75	
Catholic	66	35	88	
Other	11	6	75	

* Missing data are excluded

roles, the vast majority (90%) had completed at least a bachelor's degree level of education. Almost one in four (24%) of the participating nurses had completed some training in CAM therapies, mainly CM and/or acupuncture.

Prevalence of complementary and alternative medicine use

In all, 80% (95% confidence interval [CI], 74-86%) of the participants had used at least one form of CAM. The 10 most frequently used forms, in descending order, were: massage therapy, Chinese herbal medicine, bone-setting, reflexology, Chinese remedial massage (*tuina*), aromatherapy, tonic products usage, use of medicinal or flower teas, acupuncture and moxibustion, and yoga (Table 2). Notably, about half of the participants had used massage (54%) or Chinese herbal medicine (50%).

Socio-demographic characteristics of nursing complementary and alternative medicine users

Table 1 shows the socio-demographic data of the RN respondents, including the subgroup who were CAM users. There was a relatively higher proportion of CAM users among females, those less than 40 years old, those with postgraduate qualifications, those who had received CAM training, and nurses with self-assessed poor health. However, none of these

TABLE 2. Forms of complementary and alternative medicine (CAM) used by participants and recommended to their patients

Type of CAM	Personal use		Recommended to patients	
	%	95% CI	%	95% CI
Massage	54.0	46.9–61.1	15.5	10.3–20.7
Chinese herbal medicine/herbal decoction	50.3	43.1–57.5	4.8	1.7–7.9
Bone-setting	33.7	26.9–40.5	19.8	14.1–25.5
Reflexology	32.6	25.9–39.3	10.2	5.8–14.5
Chinese remedial massage (*tuina*)	31.6	24.9–38.3	18.7	13.1–24.3
Aromatherapy	27.8	21.4–34.2	1.1	-0.4–2.5
Tonic products	26.2	19.9–32.5	13.9	8.9–18.9
Medicinal tea/flower tea	25.7	19.4–32.0	3.2	0.7–5.7
Acupuncture and moxibustion	24.6	18.4–30.8	15.0	9.9–20.1
Yoga	22.5	16.5–28.5	11.2	6.7–15.8
Cupping	17.1	11.7–22.5	2.7	0.4–5.0
Chiropractic	9.6	5.4–13.8	7.0	3.3–10.6
Tai chi	7.0	3.3–10.7	8.6	4.5–12.6
Magnetic products	7.0	3.3–10.7	9.6	5.4–13.9
Music therapy	5.3	2.1–8.5	5.3	2.1–8.6
Meditation	3.2	0.7–5.7	18.7	13.1–24.3
Qi gong	2.1	0.0–4.2	8.6	4.5–12.6
Hypnosis	1.1	-0.4–2.6	3.7	1.0–6.5
Homeopathy	0.5	-0.5–1.5	2.7	0.4–5.0
At least one of the above forms of CAM	80	74–86	41	34–48

socio-demographic indicators demonstrated any statistically significant difference between users and non-users.

Cross-tabulation analyses revealed that certain characteristics correlated significantly with the use of specific forms of CAM. Specifically, a higher proportion of female nurses used Chinese herbal medicine, yoga, and medicinal/flower tea (all with P<0.05). For example, female nurses were 10 times more likely to practise yoga than males (29% female vs 2% male, P<0.001).

Nurses who reported being Catholics were less likely to use cupping (12%) than those without a religious belief (17%) or other religious faiths (42%, P<0.05). In contrast, over two fifths (46%) of the Catholic nurses or those of other faiths (42%) used reflexology, compared to less than one quarter (24%) of those with no religion (P<0.05). Those with more than 20 years of nursing experience were more likely to use Chinese remedial massage (*tuina*) [50%] but significantly less used other types of massage (29%). Those with less than 5 years' nursing experience were more likely to use other types of massage (59%) than Chinese remedial massage (*tuina*) [16%].

Recommending complementary and alternative medicine therapies to patients

Besides the personal use of CAM, over two fifths (41%; 95% CI, 34-48%) of the participating nurses had recommended at least one form of CAM to their patients (Table 2). Most commonly they recommended bone-setting (20%), Chinese remedial massage (*tuina*) [19%], meditation (19%), other massage therapy (16%), and acupuncture/moxibustion (15%).

Perceived health benefits of complementary and alternative medicine therapies to their patients

As shown in Table 3, of the 15 conditions listed in the survey, approximately half of respondents considered that patients with musculoskeletal disorders, chronic pain, or headache/migraine could benefit from acupuncture or acupressure treatment. In addition, approximately 40% to 60% considered Chinese herbal medicine could be useful for patients with skin disorders, gastro-intestinal disorders, allergic conditions, gynaecological conditions, other respiratory diseases, and malignant diseases.

Over one third of the participants indicated that Chinese herbal medicine, Tai chi, and Qi gong could enhance general health. Qi gong (16.6%) and Tai chi (27.3%) were considered beneficial for patients with dementia or Alzheimer's disease. In contrast, less than 20% of the participants believed that five of the nominated therapies would be beneficial for patients with behavioural disorders, mental illnesses, substance abuse, and (drug) dependence.

TABLE 3. Use of specific complementary and alternative medicine (CAM) therapies for conditions considered to be potentially beneficial

Condition	% of nurses considered that patients with the specific condition could benefit from the use of						
	Chinese herbal medicine	Acupuncture	Qi gong	Tai chi	Acupressure	Other CAM	The most commonly used other CAM
Musculoskeletal disorders	11.8	52.4	9.6	25.1	66.3	7.5	Massage
Chronic pain	14.4	67.9	12.3	16.6	48.1	2.1	Massage
Headache/migraine	19.3	43.9	8.0	8.0	52.4	3.2	Aromatherapy
Skin disorders	58.3	5.9	1.6	1.6	3.7	1.6	Aromatherapy
Gastro-intestinal disorders	48.1	14.4	7.0	4.8	15.5	0.5	Hot spring
Allergic conditions	45.5	9.6	1.6	2.1	4.3	0.5	Hot spring
Gynaecological conditions	39.0	15.0	7.5	5.9	10.2	0	NA*
Respiratory diseases	39.0	15.0	26.2	19.8	9.6	1.1	Aromatherapy
Behavioural problems	6.4	8.6	7.5	11.2	4.3	5.9	Music therapy
Malignant diseases	46.5	17.1	20.9	8.0	7.0	0.5	Supplement
Neuro-disabilities	16.6	31.6	7.0	8.0	16.0	0	NA
Mental illnesses	5.9	8.0	7.5	11.8	5.9	3.2	Music therapy
Substance abuse/dependence	14.4	17.2	5.9	9.1	5.9	2.1	Music therapy
Health promotion	39.6	13.4	34.8	51.3	25.1	3.7	Aromatherapy
Dementia/Alzheimer's disease	9.6	13.4	16.6	27.3	8.6	5.9	Mah-jong

* NA denotes not applicable

Interestingly, eight (4%) nurses considered mah-jong (a traditional Chinese game) to be a form of CAM, which could be beneficial for dementia or Alzheimer's disease.

Discussion

The present study examined the use of CAM by RNs in Hong Kong, and how this influenced their patient's use of CAM based on the perceived health benefits of such therapies for various conditions. Nurses play a unique role in health care, particularly by virtue of their extensive interaction and communication with patients. Thus, their beliefs and personal experience with these therapies appear to have a significant influence on their patients' uptake of various forms of CAM for individual health needs, particularly in respect of disabling chronic illnesses.

Notably nearly 80% of the surveyed RNs had personally used CAM; more than half of them had used massage or Chinese herbal medicine. With respect to socio-demographic characteristics of CAM users, they were more commonly used by females, younger nurses with postgraduate qualifications, and in particular those who had previously received CAM training. These findings were consistent with reports from studies on CAM usage among the general population in Australia[2] and in the United States.[12] However, due to the relatively small sample size in our study, none of the above-mentioned factors demonstrated significance in determining the use of CAM.

The present study revealed that approximately two in five nurses had recommended a wide range of CAM therapies to their patients, including bone-setting techniques, Chinese remedial massage, or meditation. Our investigation indicated that these recommendations were based on nurses' perceived health benefits, for example, a substantial proportion of RNs considered that Tai chi, Qi gong, and Chinese herbal medicine could improve general health. Specifically, RNs in Hong Kong would recommend acupuncture or acupressure to patients with musculoskeletal disorders, chronic pain, or headache/migraine. In addition, they commonly recommended Chinese herbal medicine to patients with skin disorders, gastro-intestinal diseases, allergies, and malignant diseases. Whilst a lay benefit-based approach was encouraging, the scientific evidence base for such recommendations was generally weak, not properly understood, and inaccessible to health care professionals.

In addition to the benefit that may be associated with the use of CAM, safety protocols for their use also need to be developed, both for health care professionals recommending such treatment and for consumers, particularly for herbal remedies.

In mainland China, CM is an integral part of the public health care system provided through dedicated hospitals or departments in general hospitals. Nurses in China are expected to apply knowledge and skills of CM in their routine care to patients.[13] In recent years, CM clinics have been slowly introduced into public medical sectors, including public hospitals in Hong Kong.[3] It follows that RNs in Hong Kong will soon be expected to play a similar

role as their mainland counterparts. If this is the case, training and supervision will be required for them in Hong Kong so that they can perform duties such as administration of moxibustion, ear-acupressure, and negative pressure effectively.[13]

The recent mainstreaming of CAM worldwide is supported by its escalating popularity among the public and dramatically increased involvement by all health care professionals, including doctors, nurses, and pharmacists. This development has a significant impact on the consistency of information concerning safe and effective use of CAM. In this situation, RNs have a unique role in communicating and assisting patients to make informed choices about appropriate forms of CAM for various conditions. Furthermore, the nursing profession constitutes the largest body of the health care workforce, and has the highest number of professional contact hours with patients, making it critical to promote nurses' understanding of its role in patient care.

The prevalence of lifetime CAM use was comparable to that found in a recent study, in which 92% of Hong Kong nursing students had used CM at least once,[14] compared to 85% of Hong Kong medical students[15] and nearly all pharmacy students.[16] Such

consistent and extensive use of CAM by Hong Kong health care professionals and students suggests that there is a need to examine its use in undergraduate education to ensure the consistency of advice and information being provided. Given that Hong Kong has an almost totally Chinese population, what is surprising is the widespread use of exclusively biomedical approaches of health care professionals, given the popularity of CM among their patients.

Conclusion

The personal use of CAM by registered RNs in Hong Kong is substantial. Registered nurses currently play a role in advising patients on its use, based on their personal knowledge of the perceived benefit of these therapies for specific conditions. Thus, due to the growing involvement of all health care workers who use CAM both professionally and personally, there is an important need to establish a standardised mainstream approach. This could be incorporated into undergraduate nurses' education, and also involve refresher courses for practising RNs. In addition, further research with a larger sample could focus on the educational needs of RNs, in respect of CAM and safety.

References

1. Eisenberg DM, Davis RB, Ettner SL, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. JAMA 1998;280:1569-75.

2. Xue CC, Zhang AL, Lin V, Da Costa C, Story DF. Complementary and alternative medicine use in Australia: a national population-based survey. J Altern Complement Med 2007;13:643-50.

3. Chung V, Wong E, Woo J, Lo SV, Griffiths S. Use of traditional Chinese medicine in the Hong Kong special administrative region of China. J Altern Complement Med 2007;13:361-7.

4. Holroyd E. Health-seeking behaviors and social change: the experience of the Hong Kong Chinese elderly. Qual Health Res 2002;12:731-50.

5. A reference guide to the syllabus of subjects and requirements for the preparation of registered nurse (general) in Hong Kong. Hong Kong SAR: The Nursing Council of Hong Kong; 2004.

6. Molassiotis A, Chan CW. Fatigue patterns in Chinese patients receiving radiotherapy. Eur J Oncol Nurs 2004;8:334-40.

7. McGrath C. The use of Traditional Chinese Medicine in managing oral health—Hong Kong: one country, two systems. Int Dent J 2005;55:302-6.

8. Tzeng YL. A study on the nursing staff's knowledge, attitude and behaviour and their related factors toward Chinese medicine [in Chinese]. Journal of Nursing (China) 1999;46:57-70.

9. Lam TP. Strengths and weaknesses of traditional Chinese medicine and Western medicine in the eyes of some Hong Kong Chinese. J Epidemiol Community Health 2001;55:762-5.

10. Tovey P, Adams J. Nostalgic and nostophobic referencing and the authentication of nurses' use of complementary therapies. Soc Sci Med 2003;56:1469-80.

11. Lie D, Boker J. Development and validation of the CAM Health Belief Questionnaire (CHBQ) and CAM use and attitudes amongst medical students. BMC Med Educ 2004;4:2.

12. Barnes PM, Powell-Griner E, McFann K, Nahin RL. Complementary and alternative medicine use among adults: United States, 2002. Adv Data 2004;343:1-19.

13. Chen L, Chang M, Tzeng Y, Lin J, Shih H. The views of Traditional Chinese medicine institutional workers toward TCM nursing practises in Taiwan (Chinese). The Journal of Nursing (Nursing) 2002;49:28-36.

14. Hon KL, Twinn SF, Leung TF, Thompson DR, Wong Y, Fok TF. Chinese nursing students' attitudes toward traditional Chinese medicine. J Nurs Educ 2006;45:182-5.

15. Hon KL, Leung TF, Tse HM, et al. A survey of attitudes to traditional Chinese medicine among Chinese medical students. Am J Chin Med 2005;33:269-79.

16. Hon EK, Lee K, Tse HM, et al. A survey of attitudes to Traditional Chinese Medicine in Hong Kong pharmacy students. Complement Ther Med 2004;12:51-6.