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ORIGINAL ARTICLE

Perceptions and attitudes of rehabilitation medicine physicians on complementary and alternative medicine in Australia

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Key words
alternative medicine, rehabilitation, physicians' practice pattern, communication, physician–patient relationship.

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Abstract

Background: The growing demand for complementary and alternative medicine (CAM) is undeniable. We report a first study about the attitudes and behaviour of Australian rehabilitation physicians to CAM.
Methods: A prospective cross-sectional survey was undertaken to document the prevalence of, knowledge about and referrals to CAM therapies and their perceived effectiveness, by a sample of Australian rehabilitation physicians.
Results: Thirty-six out of 94 actively practising rehabilitation physicians from the Australasian Faculty of Rehabilitation Medicine, the Royal Australasian College of Physicians, replied to the survey, a response rate of 38%, and 85% reported familiarity with CAM, the most familiar therapies being acupuncture (80%), yoga (74%) and Tai-Chi (72%). CAM referral was reported in 84%, 38% personally used CAM, 94% of patients enquired about CAM therapies, 32% of respondents routinely enquired about CAM use. Age, sex and year of Fellowship were not associated with familiarity, personal use or frequency of patient enquiry about CAM. Those who reported to be very familiar with CAM were more likely to routinely enquire about CAM use ($P = 0.028$) and be more confident in prescribing certain CAM therapies ($P < 0.05$).
Conclusion: Australian rehabilitation physicians report similar CAM referral rates to Canadian physiatrists and Australian general practitioners. The most commonly prescribed therapies were acupuncture, yoga and Tai-Chi. Almost all patients use CAM therapies, but only a minority of rehabilitation physicians enquires about CAM use on a regular basis. The latter may avoid potentially harmful drug interactions, as well as improve the quality of the physician–patient relationship.

Introduction

'Complementary and alternative medicine' (CAM) refers to 'diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine'.[1] Over the past 10 years, the growing demand for CAM is undeniable. A representative population survey of 2015 South Australians by MacLennan *et al.*[2] found that 52.2% of adults in 2004 used CAM, an increase from 42.2% in 1997 and 33.8% from an earlier US 1990 study.[3] The extrapolated expenditure on CAM and CAM therapists by the Australian public in 2004 was A$1308m and A$494m, respectively.

Increasingly, CAM is being taught in Australian tertiary centres. In 1993, in recognition of the increasing

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popularity of traditional medicine in Australia, and more broadly, in the Western Pacific Region, RMIT University, in collaboration with the State Administration of Traditional Chinese Medicine, the Chinese Government and the World Health Organization (WHO) Collaborating Centre for Traditional Medicine at Nanjing University of Traditional Chinese Medicine, commenced the development of an undergraduate degree programme in Chinese Medicine. Both a Bachelor of Health Science (Chinese Medicine) and two undergraduate programmes are offered by course work programmes, one in acupuncture and one in herbal medicine.[4] The Australian Centre for Complementary Medicine Education and Research (ACCMER) is a joint venture between the University of Queensland and Southern Cross University, offering the Graduate Certificate in Evidence-based Complementary Medicine aimed at pharmacists, doctors, nurses, allied health professionals and trained natural therapists in Australia and internationally;[5] whereas CompleMED (Centre for Complementary Medicine Research from the University of Western Sydney) offers Bachelor, Master and Doctor of Philosophy courses in Traditional Chinese Medicine, naturopathy and acupuncture.[6] Furthermore, through 'the integration of holistic and complementary medicine with current mainstream medical practice in pursuit of a complete whole person care', CAM, through 'integrative medicine', is increasingly being recognized in general practice by the Royal Australasian College of General Practitioners (RACGP)' Australasian Integrative Medicine Association joint working party's support through research grants.[7] Indeed, Australia's leading role in CAM research has been recognized by the hosting of the 3rd International Congress on Complementary Medicine Research (ICCMR 2008) conference in Sydney, as well as the Australian government's support in the 'supply of safe, high quality and effective complementary medicines, timely access to these medicines, and the maintenance of a responsible and viable complementary medicines industry'.[8]

In 2000, Ko and Berbrayer sampled 116 Canadian physiatrists and found that they had higher knowledge of CAM, rates of CAM referral and CAM practice, compared with family physicians.[9] Explanations for this observation in physiatrists included: (i) wider scope of training with knowledge of non-drug therapies such as physical therapy and manual therapies, (ii) greater exposure to patients with chronic physical disabilities who themselves report high rates of CAM use[10] and (iii) greater exposure to the populations with the highest reported rates of CAM use, for example, individuals with back pain, fatigue and arthritis.

To date, there have been no studies published, reporting the attitudes and behaviour of Australian physiatrists (rehabilitation medicine physicians) with respect to CAM.

Methods

Design

Our survey, titled 'Perceptions and Attitudes of Rehabilitation Medicine Physicians on Complementary and Alternative Medicine in Australia' (PARP-CAMA), was modified from previous studies on physician attitudes and CAM.[9,11] The two-page survey started with demographic data (age, sex, years since Fellowship, language spoken other than English and details of the location and nature of practice (general/subspecialty rehabilitation)). The respondents were then asked 12 questions about their perceptions, attitude and behaviour with respect to the following 12 CAM therapies: Chinese medicine, acupuncture, chiropractic/osteopathy, reflexology, aromatherapy, homeopathy, yoga, Tai-Chi, hypnosis, megavitamins, herbal therapy and naturopathy. Options were provided on a 5-point descriptive scale (e.g. very familiar/confident, quite familiar/confident, familiar/confident, somewhat familiar/confident, not familiar/confident) and a 5-point numeric scale for frequency (never; 0–5 times; 6–10 times; 11–20 times; more than 20 times) on the following aspects: (i) familiarity with CAM, (ii) familiarity with selected CAM therapies, (iii) patient enquiry of CAM, (iv) belief of unwanted side-effects of CAM, (v) advice against the use of CAM, (vi) CAM referral practice, (vii) personal CAM use, (viii) routine enquiry about CAM during consultation, (ix) estimate of patient's CAM use, (x) feedback of CAM usefulness and (xi) confidence in advising patients of the evidence for CAM.

Participants

The PARP-CAMA survey was mailed to every active rehabilitation physician listed in the Australasian Faculty of Rehabilitation Medicine (AFRM), the Royal Australasian College of Physicians (RACP) in November 2005. Reply of each survey was through facsimile. The study was approved by the Human Research Ethics Committee at St Vincent's Hospital, Sydney.

Data analysis

Descriptive statistics were obtained to summarize the demographics of the respondents and their responses to the questions. Spearman correlations were obtained to examine the associations between rehabilitation physicians' characteristics (including age, sex, years since Fellowship, language spoken other than English, and details of the location and nature of practice) and their responses to the questions, including their perceptions, attitude and behaviour to the CAM therapies listed. Fisher's exact test or χ^2-test was used for categorical variables and Student's *t*-test or one-way ANOVA test was used for continuous

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variables. A *P*-value less than 0.05 was considered statistically significant. SPSS for Windows version 15.0 (SPSS, Chicago, IL, USA) was used for data analyses.

Results

Ninety-four Australian active rehabilitation physicians were surveyed and 36 responded. Two respondents were excluded because of incomplete information, giving a response rate of 38%.

Participant characteristics

The age range of respondents was as follows: >45 years, 20 (59%); 41–45 years, 26%; 36–40 years, 12%; 31–35 years, 3%. Men comprised 65% and 60% were practising for more than 10 years since Fellowship. Seventeen (50%) respondents practised mainly in general rehabilitation and more than 75% practised in either New South Wales or Victoria. The sample was indicative of Fellows from data provided by AFRM.

Rehabilitation physicians' attitudes and beliefs to CAM

Forty-seven, 27 and 12% (please note: $n = 16, 9, 4$ out of 34 responded, with 2 missing responses) rehabilitation physicians reported 'very familiar', 'quite familiar' and 'familiar' with CAM, respectively. The most frequent types of CAM therapies rated familiar were acupuncture (80%), yoga (74%) and Tai-Chi (72%); the least were herbal therapy (38%), naturopathy (38%) and Chinese medicine (32%) (Fig. 1).

Eighty-eight per cent of participants believed that chiropractic/osteopathy had unwanted side-effects, followed by Chinese medicine/herbal therapy (68%); the least concerned were Tai-Chi, aromatherapy and reflexology (18%).

When asked 'what aspects of CAM products do you believe most positively influence their beneficial effects?', 70% answered the question. Of these respondents, 38% answered 'placebo effect', 29% 'publicity' and 25% 'lack of perceived side-effects'.

Rehabilitation physicians' behaviour on CAM

Thirty-eight per cent of rehabilitation physicians used CAM personally. Age, sex and year of Fellowship were not associated with familiarity, personal use or frequency of patient enquiry of CAM.

General rehabilitation physicians were less likely to advise against CAM compared to subspecialty rehabilitation physicians (64 vs 0%, $P = 0.028$, frequency defined as 'never' or 'once or more' in the last 6 months).

Rehabilitation physicians reported most confidence in prescribing vitamins (65%), Tai-Chi (65%) and acupuncture (59%), with Chinese medicine the least confident (18%) (Fig. 2).

Table 1 shows the influence of rehabilitation physicians' familiarity of a list of CAM products on their confidence on advice for each CAM product. Those who were very familiar with yoga, chiropractic/osteopathy, vitamins,

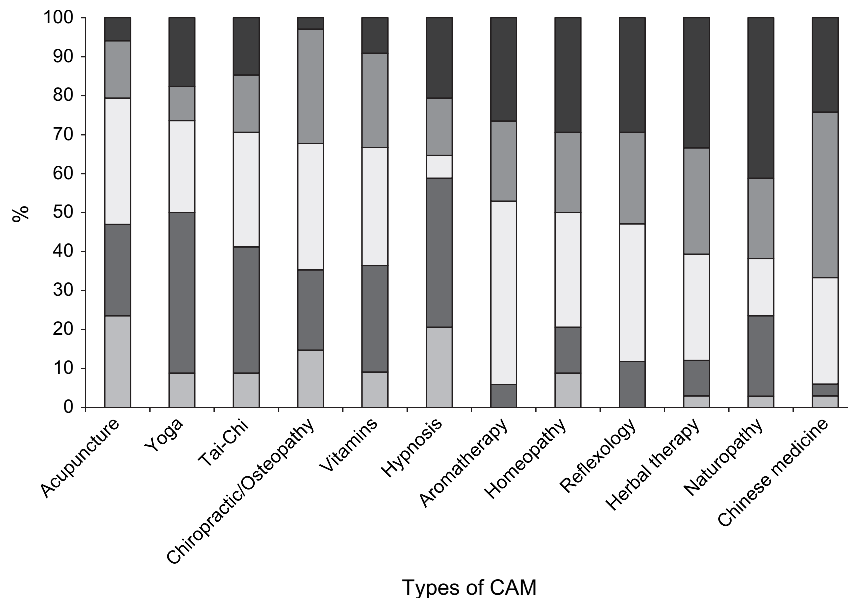

Figure 1 Rehabilitation physicians' familiarity with types of complementary and alternative medicine (CAM). ■, not familiar; ■, somewhat familiar; □, familiar; ■, quite familiar; ■, very familiar.

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Table 1 Physicians' confidence in advising their patients on the evidence for a complementary and alternative medicine (CAM) therapy versus their familiarity with that particular CAM therapy†

	Confident	Not confident	*P*-value*
Acupuncture	20	15	0.051
Very familiar	18	9	
Other	2	6	
Yoga	18	16	0.002
Very familiar	17	1	
Other	1	9	
Tai Chi	23	12	0.13 (NS)
Very familiar	18	6	
Other	5	6	
Chiropractic/Osteopathy	17	17	0.001
Very familiar	16	6	
Other	1	11	
Vitamins	21	11	0.013
Very familiar	18	4	
Other	3	7	
Hypnosis	16	18	<0.01
Very familiar	16	5	
Other	0	13	
Aromatherapy	9	26	0.121 (NS)
Very familiar	7	11	
Other	2	15	
Homeopathy	12	22	0.001
Very familiar	11	6	
Other	1	16	
Reflexology	10	25	0.022
Very familiar	8	8	
Other	2	17	
Herbal therapy	10	22	0.005
Very familiar	8	5	
Other	2	17	
Naturopathy	11	22	0.001
Very familiar	9	4	
Other	2	18	
Chinese medicine	6	28	0.363 (NS)
Very familiar	3	8	
Other	3	20	

*χ^2-test. There are some missing values in each category. †All data are expressed in numbers. CAM, complementary and alternative medicine; NS, not significant.

hypnosis, homeopathy, herbal therapy and naturopathy were confident in prescribing these therapies ($P < 0.05$).

Ninety-four per cent of rehabilitation physicians have been asked about CAM by their rehabilitation patients. Approximately 70% of rehabilitation physicians have advised against the use of CAM as a therapeutic option in the 6 months before the survey, with 14% dissuading patients over five times. Thirty-two per cent of respondents routinely enquire about CAM use for their patients, whereas 35% have never done so. Routine enquiry of CAM was not associated with age, years since Fellowship, rehabilitation specialty or personal use of CAM (Table 2). However, those who reported to be very familiar with CAM were significantly more likely to enquire about CAM in their consultation ($P = 0.028$). Eighty-four per cent reported CAM referral.

Discussion

Rehabilitation medicine was recognized as a principal specialty in Australia in 1976 and as a Faculty of the RACP in 1991. The early development of the specialty was largely in response to the need to manage disabilities resulting from wars, and occupational and road trauma. There has traditionally been a focus on physical medicine, but increasingly rehabilitation is acknowledging the patient's social context.[12]

The attitudes and behaviour of Australian rehabilitation physicians appear to be supportive of CAM, 84% of Australian rehabilitation physicians have made a referral to CAM, compared with 71.9% of Canadian physiatrists surveyed by Ko and Berbrayer,[9] 55% of English general practitioners (GPs)[13] and 80% of Australian GPs.[14] Reasons for the higher knowledge and rates of referral to CAM practitioners in physiatrists, compared with GP, may include: (i) wider scope of training with knowledge of non-drug therapies such as physical therapy methods (ultrasound, transcutaneous electrical nerve stimulation, laser etc.) and manual therapies, (ii) greater exposure to patients with chronic physical disabilities who themselves report high rates of CAM use[10] and (iii) greater exposure to the populations with the highest reported rates of CAM use.[3] Indeed, the high rates of referral from Australian GPs may be attributed to greater consumer awareness and demand for CAM therapies and the wide range of courses in CAM available in Australian universities as described previously.

Eighty-five per cent of rehabilitation physicians were familiar with the concept of CAM and 38% personally used it. Indeed, although not documented in our current study, Ko and Berbrayer[9] found that training in CAM was correlated to higher CAM practice but not with referral rates and that the greater the rating of CAM usefulness, the higher the referral and practice rates. This would have been the expected result in our study.

Seventy per cent of rehabilitation physicians advised against the use of CAM as a therapeutic option over a 6-month period. Rehabilitation physicians most prescribed CAM therapies that were perceived to have the least side-effects (e.g. vitamins, aromatherapy and reflexology) or had some evidence of effectiveness (e.g. Tai-Chi and acupuncture). Conversely, rehabilitation physicians were least confident in advising patients of CAM therapies with minimal scientific evidence of efficacy (e.g. Chinese medicine) or most perceived side-effects (e.g. chiropractic/osteopathy). Interestingly, rehabilitation physicians tended to have the most confidence in prescribing CAM

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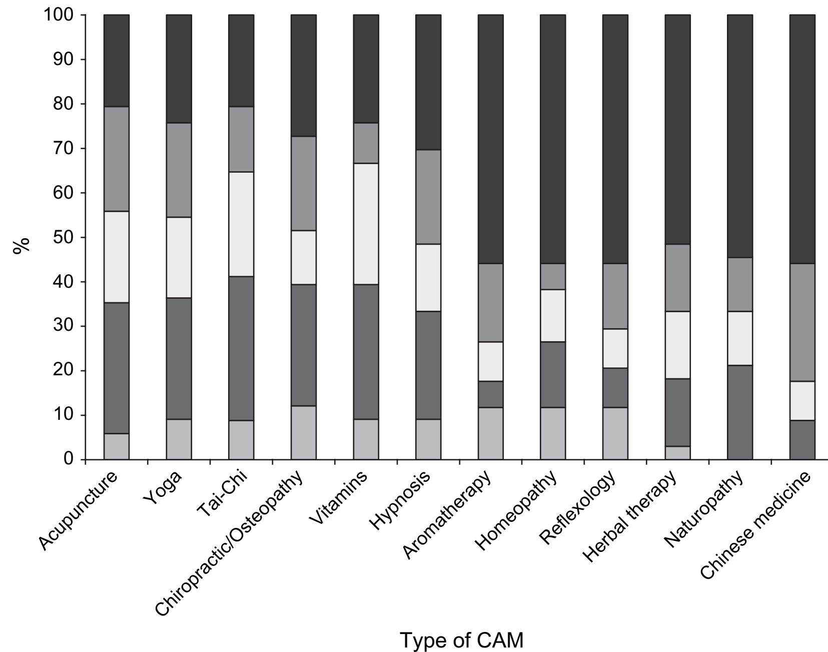

Figure 2 Rehabilitation physicians' confidence in advising patients on the evidence for complementary and alternative medicine (CAM). ■, not confident; ■, somewhat confident; □, confident; ■, quite confident; ■, very confident.

therapies with which they were familiar, even when, at times, the evidence of efficacy may not be apparent (such as herbal therapy). The disparity between rates of knowledge of CAM and rates of referral for CAM may be explained by rehabilitation physicians' respect for published data and their support for a level of consumerism within the disabled population tempered by what rehabilitation physicians perceive are risks of harm of some CAM.

General rehabilitation physicians were less likely to advise against CAM compared with subspecialty rehabilitation physicians. For example, spinal cord injury specialists will advise against spinal manipulation techniques, which may have the potential to worsen the initial injury.[15]

Thirty-two per cent of respondents routinely enquired about CAM use in their patients, whereas 35% have never done so. This is a relatively lower rate compared with 58% of primary care physicians from Israel[16] and 64% of oncologists surveyed from Brazil.[17] MacLennan *et al.*[2] found that, among CAM users, 57.2% did not report the use of CAM to their doctor and 48.8% believed that CAM were tested for efficacy or safety. The onus is on rehabilitation physicians to ensure regular communication with their rehabilitation patients to ensure that concurrent CAM use does not cause potentially harmful drug interactions.[18] For example, St John's Wort may reduce the clinical efficacy of anti-epileptics.

Rehabilitation physicians who reported to be very familiar with CAM were significantly more likely to enquire about CAM in their consultation ($P = 0.028$). Perhaps a registrar training programme, which incorporates certain CAM therapies (such as acupuncture) taught in an evidence-based manner, or encouraging registrars, rehabilitation physicians and other clinicians to participate in the many postgraduate courses in CAM available in Australian tertiary centres will help to address this issue.

In the era of e-medicine, as physicians require 'astute judgement' about which patients need to be evaluated in person and 'sound intuition' about when patients' emotional needs are better served face to face,[19] the routine enquiry of CAM use during consultation will ensure that the 'art' of medicine can be achieved in conjunction with the 'science'.

Several limitations were noted: (i) relatively low response rate (38%), (ii) small sample size ($n = 36$), (iii) we did not enquire about rehabilitation physicians' previous training or practice in CAM, correlation between 'knowledge' of CAM and CAM referral or more specific attitudes to CAM in the context of global health delivery. A follow-up questionnaire with a larger sample size has been planned, which will address the correlation between rehabilitation physicians' training in CAM and CAM practice.

Conclusion

Australian rehabilitation physicians report similar CAM referral rates to Canadian physiatrists. Patients often use

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Table 2 Respondent characteristics versus practice of complementary and alternative medicine (CAM) – routine enquiry about CAM for patients[‡]

	More than once in past 6 months	Never	*P*-value*
Total	21	13	
Sex[‡]			1.0 (NS)
M	15	8	
F	6	4	
Age			0.491 (NS)
≤45 years	7	6	
>45 years	14	7	
Years since Fellowship			0.477 (NS)
≤15 years	11	9	
>15 years	10	4	
Specialty			1.0 (NS)
General rehabilitation	10	6	
Other	11	7	
Familiarity with CAM			0.028
Very familiar	12	2	
Other	8	10	
Personally used CAM‡			0.719 (NS)
More than once	8	4	
Never	12	9	

*χ^2-test. [†]All data are expressed in numbers. [‡]One missing value. CAM, complementary and alternative medicine; NS, not significant.

CAM therapies, but a minority of rehabilitation physicians enquires about CAM use on a regular basis. Routine patient enquiry of CAM therapies may improve and enhance the science (by avoiding potentially harmful drug interactions), as well as the art of medicine (by improving the quality of the doctor–patient therapeutic relationship). Investing a greater amount of time on evidence-based CAM therapies in rehabilitation physician residency training may improve the communication concerning the use of CAM that many health consumers self-prescribe.

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