Complementary medicine in general practice

A national survey of GP attitudes and knowledge

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Background
Integrative medicine is a holistic approach to patient care that utilises both conventional and complementary therapy. This article compares the demographics of Australian general practitioners who do, and those who do not, practise integrative medicine, and their perceptions and knowledge about complementary medicines.

Method
A postal survey sent to a random sample of 4032 Australian GPs.

Results
Data from 1178 GPs was analysed. While GPs who practise integrative medicine were more knowledgeable about complementary medicine and more aware of potential adverse reactions, there were significant knowledge gaps for both groups.

Discussion
Many GPs incorporate complementary medicines into their practice, whether or not they identify with the 'integrative medicine' label. General practitioners need to be well informed about the evidence base for, and potential risks of, complementary medicines to ensure effective decision making. Use of available resources and inclusion of complementary medicine in education programs may assist this.

Keywords: general practice; complementary therapies; integrative medicine; health knowledge, attitudes, practice

Integrative medicine (IM) has been defined as, 'the combination of orthodox and complementary medicine with an emphasis on lifestyle changes'.[1] The broad term 'complementary therapies' includes both ingested medicines, which are the focus of this research and are referred to as complementary medicines (CM) in this article, and other practices, such as acupuncture and physical therapies. About 40% of the general population use some form of CM every day[2] and about one-third of Australians will consult their general practitioner about this use.[3] There is evidence that CMs are not always safe[4] and that the CM knowledge of GPs is not always sufficient to correctly advise safe use.[5–7]

Previous Australian research has documented knowledge and attitudes of GPs, as well as previous training and use of complementary therapies.[8–11] The authors' research extends and updates this work by exploring differences between GPs who report practising IM and those who do not. The rationale was to assess the difference in CM practice, attitudes and knowledge between GPs who did and did not self identify as practising IM. This study was part of a larger research program that aimed to gain a broad understanding of GPs' and pharmacists' attitudes towards, knowledge of, practice in and information needs about CM.[7]

Method

A random sample of GPs was drawn from the Australasian Medical Publishing Company's direct medical masterfile database. The sample was stratified by rural, remote and metropolitan area classification, and by state. Small strata were oversampled, resulting in a sample size of 4032 GPs. The inclusion criterion was GPs who consult for at least 1 day per week.

A questionnaire was developed to test attitudes to complementary therapies, in particular CM, GPs' use and knowledge of CM, as well as relevant participant characteristics. The survey defined CM using the Therapeutic Goods Administration definition of medicines that contain herbs, vitamins, minerals, and nutritional supplements, homoeopathic medicines and certain aromatherapy products, as well as traditional medicines, including traditional Chinese medicines, Ayurvedic medicines and Australian indigenous medicines.[12] Respondents were allocated into either 'IM GP' or 'non-IM GP' groups according to their answer to the question: 'Do you consider that you practise integrative medicine (a holistic approach to health care that integrates conventional medical care with complementary therapies)?'

In order to test CM knowledge, GPs were asked about the potential for side effects and interactions of three commonly used CM – black cohosh, glucosamine and ginkgo biloba. These were chosen because each is widely used by the community and has well documented potential or actual side effects or interactions with other medicines.[4,13–15]

A convenience sample of GPs pilot tested the survey and appropriate changes were incorporated. This survey was posted in March 2008 with an invitation letter and a reply paid envelope. Reminders were mailed 2 weeks and 5 weeks after the initial mailout.

The survey responses were scanned and coded. Quantitative data was analysed using SPSS for Windows (version 16.0.1.17). Bivariate analyses using the chi-square test were conducted

to explore differences between IM and non-IM GPs. Statistical significance was set at $p<0.01$. A more detailed description of the methods and questionnaire can be found elsewhere.[7]

The research was approved by the Department of Health and Ageing's Health Ethics Committee.

Results

Of the 4003 eligible respondents, 1178 (29.4%) questionnaires were returned and analysed. Our respondents were more likely than the national average to be women, slightly older and to have trained in Australia. Around one-third of respondents (n=361) self identified as practising IM and 62% (n=726) reported not practising IM. Ninety-one GPs (8%) did not respond to the IM question and were therefore not included in the analyses.

Characteristics of participating GPs

The characteristics of IM and non-IM GPs did not differ significantly in gender, age, years worked, number of patients seen per week, full time or part time practice, solo or group practice, or geographical region (city or rural). Integrative medicine GPs were less likely to have trained in Australia (69% vs. 78%; $p=0.001$) and more likely to have postgraduate qualifications in complementary therapies (12% vs. 2%; $p<0.001$).[7]

GP attitudes and behaviours

Integrative medicine GPs' attitudes about CM were generally more positive and less skeptical than non-IM GPs (*Table 1*). While both groups of GPs reported engagement with CM (eg. initiating discussions with patients), IM GPs were more likely to have practised specific complementary therapies including use of herbs in the last 12 months (*Table 2*). Compared with non-IM GPs, IM GPs were more likely to personally use CM to treat their own health problems (73% vs. 55%; $p<0.001$) and were more likely to have recommended or prescribed CM (97% vs. 86%; $p<0.001$) in the past 12 months (*Table 3*). Furthermore, IM GPs were more likely to communicate with patients about CM (*Table 1*).

Knowledge of CM safety

Overall, 38% of GPs felt confident discussing CM with patients, although IM GPs were significantly more confident than non-IM GPs (57% vs. 28%; $p<0.001$).

Most respondents were not able to correctly identify common side effects and potential interactions with glucosamine, black cohosh, Ginkgo biloba (*Table 4*). Self identified IM practitioners, while still doing poorly in this knowledge question, were often more informed than non-IM GPs. When results were sorted by 'any GPs who had recommended each CM and those who had not', there was no statistical difference in knowledge.

Table 1. GP attitudes and behaviours with CM – IM and non-IM GPs[7]

Attitude or behaviour toward CM	IM GP % (n=360)†	Non-IM GP% (n=724)†
GPs who agreed with the following statements#		
CM have a more holistic approach to health than conventional medicines**	30.1	16.1
Most CM are safe and have very few side effects**	21.3	11.0
CM can offer patients benefits that conventional medicine cannot**	45.9	30.8
CM provide health benefits due to reasons other than the placebo effect**	36.3	16.6
CM need more scientific testing before being used in conventional medicine**	80.4	90.9
GPs who reported engaging in the following behaviours		
Initiate discussions with patients regarding CM**	65.6	47.4
Have a discussion when a patient requests a complementary medicine**	75.6	64.4
Ask about CM use (always or often) when taking a medication history for a new patient**	61.8	45.0
Recommend a specific CM brand rather than use a generic name only*	14.9	8.4

* $p<0.01$ ** $p<0.001$

\# Responses indicated from five choices: strongly disagree, disagree, neither agree nor disagree, agree to strongly agree. In analysis, agree and strongly agree were aggregated

† Data was missing for 0–11 respondents depending on question

Table 2. Complementary therapies practised in past 12 months

Complementary therapy	IM GP % (n=361)	Non-IM GP % (n=726)
Acupuncture**	15.8	4.3
Traditional Chinese medicine*	1.4	0.1
Homoeopathy*	2.2	0.4
Naturopathy/Western herbalism**	5.8	0.1
Chiropractic*	2.2	0.4
Osteopathy	1.4	0.4
Other	6.1	1.5
None (or not answered)	76.2	93.8

Note: Multiple responses allowed

* $p<0.01$ ** $p<0.001$

Discussion

This study found that many GPs incorporate aspects of CM into their armamentarium. However, there was little difference in behaviours and knowledge between GPs who identified as being IM practitioners (one-third of respondents) and those who did not. Compared with a national survey published in 2005 of 1916 GPs with a response rate of 33%, we have found this sample to consider CM less safe, with a similar number practising at least one complementary therapy. Our results for the CM therapies practised in the past 12 months are also similar, eg. in 2005 18% of GP respondents practised acupuncture, 4% used herbs, and 1% used Chinese herbs, homoeopathy and chiropractic.[8]

While it is concerning that many CM users in Australia do not tell their doctors about their use,[19] our results demonstrate that even if a patient were to tell their GP about CM usage, many GPs lack sufficient knowledge to inform their patients about safety issues. Of concern is that most GPs surveyed were generally unaware of the potential interactions and side effects of three commonly used CMs, even those GPs who actively recommended their use to patients. There is an urgent need for GPs to learn more about commonly used CMs, including issues around evidence and safety. Unfortunately, most medical schools do not include CM in their curricula.[20]

General practitioners need guidance, particularly regarding sources of accessible quality information on these medicines. A recent analysis of CM information resources has been developed to help aid health practitioners' access to good quality information about evidence and safety for CM.[21] The Royal Australian College of General Practitioners has developed an IM curriculum and is developing a formal education and accreditation pathway on IM for Australian GPs.[22] It is vital that GPs be aware of any scientific evidence (or lack of evidence) for CM and its potential risks, adverse reactions and interactions with pharmaceuticals so they can provide well informed, balanced information to their patients.

The term 'integrative medicine' is widely in use internationally and in Australia, eg. the Australasian Integrative Medicine Association. However, this study found a discrepancy between the self identification of GPs as being 'IM' and their reported practices (eg. some GPs incorporated some common complementary therapies into their practice without necessarily considering themselves IM practitioners). It is possible that GPs now consider these therapies as mainstream and so do not identify them as 'integrative'. In addition about 75% of GPs who self identified as IM practitioners did not identify as using any of the major common complementary therapeutic approaches. It is possible that they may work closely with complementary practitioners within or near their practice or they may instead pick and choose elements of complementary therapies to incorporate into their practice. The fact that IM GPs had some negative attitudes (eg. 70% disagreed that CMs are more holistic) may confirm this explanation. The different ways in which GPs integrate CM into their practice and identify that integration is an area for further investigation.

Table 3. Complementary medicines prescribed or recommended in the past 12 months

Complementary medicines	IM GPs % (n = 361)	Non-IM GPs % (n= 726)
Glucosamine*	90.6	83.5
Calcium**	89.2	80.9
Fish oil**	89.8	76.0
Vitamin D**	85.0	75.1
Multivitamins**	77.8	65.8
Other vitamin/mineral products**	65.7	46.0
Vitamin C**	61.2	43.7
St John's wort**	53.7	40.1
Valerian**	52.1	36.5
Black cohosh**	33.8	25.1
Echinacea**	36.3	21.5
Ginkgo biloba**	33.8	16.8
Coenzyme Q10**	34.9	13.5
Vitamin A**	29.1	13.2
Ginseng**	18.3	8.4
Natural weight loss products**	11.1	5.1
Traditional Chinese medicines**	10.2	4.3

Note: Statistics assume that if a CM was not marked then that CM was not recommended or prescribed

* $p<0.01$ ** $p<0.001$

Study limitations

The GP response rate of 29.4% was comparable to a previous Australian CM survey conducted with GPs in which the response rate was 33%,[8] and was within the range of other recent surveys of Australian GPs about their opinions and practices on various topics whose response rates ranged from 21–61%.[16–18] However, it raises the question of how well participants' responses represent the views of all Australian GPs. It is likely that GPs with a particular interest in CM, or strong negative views about CM would be more likely to respond.

Summary of key points

- Even GPs who do not identify as IM practitioners are using CM and require appropriate knowledge and skills.
- There is a lack of knowledge of potential safety issues with some commonly used CM, by both IM and non-IM GPs.

Table 4. Knowledge of specific potential adverse reactions for three complementary medicines – all IM and all non-IM GPs and by IM and non-IM GPs who recommend that complementary medicine

Side effects/interactions	GPs who were aware of side effects/interactions (%)			
	All IM GPs% (n=361)	All non-IM GPs % (n=726)	IM GP recommenders % Black cohosh (n=122) Ginkgo biloba (n=122) Glucosamine (n=327)	Non-IM GP recommenders % Black cohosh (n=182) Ginkgo biloba (n=122) Glucosamine (n=606)
Black cohosh – liver problems	41.8	37.2	57.4	56.0
Black cohosh – dizziness/headache	17.5*	7.7	20.5	11.5
Ginkgo biloba – bleeding disorders	28.3**	20.4	44.3	39.3
Ginkgo biloba – seizures	4.2	2.6	7.4	4.9
Ginkgo biloba – dizziness/headache	23.0**	15.8	35.2	32.8
CM-drug interaction				
Glucosamine-warfarin	34.1	28.8	34.9	30.9
Ginkgo biloba-warfarin	44.9**	33.5	61.5	49.2
Ginkgo biloba-aspirin	23.3**	14.9	36.1	23.8

* $p<0.01$ ** $p<0.001$

Note: There were no significant differences between IM recommenders and non-IM recommenders

- Incorporating education about the purpose, evidence base and safety issues of commonly used CMs into medical education at all levels may assist.
- GPs should be aware of and use quality sources of CM information, some of which are freely available, to support the quality use of CM.

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