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General practitioners' attitudes toward (and use of) complementary and alternative medicine: a New Zealand nationwide survey

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Abstract

Aims This study aimed to update our understanding of how general practitioners view and use complementary and alternative medicine (CAM).

Method A nationwide cross-sectional postal questionnaire sent to 500 randomly selected general practitioners (GPs) of the 2358 who met the inclusion criteria of the study in December 2005.

Results 300 completed questionnaires were returned thus giving a response rate of 60%. Twenty percent of the GP respondents practiced (and 95% referred patients to) one or more forms of complementary and alternative medicine. The most common CAM therapy practiced by GPs was acupuncture, and chiropractic manipulation was the most common GP-referred therapy for patients. Thirty-two percent of respondents had formal training and 29% had self education in one or more CAM therapies. Sixty-seven percent felt that an overview of CAM should be included in conventional medical education.

Conclusions The number of GPs practising CAM therapies has decreased over the past 15 years, although the number referring patients to CAM has increased. The finding 'that GPs feel information about CAM should be included in medical education' is consistent with earlier research and should be taken into account when developing medical curriculum.

Complementary and alternative medicine (CAM) is a term which covers a very wide range of therapies. Some of these therapies are on the border of acceptance by the medical profession whereas others that have little evidence behind them are still viewed with much scepticism.

Many New Zealanders access CAM therapies, with one study conducted between 2002 and 2004 showing that 25% of adults visited a CAM practitioner during the previous 12 months.[1]

The definition of complementary and alternative medicine used by the Cochrane Collaboration is as follows:

> Complementary and alternative medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being. Boundaries within CAM and between the CAM domain and that of the dominant system are not always sharp or fixed.[2]

The boundary between CAM and conventional medicine can be fluid. It is largely based on cultural and political attitudes and is therefore subject to change over time.[3]

International research shows that the popularity of CAM amongst the general population seems to be increasing. Consumer pressure is considered to be the major driving force behind this growth:[4]

- Expenditure on alternative medicines in Australia was estimated to be A$621 million in 1993.[5]
- Sales of St Johns wort (for mild depression) in the United States (US) increased by 2800% between 1997 and 1998.[4]
- In Germany, the prevalence of CAM use amongst the population increased from 52% in 1970 to 65% in 1996.[4]
- The proportion of people using CAM in the US increased from 33.8% in 1990 to 42.1% in 1997.[6]
- A United Kingdom (UK) study has found that the provision of CAM in general practice increased from 39.5% in 1995 to 49.4% in 2001.[7]

Several New Zealand (NZ) studies on general practitioners' attitudes toward complementary and alternative medicine have been carried out, predominantly at a regional level. Notably, in 1988, 27% of Wellington GPs currently practiced some form of CAM and 80% had referred patients for one or more therapies; 54% expressed an interest in training in CAM therapies.[8]

In 1990, 30% of Auckland GPs practiced some form of alternative medicine, and 68.7% referred patients to one or more alternative therapies.[9] In 2003, 24% of Wanganui GPs were currently practising or had practiced CAM and 92% had at some time referred patients to one or more forms of CAM (although this study had a very small sample of GPs).[10]

These large studies into GP attitudes were carried out 15–17 years ago; since then, CAM has seen an upsurge in popularity and level of use amongst the general population. Patient interest has been shown to be a major influence on GPs referral to CAM therapies[11] and given that patients' use of CAM has changed since these two studies were carried out, there is a need to identify whether there have also been changes in GPs' attitudes toward and uses of CAM. Hence the reason for the current study.

Method

The New Zealand medical register was searched for all vocationally registered GPs who held a current annual practising certificate—a total of 2358 GPs. From this total a random sample of 500 GPs were mailed a double-sided A4 questionnaire, a covering letter explaining the study, and a prepaid return envelope. Participants were asked to return the questionnaire within 10 days, and a second questionnaire was sent to non-responders 2½ weeks later (again asking for a response within 10 days).

The survey was designed to draw (in part) on a number of previous papers on this topic, both in New Zealand and overseas. Papers by Hadley[8] and Marshall[9] in NZ , Lewith[12] in the UK, Boucher[11] in the US, and Hall[13] in Australia contributed significantly to the development of the survey questionnaire.

The survey aims to provide an overview of general practitioners' attitudes toward and uses of complementary and alternative medicine. Limited demographic information was asked about for the purpose of describing the study population. The demographic questions used the same format as the 2001 New Zealand census.

The 13 therapies specifically mentioned in the questionnaire were selected after looking at previous literature and the NCCAM website (see Table 1). Traditional Māori and traditional Pacific Island medicine were included due to their cultural relevance to New Zealand society.

The survey was designed to provide some comparisons with earlier New Zealand research[8,9] with the aim of identifying changes over the past 15 years in attitudes toward and use of CAM by New Zealand GPs.

Results

300 of the 499 eligible participants returned a completed questionnaire thus giving a response rate of 60%. One member of the original sample was no longer working as a general practitioner and was therefore excluded. The largest ethnicity group was NZ European (n=216, 72%). The second largest group was 'other' ethnicities (n=60, 20%). The majority (n=180, 60%) of the respondents were male. The mean age of respondents was 50.3 years with ages ranging from 33–79 years.

Of the 13 therapies specifically mentioned in the questionnaire (Table 1), acupuncture was the most commonly perceived as conventional rather than CAM, with 134 (44.7%) selecting this option. 128 (42.7%) saw chiropractic manipulation as convention, while 125 (41.7%) saw osteopathy as conventional. Homeopathy and reflexology were the most commonly seen as CAM (n=282, 94%).

Table 1. GP identification of therapies as conventional or CAM

Variable	Conventional		CAM		DK		Both		NA	
	n	%	n	%	n	%	n	%	n	%
Acupuncture	134	44.7	143	47.7	11	3.7	9	3.0	3	1.0
Aromatherapy	1	0.3	280	93.3	12	4.0	1	0.3	6	2.0
Chiropractic manipulation	128	42.7	146	48.7	14	4.7	7	2.3	5	1.7
Herbal medicines	15	5.0	264	88.0	11	3.7	4	1.3	6	2.0
Homeopathy	7	2.3	282	94.0	5	1.7	0	0.0	6	2.0
Hypnosis	88	29.3	195	65.0	7	2.3	3	1.0	7	2.3
Naturopathy	6	2.0	279	93.0	9	3.0	0	0.0	6	2.0
Osteopathy	125	41.7	153	51.0	12	4.0	5	1.7	5	1.7
Reflexology	1	0.3	282	94.0	11	3.7	0	0.0	6	2.0
Spiritual healing	6	2.0	278	92.7	11	3.7	0	0.0	5	1.7
Traditional Chinese Medicine	22	7.3	249	83.0	21	7.0	3	1.0	5	1.7
Traditional Māori Medicine	10	3.3	258	86.0	24	8.0	1	0.3	7	2.3
Traditional Pacific Island Medicine	10	3.3	257	85.7	27	9.0	1	0.3	5	1.7

DK=don't know; NA=not answered.

Perceived benefit of therapies was measured on a Likert scale of 1 to 5 where 1=no benefit, 3=moderate benefit, and 5=highly beneficial. Beneficial was defined as leading to an increase in global well-being, thereby including psychosocial benefit as well as physical improvement. The distributions were skewed for many of these answers (Table 2).

Acupuncture was the most commonly perceived as beneficial, with 260 (86.7%) respondents rating it as moderately beneficial or higher. 239 (79.7%) respondents rated chiropractic manipulation as moderately beneficial or higher and osteopathy received this rating from 219 (73%) participants. Reflexology was rated as having no benefit by 155 (51.7%) respondents and aromatherapy also received a rating of no benefit by 116 (38.7%) respondents.

Table 2. GPs' opinions on the benefits of various CAM therapies to patients (1=no benefit → 5=highly beneficial)

Variable	1		2		3		4		5		DK		NA	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Acupuncture	8	2.7	20	6.7	101	33.7	126	42.0	33	11.0	6	2.0	6	2.0
Aromatherapy	116	38.7	84	28.0	42	14.0	6	2.0	2	0.7	40	13.3	10	3.3
Chiropractic manipulation	12	4.0	35	11.7	122	40.7	102	34.0	15	5.0	8	2.7	6	2.0
Herbal medicines	63	21.0	95	31.7	74	24.7	19	6.3	6	2.0	33	11.0	10	3.3
Homeopathy	94	31.3	93	31.0	51	17.0	22	7.3	5	1.7	27	9.0	8	2.7
Hypnosis	28	9.3	68	22.7	102	34.0	54	18.0	15	5.0	26	8.7	7	2.3
Naturopathy	88	29.3	84	28.0	64	21.3	14	4.7	5	1.7	36	12.0	9	3.0
Osteopathy	24	8.0	34	11.3	96	32.0	97	32.3	26	8.7	16	5.3	7	2.3
Reflexology	155	51.7	60	20.0	26	8.7	4	1.3	1	0.3	47	15.7	7	2.3
Spiritual healing	74	24.7	83	27.7	49	16.3	37	12.3	5	1.7	43	14.3	9	3.0
Traditional Chinese Medicine	39	13.0	68	22.7	86	28.7	32	10.7	6	2.0	61	20.3	8	2.7
Traditional Māori Medicine	44	14.7	75	25.0	71	23.7	24	8.0	1	0.3	77	25.7	8	2.7
Traditional Pacific Island Medicine	46	15.3	72	24.0	68	22.7	21	7.0	1	0.3	84	28.0	8	2.7

DK=don't know; NA=not answered.

Although 30% viewed traditional Māori medicine and traditional Pacific Island medicine as moderately beneficial or higher, there were a considerable proportion who selected 'don't know', 74 (25.7%) for traditional Māori medicine and 81 (28%) for traditional Pacific Island medicine.

The number of GPs who practiced one or more CAM therapies was 61 (20.3%). Acupuncture was practiced by 31 (10%) respondents, and herbal medicine by 15 (5%) respondents. Four (1%) respondents practiced chiropractic manipulation and seven (2%) practiced osteopathy (Table 3).

Table 3. Administration and referral patterns for CAM therapies

Variable	Administer		Refer		Administer & Refer		Neither		NA	
	n	%	n	%	n	%	n	%	n	%
Acupuncture	19	6.3	226	75.3	12	4.0	40	13.3	3	1.0
Aromatherapy	1	0.3	6	2.0	1	0.3	288	96.0	4	1.3
Chiropractic manipulation	3	1.0	233	77.7	1	0.3	60	20.0	3	1.0
Herbal medicines	12	4.0	29	9.7	3	1.0	250	83.3	6	2.0
Homeopathy	6	2.0	37	12.3	3	1.0	251	83.7	3	1.0
Hypnosis	4	1.3	113	37.7	2	0.7	176	58.7	5	1.7
Naturopathy	1	0.3	37	12.3	1	0.3	257	85.7	4	1.3
Osteopathy	3	1.0	210	70.0	4	1.3	81	27.0	2	0.7
Reflexology	2	0.7	5	1.7	0	0.0	289	96.3	4	1.3
Spiritual healing	5	1.7	26	8.7	3	1.0	262	87.3	4	1.3
Traditional Chinese Medicine	1	0.3	33	11.0	2	0.7	261	87.0	3	1.0
Traditional Māori Medicine	1	0.3	31	10.3	0	0.0	265	88.3	3	1.0
Traditional Pacific Island Medicine	1	0.3	13	4.3	0	0.0	282	94.0	4	1.3
Other	7	2.3	7	2.3	0	0.0	158	52.7	128	42.7

NA=not answered.

284 (94.7%) respondents referred patients to one or more CAM therapies. Acupuncture was referred to by 238 (79.3%) respondents, followed by chiropractic manipulation which was referred to by 234 (78%) and osteopathy by 214 (71%) respondents. 115 (38%) respondents referred patients to hypnosis.

The therapies that were least commonly administered or referred to were reflexology with 289 (97%) respondents stating they neither administered nor referred patients to this therapy, followed by aromatherapy (n=288, 96%) and traditional Pacific Island medicine (n=282, 94%).

Acupuncture was most commonly used to treat musculoskeletal problems and pain. Smoking cessation, anxiety, and sleeping disorders were the most common reasons for treating with or referring patients to hypnosis. Chiropractic manipulation and osteopathy were most commonly used to treat back pain and musculoskeletal problems. Treatment of menopausal symptoms was the most common use of herbal medicine.

When asked about reasons for (or against) referring patients to CAM, respondents could select more than one option. Patient request was the most common reason for referring patients to CAM therapies (n=259, 86.3%). This was followed by conventional treatment failure (n=181, 60.3%) and past positive experience (n=180, 60%). Patient belief and cultural needs were also mentioned as reasons for referral.

The most common reasons against referring to CAM therapies were lack of evidence (n=264, 88%), lack of regulation (n=234, 78%), and the financial cost (n=151, 50.3%). Other reasons given for not referring to CAM therapies included concerns about exploitation of vulnerable patients and risk of adverse effects or harm.

When asked about training in CAM, 96 (32%) GPs had formal training in one or more therapies. Formal training was defined as 'training run by a person with qualifications in the therapy concerned'. Acupuncture was the most common therapy participants had training in. Sixty-five (21.7%) GPs had formal training, and 26 (8.7%) stated they had self education in this therapy. Twenty-two (7.3%) had formal training in hypnosis and 12 (4%) in osteopathy and homeopathy. Thirty-nine (13%) participants stated they had self-education in herbal medicines, 26 (8.7%) in chiropractic manipulation, and 25 (8.3%) in homeopathy.

The number of respondents interested in training in one or more CAM therapies was 34 (11.3%). The two therapies that participants were the most interested in training in were acupuncture (n=13, 4.3%) and herbal medicine (n=12, 4%).

There were 21 (7%) participants who felt that there were CAM therapies that should be practiced only by GPs. The most commonly mentioned were acupuncture, herbal medicine, and hypnosis. However the comments regarding hypnosis often had the qualifier that it needed to be practiced by a trained healthcare worker rather than exclusively by GPs, but should not be used by people with no training.

The majority felt that there were therapies that should not be practiced by general practitioners (n=144, 48%). In a free text section following this question, 171 (57%) GPs offered comments. Of these, 141 were comments about therapies that should not be practiced. Some respondents named specific therapies and others made more general statements.

The major theme that came through was concern about the appropriateness of general practitioners using therapies with no evidence base in the current climate of evidence-based medicine:

> Doctors should stick to evidence based scientific medical treatments
>
> We should not practice snake oil medicine

Of the specific therapies mentioned that respondents felt should not be practiced by GPs, the most frequent were reflexology, aromatherapy, and spiritual healing.

The attitudinal statements asked about CAM as a field rather than as individual therapies and respondents stated their opinion on a Likert scale ranging from 1=strongly disagree, 3=neutral, and 5=strongly agree. 230 (76.7%) strongly or mildly agreed that CAM therapies need more scientific testing before being used in conventional medicine (Table 4).

Only 30 (10%) strongly or mildly disagreed with this statement. The majority (n=165, 55%) either strongly or mildly disagreed that most CAM therapies are safe with very few side effects. The majority (n=179, 59.7%) also strongly or mildly disagreed with the statement that CAM has a more holistic approach to health than conventional medicine.

Table 4. GP attitudes to statements about CAM as a field of medicine (1=strongly disagree → 5=strongly agree)

Variable	1		2		3		4		5		DK		NA	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
CAM therapies need more scientific testing before being used in conventional medicine *	13	4.3	17	5.7	35	11.7	57	19.0	173	57.7	1	0.3	4	1.3
The results from CAM therapies are mainly due to a placebo effect *	11	3.7	31	10.3	89	29.7	97	32.3	65	21.7	2	0.7	5	1.7
Most CAM therapies are safe and have very few side effects *	61	20.3	104	34.7	88	29.3	32	10.7	10	3.3	1	0.3	4	1.3
CAM has a more holistic approach to health than conventional medicine	102	34.0	77	25.7	46	15.3	59	19.7	13	4.3	1	0.3	2	0.7
CAM therapists should have some basic medical training	21	7.0	33	11.0	73	24.3	89	29.7	79	26.3	1	0.3	4	1.3
An overview of CAM should be included in conventional medical education	17	5.7	14	4.7	66	22.0	101	33.7	99	33.0	1	0.3	2	0.7
CAM can offer patients benefits that conventional medicine cannot	31	10.3	42	14.0	96	32.0	87	29.0	38	12.7	1	0.3	5	1.7
General Practitioners should regularly ask patients if they are using CAM	5	1.7	8	2.7	54	18.0	98	32.7	133	44.3	0	0.0	2	0.7
I am confident discussing CAM therapies with my patients	27	9.0	48	16.0	78	26.0	92	30.7	53	17.7	1	0.3	1	0.3

*These statements were adapted from Lewith.[12]

200 (66.7%) respondents either strongly or mildly agreed that an overview of CAM should be included in conventional medical education. 231 (77.1%) strongly or mildly agreed that general practitioners should regularly ask patients if they are using CAM. The statement 'I am confident discussing CAM therapies with my patients' had a mixed response; 25% strongly or mildly disagreed; 26% neither agreed nor disagreed; and 48.4% strongly or mildly agreed.

Discussion

This study highlights the importance of reassessment of general practitioners' attitudes toward complementary and alternative medicine. The proportion of practitioners referring patients to CAM therapies has increased markedly from both the 1988[8] and 1990[9] studies into general practitioners' attitudes toward CAM.

The proportion of GPs who referred patients to CAM in this study (94.7%) is comparable to a 2003 study of 30 Wanganui GPs that found 92% had referred patients to CAM therapies.[10] This was expected given the increase in patient use of CAM therapies in the period since the 1988 and 1990 study were conducted and because overseas research that shows patient interest can be a major influence on doctors' referrals.[11] Patient request was cited as a reason for referral by 86.3% of respondents to this survey.

However the total number of GPs practising CAM therapies has decreased to 20.3% from 30% in 1990.[9] The number of GPs practising CAM in this study is also much lower than the 37.6% found in a 2001 Perth study.[13] The low number of GPs

practising CAM may in part be due to time constraints, an issue that has been identified as a major barrier to the practice of CAM by GPs overseas.[14]

This study also provides important insight into the effect that the culture of evidence-based medicine is having on general practitioners' attitudes toward CAM. A considerable proportion of respondents cited lack of scientific evidence of benefit or efficacy as a reason that these therapies should not be offered by general practitioners. This may have contributed to the lower number of GPs administering CAM therapies compared to earlier NZ studies.

The response rate of 60% was acceptable in terms of the usual response rate to surveys of general practitioners, although it does leave room for bias and may limit the extent to which these findings are representative of all New Zealand GPs. Indeed, it is possible that those who responded to the questionnaire were the GPs with a higher level of interest in CAM, which could lead to an exaggeration of the proportions administering and referring patients to CAM therapies.

Definitions of each therapy were not provided in the questionnaire, due to the tension between response rate and practicality and length of the questionnaire. Instead, respondents were required to decide for themselves what each therapy included. This may have led to increased variability in respondents' answers.

Given the important role of Māori and Pacific Island culture in New Zealand society it was concerning that many GPs seem to be unsure about these traditional medicine systems. Taylor[10] also found that Wanganui GPs seemed to be uncertain about rongoa Māori (Māori medicine) although many of their patients were using these treatments.

Medical Council guidelines regarding complementary and alternative medicine recommend that doctors are aware of CAM therapies even if they do not intend to use them, and that doctors should be mindful of their patients 'cultural beliefs, mores, and behaviours'.[2] Awareness of the traditional medicines patients may be taking alongside their prescribed treatment may play an important role in providing quality care and avoiding adverse interactions.

Within New Zealand, the Accident Compensation Corporation (ACC) funds acupuncture, chiropractic manipulation, and osteopathy. Acceptance from a major government agency could be seen to mean these therapies have been included as part of the dominant healthcare system and therefore no longer fall under the banner of CAM as defined earlier in this paper.

Opinion amongst respondents was evenly divided, with 44.7% saying acupuncture is part of conventional medicine and 42% saying chiropractic manipulation and osteopathy are conventional.

The number of GPs with formal training in CAM has increased from 24% in 1988 to 32% in 2005.[8] This study separated training into formal training and self-education, a distinction not made in the 1988 study. When these two categories are looked at together, the total proportion of GPs that have received some form of training in this study is 61.3%. The proportion of respondents expressing interest in training has declined from 54% in 1988 to 11.3%, possibly because the number who have already had some training or education is so much higher.

Many doctors feel an overview of CAM should be included in conventional medical education; a finding that is consistent with earlier New Zealand research.[8,10] However

the present undergraduate medical curriculum does not appear to provide a large amount of teaching on these topics (a finding that has been consistent since 1988).

We suggest that appropriate teaching and learning about CAM should be included in the medical curriculum, particularly in those therapies with a specific relevance to Māori, Pacific Island, and other cultural groups within New Zealand.

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