

Official Publication of  
Swami Vivekananda Yoga Anusandhana Samsthana University

Volume 7 | Issue 1 | January-June | 2014



IJOY

International Journal of Yoga



**Contents**

**Editorial**

Prana and electrons in health and beyond

**Review Article**

In search of yoga: Research trends in a western medical database

**Original Articles**

Referral to yoga therapists in rural primary health care: A survey of general practitioners in rural and regional New South Wales, Australia

Impact of yoga on biochemical profile of asthmatics: A randomized controlled study

Decoding the integrated approach to yoga therapy: Qualitative evidence based conceptual framework

ISSN 0973-6131

Online full text at  
<http://www.ijoy.org.in>



Medknow

# Referral to yoga therapists in rural primary health care: A survey of general practitioners in rural and regional New South Wales, Australia

Jon Wardle<sup>1,2</sup>, Jon Adams<sup>1,2</sup>, David Sibbritt<sup>1,2</sup>

<sup>1</sup>Australian Research Centre in Complementary and Integrative Medicine, Faculty of Health, University of Technology Sydney, Ultimo, New South Wales, Australia, <sup>2</sup>Network of Researchers in the Public Health of Complementary and Alternative Medicine

**Address for correspondence:** Dr. Jon L Wardle,  
Australian Research Centre in Complementary and Integrative Medicine, Faculty of Health,  
University of Technology Sydney, 235-253 Jones St, Ultimo, NSW, Australia.  
E-mail: jon.wardle@uts.edu.au

## ABSTRACT

**Background:** Yoga is an increasingly accepted complementary treatment modality for referral in Australian general practice, yet this practitioner group has largely escaped research attention in Australia. Complementary medicine use is highest in rural and regional areas, where a number of primary health care challenges are also more pronounced. Despite the significant role of complementary therapists in rural and regional Australia, and the increasing acceptance of yoga therapy in general practice, there has been little exploration of the interface between yoga therapists and conventional primary health care practitioners in this area.

**Materials and Methods:** A 27-item questionnaire was sent to all 1486 general practitioners (GPs) currently practising in rural and regional Divisions of General Practice in New South Wales, Australia.

**Results:** Completed questionnaires were returned by 585 GPs, with 49 returned as 'no longer at this address' (response rate 40.7%). One-in-eight GPs (12.1%) advised their patients of specific yoga therapies and protocols, and 7.2% advised specific meditation techniques. Three-quarters of GPs (76.6%) referred to a yoga therapist at least a few times per year, with 12.5% of GPs referring at least once per week. GPs being in a remote location (OR = 10.95; CI: 1.55, 77.31), being female (OR = 1.85; 95% CI: 1.16, 2.94), GPs graduating from an Australian medical school (OR = 4.52; 95% CI: 2.61, 7.80), perceiving lack of other treatment options (OR = 3.29; 95% CI: 1.61, 6.74), GPs reporting good or very good knowledge of yoga therapies (OR = 18.2; 95% CI: 9.19, 36.19), and GPs using CAM for their own personal health (OR = 4.53; 95% CI: 2.60, 7.87) were all independently predictive of increased referral to yoga therapists amongst the rural GPs in this study.

**Conclusions:** There is a significant interface between yoga therapists in Australian rural and regional general practice. There is generally high support for yoga therapies among Australian GPs, with low levels of opposition to the incorporation of these therapies in patient care. There is a need for increased research into yoga therapies practice, policy and regulation in these areas.


**Key words:** General practice; health services; meditation; primary care; rural healthcare; yoga.

## INTRODUCTION

Yoga and meditation are two complementary and alternative medicine (CAM) mind-body approaches that

are increasingly used in Australia, with large population studies indicating that approximately 17.5% of the Australian general population report using meditation practices and 12% of Australians report using yoga for health.<sup>[1]</sup> Investigations of yoga and meditation practices in Australia indicate that yoga users are more likely to be female or middle age, and have higher education levels, than non-users.<sup>[2-4]</sup> Large longitudinal studies of young and mid-age women indicate that yoga and meditation are used 'often' as a therapy by 8% of women, and 'sometimes' by a further 13%.<sup>[5]</sup> There is some variability in reported utilisation rates amongst the Australian public, with large differences in utilisation rates of yoga depending

### Access this article online

<p><b>Website:</b> www.ijoy.org.in</p>	<p><b>Quick Response Code</b></p> 
<p><b>DOI:</b> 10.4103/0973-6131.123471</p>	

on definition as a CAM therapy or as a physical activity, or on meditation rates as distinct from yoga. Australian Bureau of Statistics estimates that only 1.7% of Australian adults use yoga,<sup>[2]</sup> however this study frames yoga use as a physical activity rather than therapy, and similar investigation by the Australian Sports Commission has uncovered yoga use as used by only 3.5% of the Australian public.<sup>[3]</sup> Meditation, relaxation and breathing exercises are an integral part of yoga therapy practice and account for 39% of practice time of Australian yoga therapists,<sup>[6]</sup> and yoga and meditation are often included together in analysis of population use<sup>[5]</sup>, yet meditation forms not related to yoga practice (arising from various traditions) may also be common in Australia.<sup>[7]</sup> Although traditionally yoga combines physical and meditation exercises with spiritual, moral and lifestyle practices in a holistic therapeutic paradigm,<sup>[8]</sup> the separation of physical and mental aspects of yoga and meditation in Australia could potentially result in practice in the Australian setting diverging from traditional practices.

A significant amount of yoga and meditation practice in Australia is facilitated via yoga therapists, rather than personal private practice. A national study of CAM practitioner visits suggested that consultations with yoga therapists account for 16.8% of visits to CAM practitioners in Australia.<sup>[9]</sup> A national survey of Australian CAM use found that of the 12% of the Australian population using yoga, just over half (6.8%) attended yoga therapists, with the remainder being via home practice.<sup>[1]</sup> Meditation practices were used by 17.5% of the Australian population, though only one-quarter of these persons (4.1%) visited a yoga practitioner as part of their practice.<sup>[1]</sup> However, despite their significant role yoga therapists appear to play in patient care in Australia, there has to date been little exploration of this practitioner group. The largely unregistered nature of yoga therapy and teaching in Australia makes it difficult to ascertain the number of yoga therapists in current clinical practice. Yoga Australia, the largest association of yoga teachers in Australia has a membership of over 1,600.<sup>[10]</sup> However, yoga therapy is distinct from yoga teaching in that it applies of the philosophy and practices of yoga in a client-therapist relationship to achieve specific health outcomes.<sup>[11]</sup> The therapy-focused profession in Australia remains embryonic, with Australian members of the International Association of Yoga Therapists numbering less than 70,<sup>[12]</sup> though it is likely that yoga teachers are currently yoga therapy services to the Australian public. These issues make it difficult to estimate precise numbers of yoga therapists (accredited or unaccredited) directly involved in patient care in Australia. However, an exploration of yoga practices in Australia was able to compile a database of yoga therapists and teachers based on association membership and advertising of services and uncovered 2,000 individual practitioners who self-identified as yoga therapists and teachers in Australia.<sup>[6]</sup>

In the Australian setting, general practice is a branch of medicine where CAM is particularly making an impact, with data from national surveys indicating significant levels of referral from general practitioners (GPs) to CAM practitioners, as well as evidence of closer working relationships developing between CAM providers and GPs.<sup>[13-15]</sup> However, such integration is not without controversy, and any role that CAM may play in general practice remains a highly contested practice issue within the Australian biomedical community.<sup>[16,17]</sup> Nor is such support homogenous, with differing levels of support for integration of various CAM.<sup>[13]</sup> Data suggests that yoga is amongst the most highly supported CAMs in Australian general practice. A national survey of 636 Australian GPs suggested that GPs split CAM into three broad categories: Yoga is categorised as non-medicinal and non-manipulative (along with acupuncture, massage and hypnosis) and was considered both highly effective and safe; this contrasted with therapies categorised as either medicinal or manipulative (naturopathy, chiropractic etc.), which were considered potentially harmful and of varying effectiveness; and esoteric (spiritual healing, aromatherapy etc.) which though considered relatively safe were also considered relatively ineffective.<sup>[13]</sup>

Positive GP perceptions of yoga appear to filter through to practice, with evidence of high levels of referral by GPs to yoga therapists. A national study of GPs referral and attitudes towards CAM found that over half had referred to yoga and meditation therapists (55% and 56%) in the past 12 months, with 7% and 9% referring weekly to yoga and meditation, respectively.<sup>[13]</sup> This study also found that approximately two-thirds of GPs would actively encourage a patient's suggestion to use yoga (62%) or meditation (65%) for health, with less than 3% actively discouraging either therapy. An earlier national survey of GPs found that 80% of GPs had referred to meditation therapists, and 77% thought that these visits should be subsidised by Medicare, Australia's national health insurance authority.<sup>[14]</sup> In addition to high support for yoga therapists amongst the biomedical community, there may also be overlap between yoga practice and prescription and other therapeutic modalities or professions in Australia. This includes medical practitioner recommendations, with a national survey of Australian GPs finding that 10% of GPs reported practising yoga or meditation themselves, with 13% and 26% of GPs having received formal training in yoga and meditation techniques respectively.<sup>[13]</sup> Earlier studies had indicated that 34% of Australian GPs had formal training in meditation techniques.<sup>[14]</sup>

Although specific yoga prescriptions in medical practice in Australia have not been specifically investigated, a national survey found that 12% recommended specific meditation techniques in clinical practice.<sup>[18]</sup> In addition to significant levels of medical practice of yoga therapy, complementary

medicine providers in Australia may also play a significant role in yoga therapy, with CAM practitioners used as sources of information by yoga users more than medical practitioners in Australia.<sup>[19]</sup> A national naturopathic workforce survey found that 6% of naturopaths identified yoga and meditation therapy as the primary nature of their practice.<sup>[20]</sup> Although in India the naturopathy and yoga disciplines are traditionally linked, regulated and taught as dual components of the same profession,<sup>[21,22]</sup> yoga practice in the Australian setting is linked closely with Ayurvedic medicine, possibly due to perceptions of both as Indian traditional medicines, and it is likely that there is also significant levels yoga therapy delivered by Ayurvedic medicine practitioners in Australia.<sup>[23]</sup>

Evidence of differing patterns of CAM consumption and utilisation across geographical areas is also emerging from Australian and international research, with increased use in rural communities when compared to urban populations.<sup>[24]</sup> Studies of rural populations that have specifically explored yoga use have uncovered high utilisation amongst rural populations, with lifetime utilisation of yoga in rural areas of 20-22%, with over half the population expressing interest in using yoga to improve health outcomes.<sup>[4,25]</sup> However, the increased pattern of use seen in most CAM in rural areas does not seem apparent in yoga therapy. Yoga, along with other therapies categorised as 'wellness' or new-age were used less in rural and regional areas than in urban areas in a Victorian study.<sup>[25]</sup> Large scale longitudinal investigation has suggested that women in urban areas are 1.5 times more likely to use yoga than women in rural areas.<sup>[5]</sup> This may be due in part to issues of access to practitioners rather than cultural barriers to use. Qualitative exploration of rural residents in rural Victoria identified that even though rural patients wanted to receive yoga therapy, they did not because these services were not locally available and transport was not available.<sup>[26]</sup>

High levels of integration and utilisation of yoga may have significant implications for primary care delivery and practice in rural and regional communities. However, despite the extensive utilisation and positive attitudes towards incorporation of yoga by both patients and conventional medical providers there has been no focused research to date exploring the level of integration and referral at a grass-roots level between these two groups. This paper provides the first step in addressing this research gap by investigating referral patterns of rural and regional GPs in relation to yoga therapy in Australia.

## MATERIALS AND METHODS

A 27-item survey questionnaire was sent to all 1486 GPs practising in rural and regional General Practice Divisions

of NSW, with a reminder card sent after two months. GPs were asked about their knowledge, attitudes, and practice and referral patterns to yoga therapists and meditation. GPs were also asked for demographic and practice information such as gender, age, number of years in practice, location of practice, number of patients seen per week and country of graduation. Ethical approval for the study was obtained from the School of Population Health Research Ethics Committee of the University of Queensland (JW130508) and the Human Research Ethics Committee of the University of Newcastle (H-2008-0344).

Rural and regional areas were defined by their classification in the Rural, Remote and Metropolitan Area (RRMA) classifications.<sup>[24]</sup> This classification categorizes areas based on population and remoteness as large or small metropolitan (1-2), large, small and other rural centres (3-5); and remote or other remote (6-7).

Survey questionnaire data was analysed using descriptive statistics via frequency distributions and cross-tabulations. Demographic and practice characteristics of GPs who referred to yoga and meditation therapists often (at least monthly) and seldom or never were compared using Chi-square tests. Logistic regression modelling, that included all practitioner and practice characteristics variables, was conducted using a backwards stepwise method of elimination using a likelihood ratio test, to parsimoniously predict referral to yoga and meditation therapists. Statistical significance was set at the  $P = 0.05$  level. Data were analysed using the software program STATA 11.

## RESULTS

A total of 585 questionnaires were returned completed, with an additional 49 survey questionnaires returned uncompleted as 'no longer at this address'; giving an adjusted response rate of 40.7%. Respondents had an average age between 45 and 54 years and 53.5% were male. Over three-quarters of respondents (77.8%,  $n = 456$ ) had completed their medical training at an Australian university. Aside from a slight over-representation of women, the respondent profile was broadly representative of the GP community in the study area.<sup>[27]</sup>

Referral rates of rural GPs to yoga therapists are shown in the Table 1. One in eight GPs (12.5%,  $n = 73$ ) referred to a yoga therapist at least once per week, and one third did so at least once per month (32.8%,  $n = 192$ ). Most GPs (76.6%,  $n = 448$ ) reported referring to a yoga therapist at least a few time per year. Most GPs were either actively referring to a yoga therapist, or would consider referring in the right circumstances. However, 9.1% of GPs in this study ( $n = 53$ ) stated that they would not refer to a yoga

therapist under any circumstances. Most GPs were aware of the local practitioners who were practising in their local area, with only 1.5% of respondents unable to identify a yoga practitioner in their local area to whom they could refer. Although there were high referral rates and high levels of awareness of local yoga therapists by GPs, formal professional relationships between GPs and individual yoga therapists were reported by only 4.3% ( $n = 25$ ) of GPs. One-in-eight GPs (12.1%,  $n = 71$ ) had recommended specific yoga exercises, treatments or protocols to patients themselves in the past twelve months, and 7.2% of GPs ( $n = 42$ ) had recommended specific meditation exercises (data not shown).

Table 2 shows a comparison between GPs in this study who referred to yoga therapists often (at least weekly or at least monthly) and seldom (less than a few times per year or never) by demographic characteristics. All demographic characteristics were significantly associated with referral to yoga practitioners. Specifically, female GPs were significantly more likely to refer to a yoga therapist than male GPs ( $P < 0.001$ ), as were graduates from Australian rather than international medical colleges ( $P < 0.001$ ) and GPs who had initially come from a rural area ( $P = 0.040$ ). Increasing GP age ( $P < 0.001$ ) and decreasing GP patient load ( $P = 0.006$ ), and decreasing level of rurality ( $P < 0.001$ ) were also associated with higher referral rates to yoga therapists.

Table 3 shows a comparison between GPs who referred often to yoga therapists and those who referred seldom. Increased referral to a yoga therapist was significantly associated with level of GPs' knowledge about yoga ( $P < 0.001$ ), the number of patients asking the GP about CAM ( $P < 0.001$ ), personal CAM use by the GP ( $P < 0.001$ ), the GP not having other treatment options available ( $P = 0.019$ ), the GP having seen positive results with yoga previously ( $P < 0.001$ ), GPs using CAM practitioners as a major source for CAM information ( $P = 0.005$ ), GP belief in the efficacy of yoga ( $P < 0.001$ ), the GP having prescribed CAM previously to patients ( $P < 0.001$ ) and the GP being comfortable with referral to yoga ( $P < 0.001$ ).

The result of multiple logistic regression modelling to determine predictive factors for referring to yoga therapists is shown in Table 4. GPs practising in a remote area were 10.95 (95% CI: 1.55, 77.31) times more likely to refer to yoga at least once per month than those who practised in a rural area. Female GPs were nearly twice as likely (OR = 1.85; 95% CI: 1.16, 2.94) as male GPs to refer to yoga at least once per month. GPs who graduated from Australian institutions were 4.52 (95% CI: 2.61, 7.80) as likely as international medical graduates to refer to yoga at least once per month. GPs who had used CAM regularly or often for their personal health often were 4.53 (95% CI:

2.60, 7.87) times more likely to refer to yoga therapists at least once per month than those who did not use CAM. Increased knowledge of yoga was associated with higher referral by GPs, with GPs reporting good or very good knowledge of this discipline being 18.24 (95% CI: 9.19, 36.19) times more likely to refer to yoga at least once per month than GPs who reported poor or very poor knowledge of the discipline. GPs were 3.29 (95% CI: 1.61, 6.74) more likely to refer for yoga at least once per month if they perceived there were no other options available.

To encourage response, the small size of the survey precluded asking in detail what specific pathologies GPs referred patients to yoga therapists for. However, an

**Table 1: Referral rates of rural GPs to yoga therapists in the past 12 months**

Referral rate	Frequency (%)
At least weekly	73 (12.5)
At least monthly	119 (20.3)
A few times per year	256 (43.8)
I have not referred but would consider	75 (12.8)
I would never refer	53 (9.1)
I do not know of any practitioners	9 (1.5)

GPs = General practitioners

**Table 2: Demographic and practice characteristics associated with referral to yoga therapists by rural and regional GPs in New South Wales, Australia**

Demographic characteristics	Referral to yoga therapists		P value
	Weekly or monthly %	Seldom or never %	
Sex			
Male	43.1	66.0	<0.001
Female	56.9	34.0	
Age			
25-34	9.7	7.9	<0.001
35-44	25.3	17.0	
45-54	36.6	39.3	
55-64	26.6	22.6	
>65	1.9	13.2	
RRMA			
3	26.3	30.9	<0.001
4	50.6	30.9	
5	20.6	30.6	
6	1.9	3.8	
7	0.6	3.8	
Australian graduate?			
Yes	85.6	68.7	<0.001
No	14.4	31.3	
Initially from a rural area?			
Yes	35.9	27.9	0.040
No	64.1	72.1	
Patient load (per week)			
<50	17.8	14.0	0.006
51-100	38.1	33.6	
101-150	26.3	34.0	
151-200	14.7	10.2	
>200	3.1	8.3	

GPs = General practitioners; RRMA = Rural, remote and metropolitan area

**Table 3: Other factors associated with referral to yoga therapists by rural and regional GPs in New South Wales, Australia**

Factors	Referral to yoga		P value
	Weekly or monthly %	Seldom or never %	
Level of knowledge			
Excellent	13.1	2.6	<0.001
Very good	27.2	7.2	
Satisfactory	45.6	43.8	
Poor	11.3	38.1	
Very poor	2.8	8.3	
Patients asked about CAM			
<10%	27.8	44.5	<0.001
11-25%	44.4	40.0	
26-50%	10.3	5.7	
>50%	17.5	9.8	
Personal use			
Regularly	17.5	7.2	<0.001
Often	24.4	9.8	
Once/Rarely	32.2	29.1	
Never, but would consider	13.1	12.8	
Never, and would not consider	11.6	40.0	
Access to medical specialists is a problem			
Yes	3.1	2.3	0.527
No	96.9	97.7	
Patient request for referral			
Yes	42.8	44.5	0.677
No	57.2	55.5	
Lack of other options			
Yes	13.4	8.7	0.019
No	85.6	91.3	
Positive results previously			
Yes	60.0	34.7	<0.001
No	40.0	65.3	
Information from CAM practitioner?			
Yes	23.8	14.3	0.005
No	76.2	85.7	
Information from patients?			
Yes	47.8	46.4	0.736
No	52.2	53.6	
Belief in efficacy			
Yes	83.4	60.8	<0.001
No	16.6	39.2	
Interested in increasing CAM knowledge?			
Yes	61.9	47.2	<0.001
No	37.8	52.8	
Have prescribed CAM to patients			
Yes	82.5	59.2	<0.001
No	17.5	40.8	
Comfort level			
Comfortable in general	52.4	20.0	<0.001
Only in specific circumstances	31.6	20.8	
Only if I knew them in person	13.9	20.8	
I would not refer	2.2	38.5	

CAM = Complementary and alternative medicine; GPs = General practitioners

open-ended question was provided for GPs to provide further information. 152 GPs (26.0% of respondents) completed this question, though the free-text format of this question did not allow for quantitative analysis. Responses indicated that GPs referred predominantly for general

**Table 4: Predictive factors for referral by GPs to yoga therapists at least once per month by rural and regional GPs in New South Wales, Australia**

Factor	Odds ratio	95% CI
RRMA category		
Rural	1.00	-
Remote	10.95	1.55, 77.31
Sex		
Female	1.00	-
Male	0.54	0.34, 0.86
Australian graduate		
No	1.00	-
Yes	4.52	2.61, 7.80
Knowledge of yoga		
Poor or very poor	1.00	-
Satisfactory	3.78	2.23, 6.41
Excellent or very good	18.24	9.19, 36.19
Have used CAM for personal health		
Never	1.00	-
Once or a few times	1.83	1.14, 2.93
Regularly or often	4.53	2.60, 7.87
Lack of other options		
No	1.00	-
Yes	3.29	1.61, 6.74

CAM = Complementary and alternative medicine; GPs = General practitioners; RRMA = Rural, remote and metropolitan area

mental and physical health, largely in older patients, rather than for specific pathologies. Only musculoskeletal problems (particularly back pain) were mentioned for specific referral.

## DISCUSSION

This paper reports the first focused examination of general practitioners (GPs) referral to yoga therapists in rural and regional Australia. The level of recommendation of specific yoga and meditation exercises by GPs in patient consultations in this study (12.1% and 7.2%, respectively) aligns with levels of meditation recommendation seen in previous Australian studies (12%)<sup>[14]</sup> and high levels of support for further incorporation of yoga and meditation in general practice found in national GP surveys.<sup>[13,14]</sup> High rates of referral to yoga therapists are similar to previous Victorian studies,<sup>[14]</sup> though higher than previous national studies.<sup>[13]</sup> However, previous studies indicate greater incorporation of meditation than yoga in Australian general practice, whilst this study suggests that yoga is integrated more in Australian general practice. This divergence could be representative of increasing acceptance of yoga in the Australian general practice community, or may be indicative of geographical variations in yoga therapies across Australian regions.

Such findings demonstrate that more sophisticated geographical analysis of CAM use, which incorporates rural-urban differences but also regional variations in use of specific therapies, may be required in eliciting the impact that CAM has on primary health care. Additionally,

although yoga and meditation are often grouped for analysis, and meditation is an integral part of yoga practice,<sup>[6]</sup> the practices of biomedical practitioners in Australia as they relate to meditation and yoga have not been fully explored. Further qualitative and quantitative examination of questions such as what conditions most often get referred, what guidelines currently exist for treatment pathways, what indicators GPs use to determine good prognosis from treatment and whether GPs find it reasonable to refer simply because of lack of other options may offer valuable insights into the use of yoga practice in primary health care.

Rural and regional issues associated with patient CAM use and practice may also have affected referral to yoga therapists by GPs in this study, as increased level of rurality was a predictor for increased referral to yoga therapists. Lack of other options, another predictive factor for referral, has also been previously identified as a driver for CAM use in rural areas.<sup>[24]</sup> However, the high rates of referral to yoga therapists and high knowledge of local practitioners by GPs in rural and remote regions conflicts with access issues observed in previous studies of rural yoga use.<sup>[28]</sup> Whilst low levels of access to yoga practitioners in rural areas has been suggested as a possible explanation for lower rates of use of yoga by rural populations,<sup>[5,25]</sup> GPs in this study were highly aware of locally accessible yoga practitioners in rural and regional areas in this study: Three-quarters of GPs in this study referred to a yoga therapist at least a few times per year, and only 1.5% were unable to identify practitioners in their local areas. Although there was high referral to, and awareness of, yoga therapists by GPs in this study, there were few formal pathways or guidelines for such referral, with only 4.3% of GPs having formal arrangements with yoga therapists, even though 76.6% of GPs referred at least a few times per year. This suggests that the majority of current referrals are ad-hoc and informal, and that there may be significant current unmet demand for formal yoga therapy referral pathways in rural health care in Australia.

Higher GP referral to yoga therapists was predicted by increasing degree of rurality, which indicates that even in remote regions these services were accessible, or at least known to GPs. This may suggest patients are unaware of some of the resources available to them in respect to yoga therapy in their local communities, such as those run by local Divisions of General Practice, or are not actively promoted to the public. Differing levels of awareness of accessibility of yoga therapists in local communities between GPs and patients may be affected by patients' choices of information sources regarding yoga therapists. For example, previous exploration of rural yoga users has found that they rely on and trust the internet or CAM practitioners for the majority of their information on yoga more than conventional medical

providers.<sup>[19]</sup> Such findings may also be indicative that GPs are referring to other CAM practitioners for yoga therapy, such as naturopaths, who have both a large presence in rural communities<sup>[29]</sup> and may incorporate yoga as a part of their practice,<sup>[20]</sup> even if they do not specifically advertise their services as yoga-specific. Future exploration of the mechanisms by which patients and GPs identify CAM practitioners in their local areas would assist in providing further insights into how rural populations perceive CAM service provision in their areas, and what affect this may have on CAM utilisation and referral. Additionally, these findings when viewed in the context of high CAM use and acceptance in rural regions<sup>[25]</sup> may indicate that rural health care could be a strategically important area for further development of the yoga profession in Australia.

GPs in our study that used CAM for their own health often were more than four times as likely in this study to refer to yoga therapy as those GPs who had not used CAM. Although this study did not explore whether this CAM use specifically related to yoga therapy, other demographic factors (being mid-age and female) that have been shown to be associated with yoga use in the general population were associated with, or independently predictive of, increased referral to yoga therapists.<sup>[2,5]</sup> Additionally, those GPs who reported high levels of knowledge of yoga therapy were nearly 20 times more likely to refer to a yoga therapist than those who reported poor knowledge of yoga therapy. These findings, when viewed in the context that 10-11% of Australian GPs actively practise both yoga and meditation therapy, and that between 13 and 34% have formal training in this therapy<sup>[13,14,18]</sup> may indicate that personal experience or use of CAM therapies may play an important role in CAM referral patterns. Investigation of the personal use of various CAM by primary health care providers may assist in uncovering what role such personal use has on delivery patient care by GPs. Findings from the open-ended question in this study also indicate that GPs refer largely for general mental and physical health, rather than specific pathologies, and beyond specific musculoskeletal problems do not appear to make referrals to yoga therapists for specific pathologies. These perceptions do not mirror those of Australian yoga therapists, who view yoga as being of varying effectiveness depending on the specific pathology of the patient,<sup>[6]</sup> and potentially ignores the variable risk and benefit profile of yoga therapy for numerous specific pathologies. These findings also suggest that promotion of more specific yoga benefits to GPs, for both personal and patient use, may be effective ways for the yoga profession to increase integration of yoga into primary health care in Australia.

The findings from our study also indicate that GPs graduating from an Australian institution were more

than four times as likely to refer to a yoga therapist as those who were trained overseas. This could indicate cultural differences in perceptions of CAM. For example, a study of GPs from the United Kingdom (the largest source of overseas-trained practitioners in the study area, representing 8.4% of all GPs) found that GPs referred less to, and were less interested in incorporating, yoga and meditation than therapies such as homoeopathy and reflexology.<sup>[30]</sup> This contrasts with the results of Australian GP surveys, which indicate that yoga and meditation receive much higher levels of support than therapies such as homoeopathy and reflexology, which are often considered to be of little therapeutic value.<sup>[13,14,31]</sup> Further investigation of the specific impact that location of medical training or cultural background has on attitudes, perceptions and practices of CAM can offer valuable insights into the reasons that underlie these differences, and what impact this may have in primary health care in differing or cross-cultural settings. High support by GPs in some countries could also be indicative of GPs in those countries viewing yoga therapy as a physical therapy divorced from its spiritual roots, rather than viewing it in its philosophical entirety. In the Australian setting this would be supported by formal government definitions which appear to define yoga as a sport or physical activity rather than as a therapy.<sup>[2,3]</sup> Further investigation into what aspects of yoga therapy GPs in Australia find valuable could offer insights into whether traditional yoga practices are in fact being supported by GPs, or whether yoga therapy in general practice is being medicalised in a manner similar to that of acupuncture integration, with little traditional philosophy being incorporated.<sup>[32]</sup>

Although the sample in our study was limited to one Australian state (New South Wales), the large and varied study area was chosen to be broadly representative of Australian rural and regional general practice demographics.<sup>[27]</sup> Nevertheless, the demographics of the GPs in this study compared to national statistics (i.e., being drawn from rural and regional areas and exhibiting a higher proportion of females) should be considered in generalising the study's results to the broader Australian general practice population. Other limitations of our study include the use of self-reported data and possible recall bias inherent in retrospective collection of data over a 12 month period, as well as self-selection may also have resulted in some form of response bias.

## CONCLUSIONS

This study reveals a high level of interaction (through personal practise, referral and development of professional relationships with third-party providers) between yoga therapists and the GP community in rural and regional Australia. The significant presence, high utilisation and

large apparent levels of integration of yoga in rural primary health care highlight the need for increased research into practice, policy and regulatory considerations related to yoga therapy in these areas.

## REFERENCES

- Xue C, 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.
- Australian Bureau of Statistics. Participation in sports and physical recreation, Australia (Cat. No. 4177.0) 2005-2007. Canberra: Australian Bureau of Statistics; 2007.
- Australian Sports Commission. Participation in Exercise, Recreation and Sport Survey-Annual Report 2010. Canberra: Australian Government; 2010.
- Robinson A. People's choice. Complementary and alternative medicine modalities. *Complement Health Pract Rev* 2007;12:99-119.
- Sibbritt D, Adams J, van der Riet P. The prevalence and characteristics of young and mid-age women who use yoga and meditation: Results of a nationally representative survey of 19,209 Australian women. *Complement Ther Med* 2011;19:71-7.
- Penman S, Cohen M, Stevens P, Jackson S. Yoga in Australia: Results of a national survey. *Int J Yoga* 2012;5:92-101.
- Kron J. Meditation. *J Complement Med* 2004;3:32-6.
- Iyengar B. *Light on Yoga*. New York: Harper Collins; 2001.
- Adams J, Sibbritt D, Broom A, Loxton D, Pirota M, Humphreys J, et al. A comparison of complementary and alternative medicine users and use across geographical areas: A national survey of 1,427 women. *BMC Complement Altern Med* 2011;11:85.
- Yoga Australia Members. Available from: <http://www.yogaaustralia.org.au/Members>. [Last accessed on 2012 Sep 22].
- IAYT Educational Standards Committee. Educational Standards for the Training of Yoga Therapists. Prescott (AZ): International Association of Yoga Therapists; 2012.
- International Association of Yoga Therapists. Find an IAYT Member [website]. Available from: [http://www.iayt.org/site\\_VX2/profile/search.aspx](http://www.iayt.org/site_VX2/profile/search.aspx). [Last accessed on 2012 Sep 22].
- Cohen M, Penman S, Pirota M, Da Costa C. The integration of complementary therapies in Australian general practice: Results of a national survey. *J Altern Complement Med* 2005;11:995-1004.
- Pirota M, Cohen M, Kotsirilos V, Farish S. Complementary therapies: Have they become accepted in general practice? *Med J Aust* 2000;172:105-9.
- Easthope G, Tranter B, Gill G. Normal medical practice of referring patients for complementary therapies among Australian general practitioners. *Complement Ther Med* 2000;8:226-33.
- Pirota M. Is it ethical for medical practitioners to prescribe alternative and complementary treatments that may lack an evidence base?-Yes. *Med J Aust* 2011;195:78.
- Dwyer J. Is it ethical for medical practitioners to prescribe alternative and complementary treatments that may lack an evidence base?-No. *Med J Aust* 2011;195:79.
- Pirota M, Farish S, Kotsirilos V, Cohen M. Characteristics of Victorian general practitioners who practise complementary therapies. *Aust Fam Physician* 2002;31:1133-8.
- Robinson A, Cooper S. Trusted information sources: The preferred option for complementary and alternative medicine users. *Complement Health Pract Rev* 2007;12:120-38.
- Bensoussan A, Myers S, Wu S, O'Connor K. Naturopathic and Western herbal medicine practice in Australia-a workforce survey. *Complement Ther Med* 2004;12:17-27.
- Alter J. *Yoga in Modern India: The Body between Science and Philosophy*. New Jersey: Princeton University Press; 2004.
- Central Council for Research in Yoga and Naturopathy. *Yoga and Naturopathy*.



- 8<sup>th</sup> ed. New Delhi: Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy; 2011.
23. Matthews S. Ayurvedic medicine. *J Complement Med* 2004;3:28-32.
  24. Wardle J, Lui CW, Adams J. Complementary and alternative medicine in rural communities: Current research and future directions. *J Rural Health* 2012;28:101-12.
  25. Robinson A, Chesters J. Rural diversity in CAM usage: The relationship between rural diversity and the use of complementary and alternative medicine modalities. *Rural Soc* 2008;18:64-75.
  26. Bourke L, Humphreys J, Lukaitis F. Health behaviours of young, rural residents: A case study. *Aust J Rural Health* 2009;17:86-91.
  27. Australian Medical Workforce Advisory Committee. The General Practice Workforce in Australia: Supply and Requirements to 2013, AMWAC Report 2005.2. Sydney: Australian Medical Workforce Advisory Committee; 2005.
  28. Bourke L, Sheridan C, Russell U, Jones G, DeWitt D, Liaw ST. Developing a conceptual understanding of rural health practice. *Aust J Rural Health* 2004;12:181-6.
  29. Wardle J, Adams J, Soares-Magalhaes R, Sibbritt D. The distribution of complementary and alternative medicine (CAM) providers in rural New South Wales, Australia: A step towards explaining high CAM use in rural health? *Aust J Rural Health* 2011;19:197-204.
  30. van Haselen R, Reiber U, Nickel I, Jakob A, Fisher PA. Providing complementary and alternative medicine in primary care: The primary care workers' perspective. *Complement Ther Med* 2004;12:6-16.
  31. Pirotta M, Farish S, Kotsrilos V, Cohen M. Characteristics of Victorian general practitioners who practice complementary therapies. *Aust Fam Physician* 2002;31:133-8.
  32. Baer H. The drive for legitimization in chinese medicine and acupuncture in Australia: Successes and dilemmas. *Complement Health Pract Rev* 2007;12:87-98.

**How to cite this article:** Wardle J, Adams J, Sibbritt D. Referral to yoga therapists in rural primary health care: A survey of general practitioners in rural and regional New South Wales, Australia. *Int J Yoga* 2014;7:9-16.  
**Source of Support:** Nil, **Conflict of Interest:** None declared

### Author Help: Online submission of the manuscripts

Articles can be submitted online from <http://www.journalonweb.com>. For online submission, the articles should be prepared in two files (first page file and article file). Images should be submitted separately.

- 1) **First Page File:**  
Prepare the title page, covering letter, acknowledgement etc. using a word processor program. All information related to your identity should be included here. Use text/rtf/doc/pdf files. Do not zip the files.
- 2) **Article File:**  
The main text of the article, beginning with the Abstract to References (including tables) should be in this file. Do not include any information (such as acknowledgement, your names in page headers etc.) in this file. Use text/rtf/doc/pdf files. Do not zip the files. Limit the file size to 1024 kb. Do not incorporate images in the file. If file size is large, graphs can be submitted separately as images, without their being incorporated in the article file. This will reduce the size of the file.
- 3) **Images:**  
Submit good quality color images. Each image should be less than **4096 kb (4 MB)** in size. The size of the image can be reduced by decreasing the actual height and width of the images (keep up to about 6 inches and up to about 1800 x 1200 pixels). JPEG is the most suitable file format. The image quality should be good enough to judge the scientific value of the image. For the purpose of printing, always retain a good quality, high resolution image. This high resolution image should be sent to the editorial office at the time of sending a revised article.
- 4) **Legends:**  
Legends for the figures/images should be included at the end of the article file.