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National Natural Therapies Workforce Survey: *Part 1*

Report on ATMS PhD Scholarship Study

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ATMS, PO Box 1027 Meadowbank NSW 2114
Tel: 1800 456 855 Fax: (02) 9809 7570
info@atms.com.au
www.atms.com.au

PRESIDENT

Christine Pope | **christine.pope@atms.com.au**

VICE-PRESIDENT

Kathleen Daniel | **kathleen.daniel@atms.com**
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TREASURER

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DIRECTORS

Peter Berryman | **peter.berryman@atms.com.au**
Cassandra Duffill | **cass.duffill@atms.com.au**
Donna Eddy | **donna.eddy@atms.com.au**
Brad McEwen | **brad.mcewen@atms.com.au**
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President's *Report*

Peter Berryman | ATMS President

Over the last forty years, the only specialist homeopath besides myself to be elected to the position of ATMS President was Alan Jones. Alan was one of the five founders of ATMS, along with Dorothy Hall, Roy Hand, Garnet Skinner, and Christine Berle, who inaugurated this professional association of natural medicine practitioners in Sydney on the seventh of September, 1984.

And now, after seven years, my term as President has come to an end. We have had past ATMS Presidents who were multi-modality practitioners, though specialist practitioners have also held the office: Dorothy Hall, a herbal medicine practitioner; massage therapists Catherine McEwan, Sandi Rogers and Maggie Sands; an acupuncturist, Bill Pearson; and naturopaths Betty Tannous, and now Christine Pope. Representing multiple natural medicine modalities is one of the major strengths of ATMS. I am so grateful to have been originally trained in several natural medicine modalities. It enabled me to choose to master one of these – homeopathy.

Since graduating as a naturopath in 1985, I have specialised in practising homeopathy. I certainly retain my box of generalised naturopathic "tricks of the trade" to dip into when necessary, though the better a homeopath I have become over the years, the less I've needed adjunctive modalities to deal with those particularly challenging clients I regularly meet. This is why I have had to teach myself pragmatic techniques that I was never taught at college, or anywhere else over the last 38 years of my continuing professional education. I have qualifications from graduating from five universities and three colleges in my commitment to being a life-long learner, equivalent to around 14 years of full-time tertiary education.

This is also why authors write introductions to their books acknowledging their debt to their patients, as clinical practice, not academic training, is the coal face of learning. I may joke about how my imaginary friend, "Doctor Desperation", taught me more about prescribing for challenging clients than any teacher, mentor or supervisor ever did. This is why I have also thoroughly enjoyed passing on what I have learnt to students in both formal teaching institutions in Australia and New Zealand, and informally, for example, during the last fourteen seasons volunteering to work and supervise students at the free homeopathic clinic at the Woodford Folk Festival in Queensland, sponsored by ATMS for the last three seasons. Offering something novel here, some interesting insight over there, has endowed my classroom and the clinical training for my students with passion and fun. My mantra has been, if I'm not having any fun here today, you probably aren't either, so let's try and see the lighter side of some of these often grave scenarios clamouring for our attention.

I have always had a particular interest in supporting the healing journey of those clients who have struggled to find answers and genuine help, as this was my original inspiration to choose a career in natural medicine as a teenager. Being the best physician I can be is all that I have ever aspired to do in my professional life. And I have been self-funded all along the way too, with many and varied part-time and vacation jobs to pay my way through many years of study and training. The well-trodden path of hard work has brought me to where I am today, with no regrets.

I HAVE ALWAYS HAD A PARTICULAR INTEREST IN SUPPORTING THE HEALING JOURNEY OF THOSE CLIENTS WHO HAVE STRUGGLED TO FIND ANSWERS AND GENUINE HELP, AS THIS WAS MY ORIGINAL INSPIRATION TO CHOOSE A CAREER IN NATURAL MEDICINE AS A TEENAGER. BEING THE BEST PHYSICIAN I CAN BE IS ALL THAT I HAVE EVER ASPIRED TO DO IN MY PROFESSIONAL LIFE.

I would like to acknowledge some of the most important teachers I have had the privilege of studying with. Some of you may also know them, such as Garth Walker and Ken King at the NSW College of Natural Therapies; Alan

Chalmers at the University of Sydney; and Jean Duckworth at the University of Central Lancashire. And lastly, the unsung heroes that I have learnt from are all the students and clients that I have met over the last 38 years of my teaching, supervising, and practising.

It has been an honour and privilege to have assisted ATMS members through the good times, and the difficult times, since I joined in 1994. Some of the significant issues the ATMS Board and I have faced over my seven years as President, that have shaped our regularly revised Strategic Plan, include advocating on behalf of our profession for the return of rebates for all of the 16 modalities that were dropped from private health insurance products, and making our supporting research evidence submissions to the Review; awarding merit-based research grants and scholarships to encourage a strong research focus, and thereby a growing database, on the efficacy of our profession; actively supporting practitioners' right to continue working in eight jurisdictions, each with different requirements, during mandated lockdowns in a pandemic; having annual awards that honour and recognise our practitioner, clinic and student of the year; pursuing the highest standard of stewardship of members funds through balanced annual budgets; maintaining GST exemption for our practitioners fees; achieving a major upgrade of our own computer systems and website; and a major promotion of our members with Natural Medicine Week each year in May. And now we are moving on to new challenges, with two new Directors, a new CEO, and a new President, as I continue to support the ATMS Board in this my eighteenth year as a Director in 2024.

Dare to know
That the source
Of all miracles
Lies within you.

Peter Berryman
Past President

CEO's *Report*

Christine Pope | ATMS Acting CEO

Happy New Year and welcome to 2024. It is shaping up to be a big year for ATMS as we are currently finalising the recruitment of a new CEO and we are welcoming two new Board members. Currently I am acting CEO until the new CEO is appointed and we are expecting that announcement to be finalised for members in mid-February, 2024.

First up a big thank you to outgoing CEO, Charles Wurf, for his 8 years of service. He was a strong advocate for ATMS in the area of preventative health and provided wise counsel to the Board on the processes involved in advocacy. He was instrumental in guiding the organisation through challenges with COVID lockdowns, the NTREAP review process and changes to the Home Care Packages. More recently he led the team through a significant IT project which is replacing the current website and supporting integrations with the member portal, the Humanitix booking site and the 'find-a-practitioner' function. Those of you who have built or replaced websites will understand how much is involved in this project.

In my capacity as acting CEO it has been a privilege to see the efforts of the ATMS team in dealing with a large volume of ongoing work on updating and maintaining clinic addresses and records, including matters of insurance, first aid and continuing professional education. As a director for the past several years I have become aware of the true extent of the operational effort needed to support over 9,000 members. The requirements of health funds are extensive, and it seems that much of our energy is directed to ensuring that members comply with requirements and do not put their accreditation at risk.

It's also clear that as processes for many of these providers have been systematised much of the human element has been lost, and it becomes increasingly difficult to address unintentional failures by members to provide key data. Please make sure that you diarise all key dates for your membership, insurance, first aid and CPE, and update that information in advance of the mandatory dates for their expiry. In addition, it's critical to keep your membership details up to date, so that emails are sent to the correct addresses.

The first Board meeting of the year was in mid-January and at that time ATMS welcomed two new elected directors, Cass Duffill and Ross Walters, as well as returning two existing directors, Donna Eddy and Rebecca Lang. A new executive was formed as well, headed up by myself as President and seeing Chantel Ryan and Kathleen Daniel appointed as Vice-Presidents, and Rebecca Lang as Treasurer. Re-invigoration of the board leadership is key to the ongoing success of ATMS, and having the newer members mentored by outgoing President Peter Berryman and myself will help to maintain a strong governance structure and generate new initiatives for members.

Looking forward to 2024, the year has already started strongly with a keen group of Natural Medicine Week ambassadors planning a range of activities that include webinars, recipes and blogs for Natural Medicine Week 2024. For all practitioners Natural Medicine Week is a good way to provide a focus for your marketing activities. It can be as simple as sharing on social media relevant content from the Natural Medicine Week website - or you can stretch yourself a little more to hold a Facebook Live or run an online event.

Practitioners who would like to promote an online event are advised to submit all the relevant content before 31 March to really take advantage of the opportunity and get the most benefit out of the marketing campaigns. This year in Natural Medicine Week we will be sharing our Top 10 Tips and this freemium will drive signups to the lists to support our marketing in the future. This resource is beautifully designed and links to many of the existing blogs on the site.

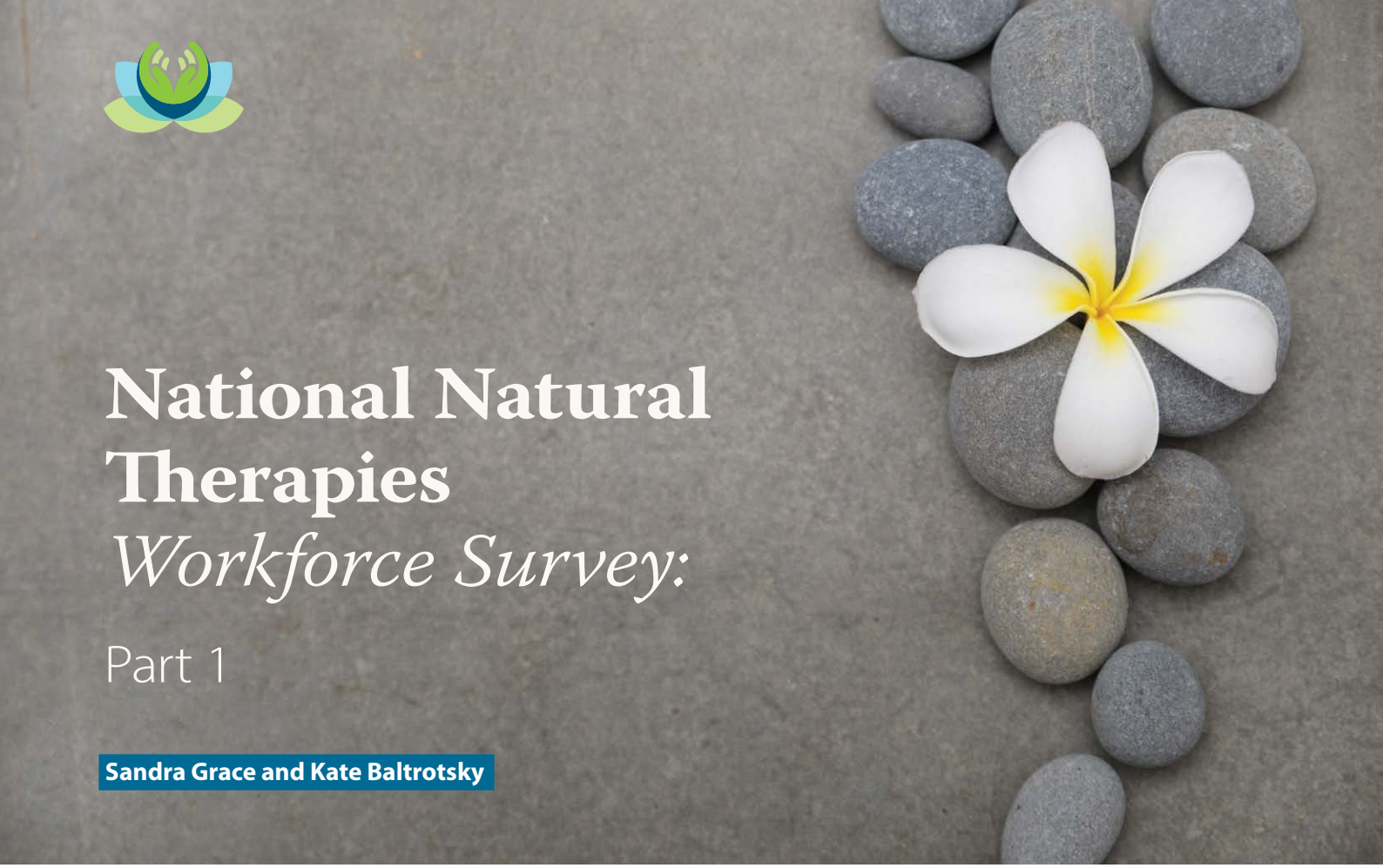
Graphics will also be available in Canva to make it easier for members to share details of their event or provide marketing tiles to promote a local activity. In previous years members have had success with demonstrations, morning "herbal teas" and in-person workshops.

More importantly, if you tag ATMS in your socials it will give us an opportunity to share ourselves more broadly.

The other rewarding aspect of Natural Medicine week is that the content generated provides ATMS with up to 4 months of online material across our social channels, allowing us to direct the public to blogs and recipes from our practitioners and ultimately to achieve our major goal, which is for them to book an appointment and see an accredited practitioner.

Wishing all success for you and your practice in 2024.

Christine Pope
Acting CEO



National Natural Therapies *Workforce Survey:* Part 1

Sandra Grace and Kate Baltrotsky

This report is a summary of the results from the 2022 National Natural Therapies Workforce Survey. Participants were invited by natural therapy associations in Australia to participate in an online survey that was open between 29 March 2022 and 28 May 2022. A total of 1,921 responses were recorded. All percentages in this report are valid percentages which exclude missing data. Part 1 presents the demographics (including gender, age, primary natural therapy discipline, professional association) and education of respondents. Part 2 will be published in the Winter issue of JATMS (30(2)). It will present a summary of the business practices of respondents (including number of consultations, income, referral networks, adverse reactions) and the impact of the COVID-19 pandemic.

Introduction

Workforce surveys provide snapshots of a profession that are important for practitioners, policy makers and educators. The 2022 National Natural Therapies Workforce Survey provided an update on similar surveys sponsored by ATMS in 2012 and 2002. It enables practitioners to understand their profession, its composition and work practices. It enables professional associations to understand and respond to their members' feedback and alerts them to trends that may require attention to support their members' ongoing practice success. And finally, it enables educators to adjust natural therapies curricula so that future graduates are better prepared for the ever-changing environment of health care.

Method

Thirteen major natural therapies associations were invited to join a Steering Committee to review and develop survey questions on topics of current importance and to assist with survey distribution to their members. Five associations accepted the invitation.

The Steering Committee comprised:

Sandra Grace – Project Lead, Australian Traditional Medicine Society

Jarrod Carter – Complementary Medicine Association

David Casteleijn - Naturopaths and Herbalists' Association of Australia

Ann Davey – Massage & Myotherapy Australia

Jennifer Moore – International Institute of Complementary Therapists

Kaiya Seaton – Shiatsu Therapy Association of Australia

Maggie Sands – School of Integrated Body Therapies

And members of the ATMS Research Committee:

Peter Berryman
Kathleen Daniel
Brad McEwen
Donna Eddy

Kate Baltrotsky was Research Assistant. Her role was to co-ordinate Steering Committee meetings, assist with the ethics application, oversee survey distribution, and draft the initial report.

The following associations assisted by distributing the survey to their members:

- Australian Acupuncture and Chinese Medicine Association
- Australian Natural Therapists' Association
- Australian Naturopathic Practitioners' Association
- Australasian Association and Register of Practicing Nutritionists
- Australian Homoeopathic Association

Data were analysed descriptively using Qualtrics and Stata by an independent statistician.

Results

1. Demographics

Gender

Respondents were predominantly female (1534 out of 1915, (80.1%)). Three-hundred-and-fifty-three out of 1915 (18.4%) were male, 21 out of 1915 (1.1%) preferred not to say, 6 out of 1915 (0.3%) identified as non-binary and 1 out of 1915 (0.05%) preferred not to describe (see Figure 1.1).

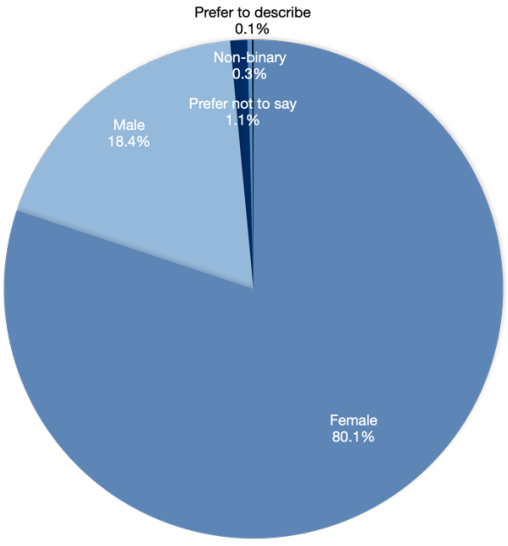


Figure 1.1 Gender of Practitioners

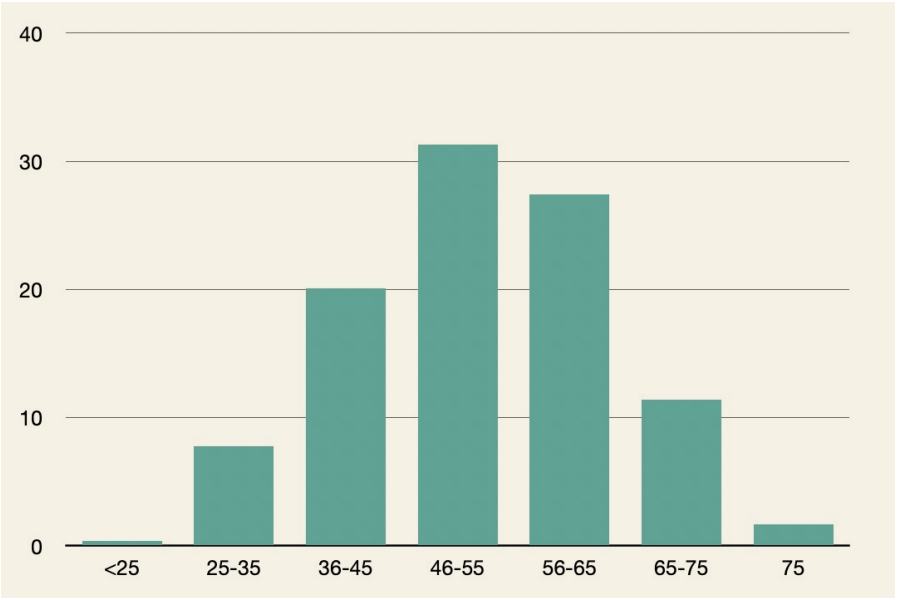


Figure 1.2 Percentage of Practitioners by Age Category

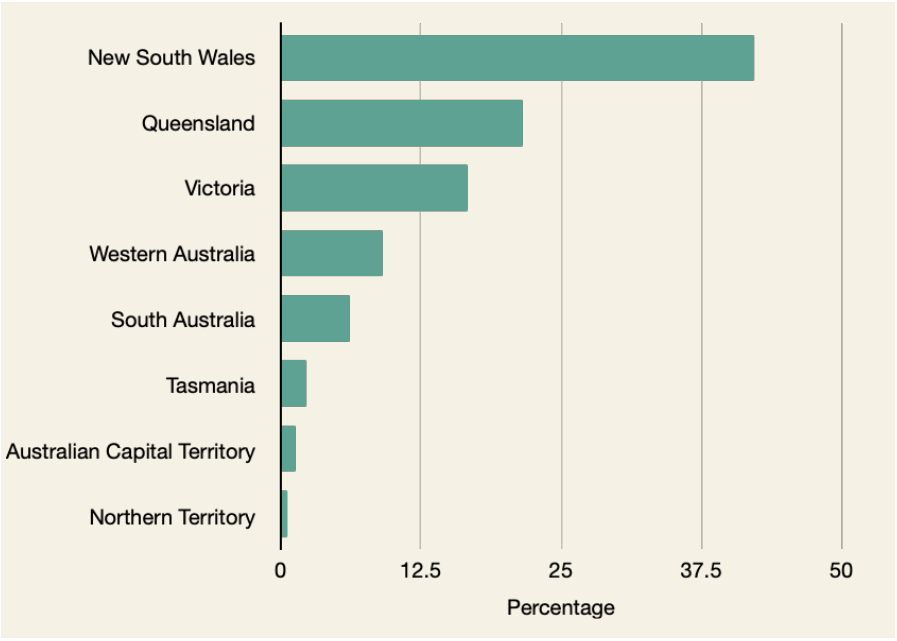


Figure 1.3 Location of Main Practice

Age

Roughly one third (602 out of 1921, 31.3%) of respondents were in the age category 46-55 years old, followed by 526 out of 1921 (27.4%) between 56-65 years old, 386 out of 1921 (20.1%) between 36-45 years old, 149 out of 1921 (7.8%) between 25-35 years old, 33 out of 1921 (1.7%) over 75 years old and 7 out of 1921 (0.4%) were less than 25 years old (see Figure 1.2).

Main Practice Location

The highest number (808 out of 1916, 42.2%) of respondents' main practice was in New South Wales, followed by 414 out of 1916 (21.6%) in Queensland, 320 out of 1916 (16.7%) in Victoria, 175 out of 1916 (9.1%) in Western Australia, 119 out of 1916 (6.2%) in South Australia, 44 out of 1916 (2.3%) in Tasmania, 25 out of 1916 (1.3%) in the Australian Capital Territory and 11 out of 1916 (0.6%) in the Northern Territory (see Figure 1.3).

Area

Geographical classification of areas in Australia was based on the 1991 Australian Bureau of Statistics' geographical classifications for area: metropolitan, rural and regional. Most participants (1305 out of 1917, 68.1%) reported that their main practice was in a metropolitan area, 567 out of 1917 (29.6%) practised in a rural area and 45 (2.4%) practised in a remote area (see Table 1.1).

Table 1.1 Practitioner's Main Practice Location Area

Area	n (%)
Metropolitan	1,305 (68.1)
Rural	567 (29.6)
Remote	45 (2.4)
Total	1,917 (100)

Primary Natural Therapy Discipline

Respondents could list their primary natural therapy discipline and up to two other natural therapy disciplines that they practised. A total of 588 out of 1753 (32.1%) reported Remedial Massage as their primary discipline, 435 out of 1753 (23.7%) reported Naturopathy, 136 out of 1753 (7.4%) reported Acupuncture, 104 out of 1753 (5.7%) reported Nutrition, 80 out of 1753 (4.4%) reported Homeopathy, 50 out of 1753 (2.7%) reported Western Herbal Medicine and 31 out of 1753 (1.7%) reported Massage Therapy/ Swedish Relaxation as their primary discipline. Two hundred and eighteen respondents (3.4%) selected 'Other' for their primary discipline and were invited to enter a description of their practice. Respondents described 'Other' as various types of massage, therapeutic needling, stretch therapy, sports therapy, sound therapy, Scenar therapy, Pilates, personal training, personal development, occupational therapy, marketing, lymphatic drainage, life coaching and more. Table 1.2 displays the total number of practitioners qualified in each natural therapy discipline and the number and percentage of practitioners who listed the natural therapy discipline as their primary one.

Table 1.2 Practitioners per Natural Therapy Qualification and Primary Natural Therapy Discipline Practised

Natural Therapy Qualification	Total Number of Practitioners with this Qualification	Number (%) of Practitioners practising this Primary Natural Therapy Discipline
Remedial Massage	772	588 (32.1)
Naturopathy	566	435 (23.7)
Acupuncture	175	136 (7.4)
Nutrition	297	104 (5.7)
Homeopathy	139	80 (4.4)
Other	218	62 (3.4)
Western Herbal Medicine	236	50 (2.7)
Kinesiology	78	44 (2.4)
Energy Medicine/ Energetic Healing	121	36 (2.0)
Massage Therapy/Swedish Relaxation	331	31 (1.7)
Aromatherapy	86	27 (1.5)
Myotherapy	52	25 (1.4)
Counselling	91	23 (1.3)
Nursing	33	16 (0.9)
Reflexology	93	13 (0.7)
Shiatsu	40	13 (0.7)
BowenTherapy	66	9 (0.5)
Yoga Therapy	36	8 (0.4)
Hypnotherapy	23	7 (0.4)
Chinese Herbal Medicine	99	5 (0.3)
Meditation Relaxation	50	5 (0.3)
Ayurveda	15	6 (0.3)
Reiki	85	4 (0.2)
Osteopathy	9	3 (0.2)
Physiotherapy	6	3 (0.2)
Lifestyle Medicine	33	2 (0.1)
Pharmacy	11	2 (0.1)
GP	2	2 (0.1)
Hydrotherapy	1	2 (0.1)
Sports Massage	204	12 (0.07)
Psychology	4	0 (0)
Total	4111	1753 (100)

Definitions of Natural Therapy Discipline Categories

Primary natural therapy disciplines were clustered into five main categories:

- Physical Medicine including aromatherapy, Bowen therapy, hydrotherapy, kinesiology, myotherapy, osteopathy, reflexology, remedial massage, shiatsu, sports massage, massage therapy/Swedish/ relaxation massage and yoga therapy
- Ingestive Medicine including Ayurveda, homeopathy, naturopathy, nutrition and Western herbal medicine
- Energetic Medicine including energetic healing and Reiki
- Registered Profession including acupuncture, Chinese medicine, chiropractic, general medical practice, nursing, pharmacy and physiotherapy
- Mind-Body Medicine including counselling, hypnotherapy, lifestyle medicine, meditation/relaxation and psychology

Just under half of the respondents (44.2%) reported Physical Medicine as their primary natural therapy discipline followed by 38.6% Ingestive Medicine, 9.6% Registered Profession, 2.3%

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Energetic Medicine, 1.7% Mind-body Medicine and 3.6% stated Other. Table 1.3 shows the number and percentage of respondents in each natural therapy discipline category.

Table 1.3 Number of Practitioners per Natural Therapy Discipline Category According to Primary Discipline

Discipline Category	n (%)
Physical Medicine	773 (44.2)
Ingestive Medicine	675 (38.6)
Energetic Medicine	40 (2.3)
Registered Profession	168 (9.6)
Mind-body Medicine	30 (1.7)
Other	62 (3.6)
Total	1,748

Currently Practising

Most practitioners (1624 out of 1913, 84.5%) reported they were currently in clinical practice and 289 out of 1913 (15.1%) said they were not. A total of 31 out of 283 (11.0%) of respondents stated they were not in practice because of study commitments, 23 out of 283 (8.1%) stated caring responsibilities, 19 out of 283 (6.7%) said they experienced burnout and 16 out of 283 (5.7%) stated illness or disability (see Table 1.4). Many respondents (61.1%) stated 'Other' reason for not being in clinical practice.

Open ended responses showed that many practitioners were not in practice because of COVID-19-related issues such as restrictions, complicated business practice due to COVID-19, vaccine mandates and other COVID-19 concerns. Other emergent themes were the inability to find employment, not being able to earn a living wage and being involved with other paid work.

Table 1.4 Reasons Practitioners were Not in Clinical Practice

Reason not in practice	n (%)
Other (please describe)	173 (61.1)
Study	31 (11.0)
Caring responsibilities	23 (8.1)
Burnout	19 (6.7)
Illness or disability	16 (5.7)
Pregnancy/parental leave	10 (3.5)
Extended holiday	8 (2.8)
Bereavement	3 (1.1)
Total	283 (100)

Professional Association

Respondents were invited to list the professional association(s) they belonged to. The highest number of respondents (810 out of 1549, 52.3%) reported the Australian Traditional-Medicine Society, followed by 263 out of 1549 (17.0%) from the Australian Natural Therapists Association. Table 1.5 shows the number and percentage of respondents in each natural therapy professional association.

Table 1.5 Respondents' Professional Associations

Professional Association	n (%)
AHA – Australian Homoeopathic Association	45 (2.9)
ANPA - Australian Naturopathic Practitioners Association	19 (1.2)
ANTA - Australian Natural Therapists Association	263 (17.0)
ATMS - Australian Traditional-Medicine Society	810 (52.3)
CMA - Complementary Medical Association	58 (3.7)
FCMA - Federation of Chinese Medicine and Acupuncture	12 (0.8)
IAAMA - International Aromatherapy & Aromatic Medicine Association	9 (0.6)
IICT - International Institution for Complementary Therapists	79 (5.1)
MMA - Massage & Myotherapy Association	89 (5.8)
NHAA - Naturopaths & Herbalists Association of Australia	134 (8.7)
RAA - Reflexology Association of Australia	9 (0.6)
STAA - Shiatsu Therapy Association of Australia	15 (1.0)
Other	7 (0.5)
Total	1549 (100)

2. Education

Highest Natural Therapy Qualification

Figure 2.1 suggests that many natural therapy practitioners hold either a Diploma (661 out of 1752, 37.7%), Advanced Diploma (382 out of 1752, 21.8%) or Bachelor degree (506 out of 1752, 28.9%) in their primary discipline. Only 8 out of 1752 (0.4%) of all respondents stated they hold no formal qualification. A total of 20 out of 1752 (1.1%) held a PhD, 43 out of 1752 (2.5%) held a Certificate IV, 63 out of 1752 (3.6%) held a Masters and 69 out of 1752 (3.9%) selected 'Other' qualification.

Qualifications per Discipline Category

Figure 2.2 depicts highest qualifications for each discipline category. Respondents with a primary qualification in Physical Medicine held the highest percentage of diplomas (70.4%), followed by 14.0% with an Advanced Diploma, 4.4% with a Certificate IV, 0.9% with a Masters, 0.6 with a PhD; 1.6% stated Other and 0.3% had no formal qualification.

Ingestive Medicine respondents held the highest percentage (33.1%) of Advanced Diplomas compared to other disciplines, followed by 48.1% with a Bachelor Degree, 8.4% with a Diploma, 4.4% who stated Other, 4.1% with a Masters, 1.3% with a PhD, 0.31% with a Certificate IV and 0.31% with no formal qualifications.

Energetic Medicine respondents did not hold any Masters or PhDs; however, 37.5% held a Diploma followed by 21.9% with an Advanced Diploma, 18.8% with a Bachelor degree, 15.6%, who stated Other, and 3.1% had no formal qualifications.

Registered Professionals held the highest percentage of Bachelor degrees (63.5%) followed by 13.2% with a Masters, 12.6% with an Advanced Diploma, 8.2% with a Diploma, 0.6% with a PhD and 1.3% stated other qualifications.

Mind-body Medicine had the smallest representation (1.7% of total respondents) of all the discipline areas. Thirty-two percent held a Diploma,

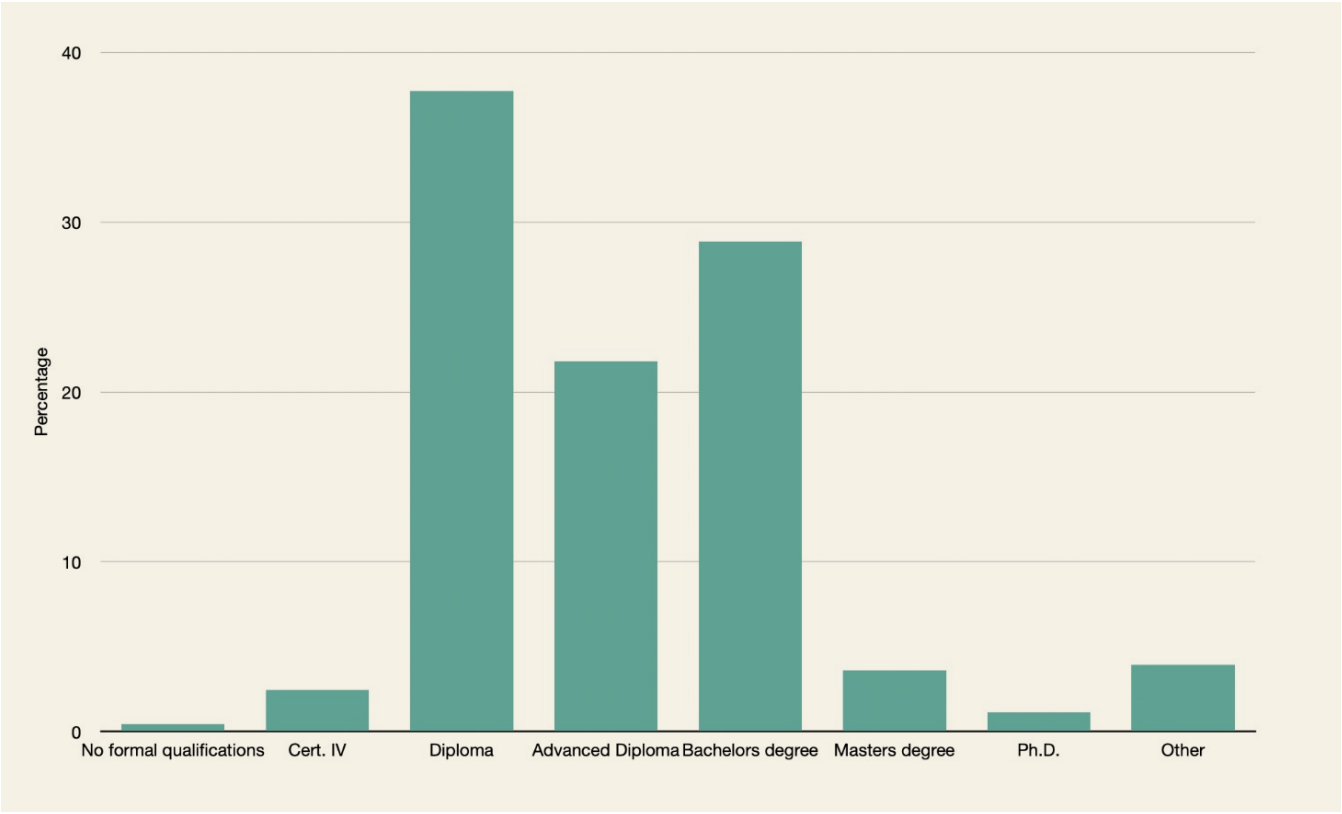

Figure 2.1 Highest Qualification of Natural Therapy Practitioners

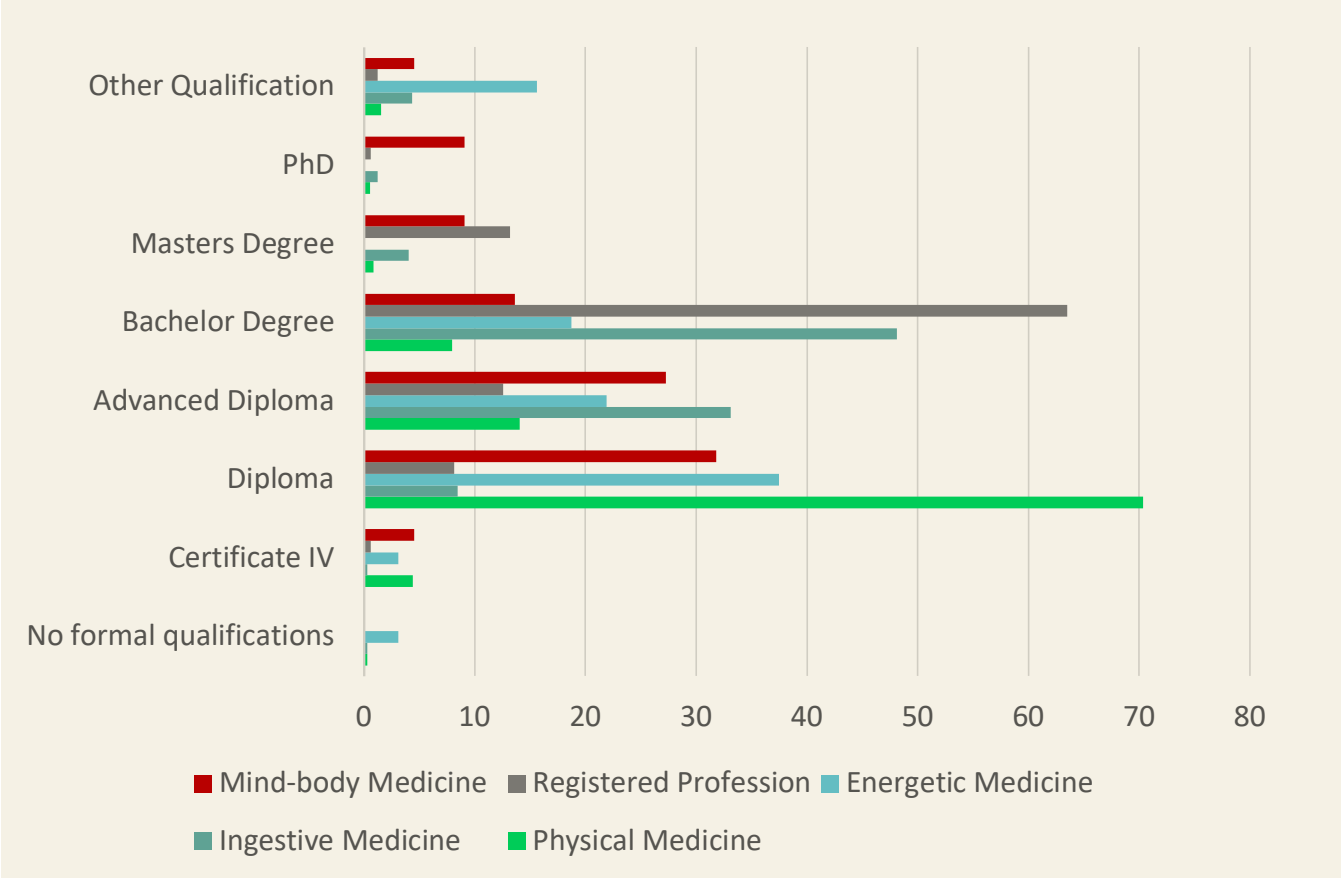

Figure 2.2 Highest Qualifications in Natural Therapies by Discipline Area

followed by 27.3% with an Advanced Diploma, 13.6% with a Bachelor degree, 9.1% with a Masters degree and 9.1% with a PhD. One respondent (4.6%) stated other qualifications.

Full Time or Part Time Study

A total of 783 out of 1733 (43.2%) of respondents studied full-time and 861 out of 1733 (49.7%) studied part time for their primary qualification.

How Well Did Qualifications Prepare Practitioners?

Respondents were asked how well their qualification in natural therapies prepared them for working with health practitioners other than natural therapists. Most practitioners said they either felt quite well prepared (566 out of 1677, 33.8%) or adequately prepared (522 out of 1677, 31.1%). Some (340 out of 1677, 20.3%) felt their qualification prepared them extremely well, while 199 out of 1677 (11.9%) felt poorly prepared and 50 out of 1677 (3.0%) stated their qualification did not prepare them at all (see Table 2.3).

Table 2.3 How Prepared Practitioners Felt to Work with Health Professionals who were not Natural Therapists

Felt Prepared?	n (%)
Not at all	50 (3.0)
Poorly	199 (11.9)
Adequately	522 (31.1)
Quite well	566 (33.8)
Extremely well	340 (20.3)
Total	1,677 (100)

Discussion

The results of this survey suggest that the natural therapies workforce is predominantly female, an ageing population and well qualified. Female dominance in natural therapies is consistent with other health disciplines in Australia. In 2021, 76.3% of health practitioners across 15 health professions were female (Anderson et al., 2023). This represented an increase of 0.5% since 2016.

Ageing populations are reported across the entire natural therapies health workforce. The median age of health practitioners across all health professions in 2021 was 42 years (Anderson et al., 2023). Between 2016 and 2021 the median age of Chinese medicine practitioners increased from 48 years to 51 years, pharmacists from 35 years to 37 years, and podiatrists' median age was unchanged at 36 years. The proportion of Australian general practitioners 45 years and older increased from 39% to 64% between 1985 and 2009 (Schofield et al., 2009). By 2022, the median age for an Australian general practitioner was 51.6 years (Australian Government Department of Health and Aged Care, 2023). Nursing was the only health profession to show a decrease (from 45 years to 43 years) (Anderson et al., 2023).

Education of natural therapists in Australia has undergone significant changes in recent years, including changes to the Health Training Package (HLT). For example, new HLT skill sets have been recently introduced for remedial massage. Students of the Diploma of Remedial Massage are now required to learn the principles of pain neuroscience and how to incorporate those principles into management plans for their clients (Training.gov.au, 2022). There is also a trend for naturopathy and acupuncture courses to move out of the university sector back to the private sector. For example, the University of Technology, Sydney, closed their acupuncture degree in 2021 after 25 years (Sparke, 2019). At such a time it is particularly important to gather feedback from graduates to understand their experiences and to better prepare them for their future clinical practices. In particular, a focus on interprofessional practice and education articulation pathways, both to and from other health professions, is called for. Just over half of survey respondents rated how prepared they felt for working with other health practitioners as 'quite well' and 'excellent'. However, there are opportunities here for natural therapies education providers to ensure that all graduates are ready to join multi-disciplinary teams, including through co-located clinical practices and multi-disciplinary community events.

(In Part 2, we will present a summary of the business practices of respondents (including number of consultations, income, referral networks and adverse reactions) and the impact of the COVID-19 pandemic.)

ACKNOWLEDGEMENTS

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Plantar Heel Pain: *A Soft Tissue Approach*

James Barker | Soft Tissue Therapist

Plantar heel pain is a common and often debilitating musculoskeletal condition that affects distinct populations. Epidemiology on plantar heel pain includes an estimated 11-15% of all foot complaints in adults presenting for care (1). Populations most at risk include runners, soldiers, those in prolonged standing positions and females in the 40–60-year age group (2), increasingly so if overweight. In Australia general practitioners are often used as a first healthcare interaction which often includes medication, education, and imaging (3). With increased knowledge on effectiveness of tendon loading guidelines, exercise and manual therapy are being increasingly utilised in the management of plantar heel pain. Information on management from a soft tissue approach is scarce. In this clinical commentary we will draw on current evidence and clinical experience to provide a working template based on the population and patient presentation.

Anatomy and Function

The plantar fascia, also known as the plantar aponeurosis, is a broad sheet of connective tissue composed primarily of type I collagen. It stretches from the medial plantar surface of the calcaneus attaching to the proximal surface of the metatarsal heads.

Diving a little deeper we can see the fascia is closely connected to the paratenon of the Achilles tendon, more so than to the tendon itself, through the periosteum of the heel. The plantar fascia extends medially and laterally, continuing into the deep fascia enveloping the abductor hallucis and abductor digiti minimi muscles, respectively (4). Anatomically, the connection to the paratenon decreases as we age.

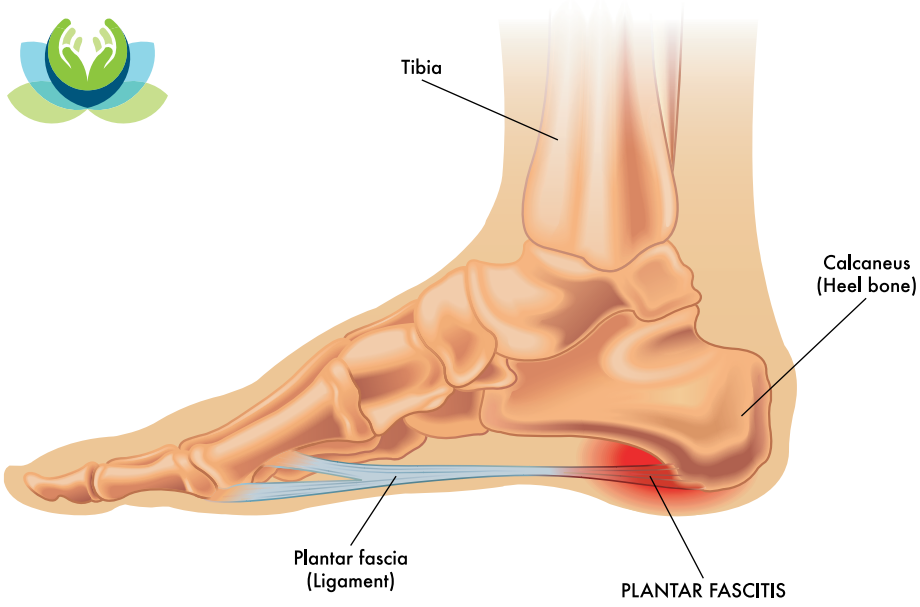
The aponeurosis functions passively to maintain the longitudinal arch and absorb load as the foot rolls through various stages of the gait cycle. The plantar fascia is active eccentrically during (hind and midfoot) pronation and concentrically using the windlass mechanism during toe off. Like tendons, the plantar fascia is essential to store and release energy, increasing mechanical efficiency during gait. Considering the function and anatomy, a stiff strong, aponeurosis is a key factor in a well-functioning plantar fascia.

In addition, anatomically the intrinsic foot muscles play a role during gait. The intrinsic foot muscles have their attachments within the foot itself. The small muscles have been shown to assist damping of energy associated with foot-ground impact and play a critical role in stiffening the foot for propulsion (5).

One key factor, which has received little research attention to date, is compression, as the fascial connections wrap around the calcaneus. Many of us have seen the patient who presents with posterior heel pain below the Achilles insertion at the calcaneus but well away from the medial calcaneal tuberosity. Could this be a factor to consider when designing a rehabilitation program?

What is plantar heel pain?

Plantar heel pain is a localised pain usually confined to the attachment at the medial calcaneal tuberosity and tends not to refer. The condition is common in load-related sports that include running; however, it is also found in people who are unloaded and sedentary. Those who are overweight often present with co-morbidities which are an additional consideration during the initial consultation and treatment protocol.



Pain behaviour

Plantar heel pain is exacerbated by load, with reports of 'feeling stiff' on rising or 'start up' pain after prolonged inactivity. A short period of movement allows the pain to reduce, although with variability experienced by patients. Clinical experience reminds us that some people suffer considerable pain throughout the day, especially in standing occupations. The next day pain phenomenon – twenty-four-hour response in tendons - is well known. Less work has been done on the response of the plantar fascia, but the patient will need to self-monitor next-day pain when progressing through a load program, being alert for spikes in load and potential flare-ups.

Sedentary populations may fall into the category of the 'metabolic' tendon. Pioneering work by Jamie Gaida (7) demonstrated co-morbidities such as increased waist to hip ratio, central adiposity, high cholesterol and hyperglycaemia to be strongly associated with Achilles tendinopathy. Follow-up work (8,9) by other researchers supports these findings. Less data are available regarding the plantar fascia. Increased Body Mass Index (BMI) is more closely related to sedentary populations and listed as a risk factor related to mechanical load (10), but it may be the metabolic biology that is more important in this population.

Soft tissue that is metabolically challenged, and more specifically connective tissue, suffers from Advanced Glycation End stage (AGEs) products. These substances are sticky and tend to infiltrate the connective tissue, forming excessive cross-links. Once this process occurs the connective tissue is unable to store and release energy effectively. Further work needs to be done in this area, but at this stage there are strong anatomical and mechanical similarities to suggest that this occurs in the plantar fascia. The question is: does this change our management?

Aetiology

Aetiology of plantar heel pain is multifactorial, involving load-related extrinsic and intrinsic factors. Extrinsic factors are common across many overload injuries, including increasing volume and intensity too quickly, change in footwear, and change in surface. Intrinsic factors may include changes in loading patterns due to fatigue, gender, age, bodyweight, reduced dorsiflexion (11), old injuries, reduced calf strength (10) and unique biomechanics – we don't all run the same!

Pathophysiology

Plantar heel pain is a chronic degenerative process involving the plantar aponeurosis of the foot, most commonly at its insertion into the medial tubercle of the calcaneus. Changes are consistent with other tendinopathies, including disorganised collagen arrangement, cleavage between fibrils, and pro-inflammatory cytokines. Still others conform to parts of the inflammatory model (10), that is, the pathophysiology of plantar fasciitis can be either inflammatory due to vasodilation and immune system activation, or non-inflammatory involving fibroblastic hypertrophy.

Assessment

The subjective history in the active population often reports a change in load, new load or a spike in intensity. In the sedentary population there may be obvious BMI considerations and increase in loads such as standing for long periods; however there are often reports of insidious onset. Plantar heel pain tends to warm up in the early stages, but as the condition progresses the pain is present during and after the offending load. From a clinical perspective next day pain also increases. Palpation will usually elicit pain over the medial calcaneal tuberosity. There may be generalised tenderness over the bulk of the plantar fascia, especially when placed on stretch with hallux extension - Jack test (Figure 3). Imaging is rarely needed to confirm plantar heel pain.

Standing assessment will provide the clinician with information about foot function. There are varying views about whether a pes cavus, or 'pronated' foot position, is a risk factor for plantar heel pain. Clinically, a pronated position does not always correlate with increased plantar fascia issues, but it is an important observation overall. Identify any calf atrophy (Figures 1 & 2): as noted earlier in the description of the anatomy of the region, the muscle tendon complex of the Achilles is continuous with the plantar fascia. Loss of bulk in the calf may have energy storage and release issues when acting dynamically. Assessment of talar tilt is a good local assessment, providing further information about foot function during gait.

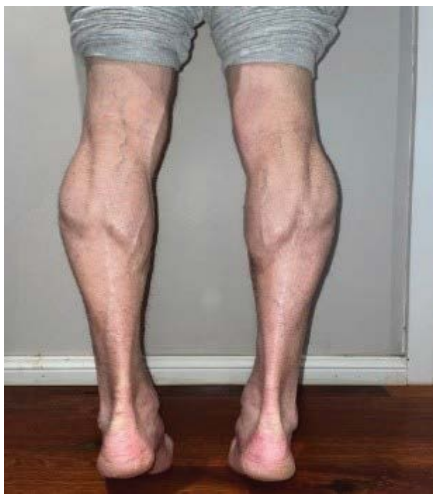


Figure 1. Assessment of calf bulk in standing, Note loss of bulk on right calf.

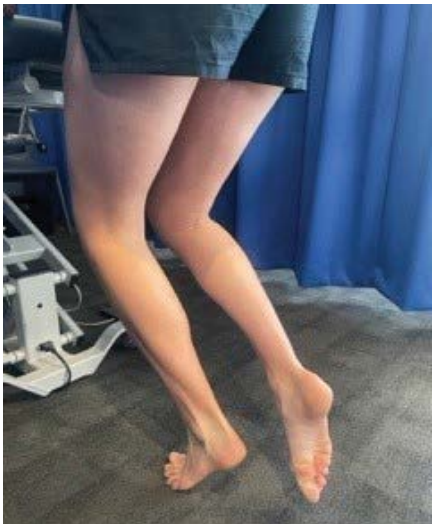


Figure 2. Calf raise (bent leg). Note strength and quality.

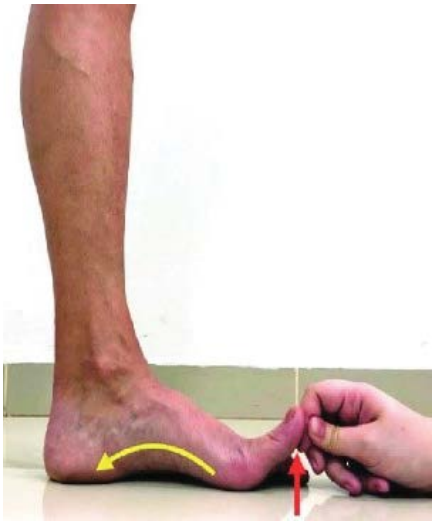


Figure 3. Jacks test. Note ability of the plantar fascia to wind up and lift arch.

Figure 4. Trendelenburg (positive) will drive lumbopelvic issues to the lower limb and foot

Assessing the kinetic chain

The foot will usually follow the pelvis and femoral position during loading tasks such as hop, single leg and lunge type positions, hence identifying dysfunction is paramount. A pelvic drop in single leg stance – Trendelenburg sign (Figure 4) - drives the femur into internal rotation and tibial rotation, and winds up the plantar fascia, asking more of energy storage and release. In the same manner a femoral anteversion is a normal anatomical variant that may produce increased load on the plantar fascia. The latter finding is harder to address but movements that encourage gluteus medius strength and co-contraction of the GOGO muscles (piriformis, gemellus superior, gemellus inferior, quadratus femoris, obturator internus and obturator externus) will offload the structures in the lower limb. Manual therapy is an ideal skill set dealing remotely with overactive soft tissues to restore function around the lumbo-pelvis region.

The sedentary population will provide information on their health intake form, including medications (e.g., statins, BP meds), diabetes Type I or Type II, and increased waist-hip ratio, which can usually be observed. These are factors that will need review and help from their GPs. The key point to understand here is that progress may be less responsive when compared to that of active populations.

Finding tissue tolerance and baseline functional capacity is a good starting point in the clinic, using static and dynamic hop tests. First, observe single leg calf raise in both straight and bent knee positions, asking for pain response (usually this is negative except in acute cases). In acute cases this will be your starting point. Progressing through to a hop (double then single) is all that is necessary to elicit a pain response and dysfunction – identified as loss of spring. The clinician will usually hear the thud on landing as the patient cannot store and release the energy using the plantar fascia.

Differential Diagnoses

Before we start a treatment protocol, we need to be confident we are dealing with plantar heel pain. There is a range of differential diagnoses that present in this region that may call for different approaches. The following sources of plantar heel pain should be ruled out:

- Neural irritation (medial calcaneal nerve)
- Calcaneal stress fracture
- Spondyloarthropathies (rare)

Treatment - a soft tissue approach

Treatment should always be based on your clinical findings. Consequently, it is not possible to be entirely prescriptive. What follows are suggestions that have been found to be helpful.

Moderate activities that provoke pain. Active populations usually need to find an alternative to running for cardiovascular exercise such as elliptical trainers, bike riding, rowing and swimming. These modes of training are generally non-provocative to plantar heel pain. In a case where these activities still irritate the condition revisit your assessment. Mild cases may be able to continue running with modifications like reduced intensity, reduced hill running and volume moderation.

Complete unloading is not always advised. Trial and error will help the patient find a baseline, for example, VAS may be stable at 2/10 pain after reducing training load by 30-40%. Stable pain levels should be achieved over several days and weeks.

Specific plantar fascia loading has been demonstrated in small studies and cohorts (14). Taking a lead from this research and other evidence on structures such as the Achilles tendon, we can move into concentric/eccentric slow calf raises with the plantar fascia on stretch. Moving further, clinical practice using isometrics shows variable effects in other lower limb tendinopathies (15, 16). While the evidence for isometrics for plantar heel pain is not strong (13), the time spent and the low risk may be worth considering if pain reduction has not been achieved by other means. Further increased stiffness in the plantar fascia and Achilles tendon has also been found in asymptomatic patients, compared to symptomatic ones (17). Increased connective tissue stiffness is an important factor when considering efficiency and ability to store and release energy. We know that strength improves mechanical stiffness of tendinous structures, which in turn improves function. It seems a logical choice for rehabilitation, particularly in the active population.

Tight calves are often labelled as a factor in plantar heel pain (11). Further evidence disagrees (18). Clinically, we can be guided by the assessment process to some extent, while appreciating that reduced dorsiflexion may be from a joint component or a soft tissue component; hence, apply manual therapy and/or stretching based on the findings. Joint mobilisation or myofascial techniques can yield quick results and help to restore reduced dorsiflexion. This has the added benefit of addressing any excessive pronation issues. It is important to understand that pronation is necessary to allow the plantar fascia to spread load across the foot structures during the gait cycle. We are more interested in excessive pronation.

To address kinetic chain issues, we can use the reflexive nature of reciprocal inhibition practices: for example, as gluteus medius is inhibited, antagonists such as adductors and anterior hip structures often upregulate to take the additional load. Applying sustained myofascial tension to these areas allows the overactive structures to reduce in tone and hence restore function. Following up with some simple activation exercises (local and remote) will help close the loop. Trigger point therapy and dry needling can be useful in cases of thickened, atrophied tissue as can be found in chronic issues. Apply as assessment informs.

When to progress?

Progress when response to loads is favourable. If stable pain levels have not been achieved, reduce the load again. Once these have been achieved over several sessions, a small increase in load (position, weight, repetition) should be trialled and the response monitored. Addressing the findings in the assessment can be used as a guide, but ultimately it will be the patient response to applied loads that will be the driving factor. Continuing soft tissue therapy to help reduce pain and improve muscle function is an important part of the process.

Timelines

Where we expect recovery in weeks with some injuries, we should expect it to take months with a plantar heel pain condition. Early on, pain control needs to be controlled to progress a load issue. In metabolic tendons it is an overall health issue combined with load modification. A wait and see approach usually proves to occupy about a 12 month wait. Patients, whether active or not, are looking for a quicker return to activity and life.

Summary

Much more research on plantar heel pain is needed to help fill the gaps in clinical practice. In the meantime, working with each person and finding what works for them individually is a key aspect of the treatment approach. Soft tissue therapy combined with an active approach is likely to promote client compliance and better long-term outcomes.

James Barker, Principal Soft Tissue Therapist
Clinic 88 - Wiseman St, Macquarie, 2614 ***www.clinic88.com.au***

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Health impacts *of sugar-sweetened beverages*

Bradley McEwen | PhD, MHSc (Hum Nutr), BHSc, ND (Adv), DBM, DNutr, DSM, M.ATMS, Naturopath, Nutritionist, and Mentor. Adjunct Senior Lecturer, School of Health and Human Sciences, Southern Cross University.

Abstract

Chronic disease is a significant public health problem worldwide. Optimum nutrition is the foundation for optimum health. Sugar-sweetened beverages generally lack nutritional value and are the diet's largest source of added sugar. The consumption of sugar-sweetened beverages has adverse effects on health, including type 2 diabetes, cardiovascular disease, non-alcoholic liver disease, dental caries and decay, weight gain, and obesity. This brief article aims to highlight the adverse health impacts of the consumption of sugar-sweetened beverages.

Introduction

The World Health Organization (WHO) has defined health as "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity".[1] Chronic disease is a significant public health problem worldwide.[2] Chronic diseases include cardiovascular disease,[2,3] diabetes,[2,3] polycystic ovary syndrome (PCOS),[4] liver disease,[2] osteoporosis,[5] kidney disease,[2] lung disease,[2,3] cancer,[2,3] obesity,[2] and inflammatory bowel diseases,[2] such as Crohn's disease[6] and ulcerative colitis.[6]

Optimum nutrition is the foundation for optimum health.[7,8] Poor nutrition is one of the most critical risk factors for chronic disease.[2] The consumption of sugar-sweetened beverages increases overall energy intake[9,10] and may displace healthier foods.[10] Sugar has been a component of human diets since ancient times[11] and sugar addiction has been suggested as a driver or trigger of excessive intake of sugar-sweetened beverages.[12,13] The consumption of sugar has been shown to release endogenous opioids in the nucleus accumbens, a primary site for reinforced behaviours in the brain, and to activate the dopaminergic reward system. These effects suggest that sugary foods and beverages are potentially rewarding and can trigger addictive-like behaviours, which might be responsible for their over-consumption.[13] Research has found an association between high intake of sugar and an increased risk of conditions as diverse as dental caries,[14] obesity,[14] overweight,[14] weight gain,[15] adiposity,[11] cardiovascular disease,[11] metabolic syndrome,[15,16] cardiorenal disease,[17] type 2 diabetes,[11,15,18] dyslipidaemia,[19] gout,[11] fatty liver disease,[11,20] some cancers, and hyperactivity.[11]

Sugar-sweetened beverages have been found to be the largest source of added sugars in the diet.[21] Sugar-sweetened beverages are beverages that contain any form of added sugar.[12] Sugar-sweetened beverages contribute to 50% of the free sugar intake of Australians.[10]

In Australia and internationally, a higher consumption rate of sugar-sweetened beverages has been reported in males, younger adults, and the socio-economically disadvantaged.[10] Additionally, there was a higher consumption in those diagnosed with depression.[10] Higher consumption of sugar-sweetened beverages (greater than two servings per day) has been associated with other unhealthy behaviours, including smoking and unhealthy or lower-quality diet.[22] Sales of sugar-sweetened beverages in Australia are consistent with worldwide trends. The sales of caloric soft drinks have remained relatively stable, whereas sales of sports and energy drinks have increased.[10] An Australian cross-sectional, nationally representative population survey of 3,430 adults (over 18 years of age) found that almost half had consumed a beverage in the past week that was high in free sugar. Approximately 14% had consumed an average of at least one sugar-sweetened beverage daily.[10] Consumption of sugar-sweetened beverages has been associated with a high dietary glycaemic load and insulin responses.[23] Foods and beverages with a high-glycaemic index have deleterious effects on health and have been linked to cardiovascular disease,[24] type 2 diabetes,[24] and inflammation.[25]

In the Australian Dietary Guidelines, the National Health and Medical Research Council (NHMRC) recommends limiting the consumption of sugar-sweetened beverages, such as soft drinks, cordials, fruit drinks, vitamin waters, energy drinks, and sports drinks.[26] This brief article aims to highlight the adverse effects of the consumption of sugar-sweetened beverages.

Sugar-sweetened beverages

Sugar-sweetened beverages are beverages that contain any form of added sugar (such as brown sugar,[12] corn sugar,[12] corn syrup,[12] high-fructose corn syrup,[13,27] fructose,[12] glucose[12], sucrose[13]),[12] and added caloric sweeteners.[13,28] Sugar-sweetened beverages contain large amounts of rapidly absorbable sugars.[27,29] Sugar-sweetened beverages generally lack nutritional value[9,21] and commonly represent a source of excess energy in the daily diet.[9] Examples of sugar-sweetened beverages are soft drinks (soda),[12,13,21,28] energy drinks,[12,13,28] sports drinks,[12,13,21,28] fruit drinks,[12,13,21,28] iced teas,[28] and coffee and tea with added sugar.[12] Unsweetened fruit juice is not considered a sugar-sweetened beverage, as the sugars in these beverages are naturally occurring and are not added.[13]

Consumption of sugar-sweetened beverages has been associated with numerous adverse health effects and diseases, such as:

- Cardiometabolic dysfunction[13,28]
- Metabolic syndrome[27]
- Insulin resistance[27]
- Elevated HOMA-IR (Homeostatic Model Assessment for Insulin Resistance)[22]
- Higher fasting insulin[22]
- Elevated glycated haemoglobin (HbA1c)[22]
- Type 2 diabetes[9,12,13,23,29]
- Type 2 diabetes in women[29]
- Prediabetes[22]
- Cardiovascular disease[9,10,13,21,23,27]
- Coronary heart disease[12]
- Hypertension[12,27]
- Hypertriglyceridaemia[27]
- Low high-density lipoprotein (HDL) cholesterol[27]
- Non-alcoholic liver disease[12,13]
- Crohn's disease[6]
- Uric acid production[23] and hyperuricaemia[13]
- Kidney disease[12]
- Gout[12,13]
- Depressive symptoms among adolescents[9]
- Dental caries[9,12,30]
- Tooth decay[10]
- Inflammation[27]
- Shorter telomeres[31]
- Weight gain[9,13,29,32]
- Obesity[9,12,13,29,32]
- Adiposity[23]
- Visceral fat accumulation[23]
- Increased risk of mortality[12,13]

Per serving, sugar-sweetened beverages have been associated with more significant long-term weight gain than nearly any other dietary factor.[23] The consumption of sugar-sweetened beverages may contribute to weight gain due to the high added sugar content in sugar-sweetened beverages, in addition to the low satiety and potential incomplete compensation for total energy needs leading to increased energy intake.[21,27]

Per serving, sugar-sweetened beverages have been associated with more significant long-term weight gain than nearly any other dietary factor.

Sugar-sweetened beverages have been found to increase weight gain through the addition of liquid calories to the diet, via hyperinsulinaemia induced by the rapid absorption of sugars (e.g. glucose), and possibly from the activation of the dopaminergic reward system.[13] Sugar-sweetened beverages contribute to chronic disease risk through weight gain, through development of risk factors precipitated by adverse glycaemic effects and through hepatic metabolism of excess fructose from sugars in sugar-sweetened beverages.[13] Research suggests that decreasing the consumption of sugar-sweetened beverages may reduce the prevalence of obesity and obesity-related chronic diseases.[33]

Sugar-sweetened beverages, dietary glycaemic load, and insulin response

Consumption of sugar-sweetened beverages have a high dietary glycaemic load and insulin responses.[23] The glycaemic index quantifies the glycaemic response to carbohydrates in different foods.[24] The glycaemic load of a food or beverage is the mathematical result of the glycaemic index of the food or beverage and quantity (weight) of carbohydrates ingested.[24,34] Foods and beverages with a high-glycaemic index, such as potatoes, white bread, white rice, low-fibre breakfast cereals, sweets, desserts, and sugar-sweetened beverages, have been linked to cardiovascular disease,[24] type 2 diabetes,[24] procoagulant activity,[25] oxidative stress,[25] inflammation,[25] low-density lipoprotein oxidation,[25] and weight gain.[35] Research shows an association between a high glycaemic load diet and the presence of metabolic syndrome in obese children and adolescents.[36] Postprandial hyperglycaemia is increasingly recognised as a risk factor for cardiovascular disease. Hyperglycaemia may adversely affect the structure and function of the vascular system via multiple mechanisms, including procoagulant activity, oxidative stress, inflammation, low-density lipoprotein oxidation, and protein glycation.[25]

Conclusion

Sugar-sweetened beverages are beverages that contain any form of added sugars, such as soft drinks. Consumption of sugar-sweetened beverages have adverse effects on health. Some of these adverse effects include type 2 diabetes, cardiovascular disease, non-alcoholic liver disease, dental caries, weight gain, and obesity. More research is needed to investigate the broader implications and mechanisms of action of the consumption of sugar-sweetened beverages on health and to investigate the impact and effects of reducing the consumption of sugar-sweetened beverages.

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Meet the Expert:

Interview with Robert Medhurst

Interviewer | Sandra Grace

Tell me about your background – why did you choose to become a natural medicine practitioner?

I went into partnership with a GP in Sydney in the 1970's and we started a successful pathology lab. From there I worked in various hospitals around Sydney and was involved in teaching and research in the Medical Faculty at Sydney University. That helped me form the view that orthodox medicine as a system is primarily involved in the treatment of bodies, not people, that mortality and morbidity from medical treatment could largely be ignored, and that it had no real answers to chronic illness or disease prevention. That triggered the search for something better - something that treated human beings as people rather than merely bodies. Natural medicine proved to be an excellent solution.

Where did you study?

The NSW College of Natural Therapies, Southern Cross Herbal School, Nature Care College and the National Institute of Health Sciences.

Did your education prepare you well for your professional career? What, if any, were its shortcomings?

These institutions provided excellent foundations for clinical practice. But they were foundations and those of us who emerged from those institutions had to work hard at becoming competent healthcare providers. I'd already set up and run two businesses and had studied pathology before natural medicine so I had a bit of a head-start but it became very clear soon after graduating that learning didn't stop just because someone handed you a diploma or a degree.

Why did you choose homeopathy?

I'm qualified as a naturopath, homeopath, herbalist, nutritionist and remedial masseur. I was a very enthusiastic herbalist in the early days and made my own liquid herbs to provide to clients. But after a long run of seeing the same clients with the same ailments, and appearing to simply palliate symptoms, I started to wonder if all I was doing was replacing their orthodox medicines with my natural ones. One morning a young mum brought her 6-year old daughter into the clinic with a middle ear infection - this was her fifth episode of otitis media, and rather than provide the usual herbal medicine I blew the dust off my Kent's Repertory and worked up a homeopathic treatment, which turned out to be Pulsatilla. I gave the client a dose to take while she was in the consulting room as she was in obvious pain, and by the time she and her mum walked out of the clinic the pain was gone. That was the last time that little girl suffered from otitis media. The following week an elderly female client with hypertension came into the clinic for a 6-monthly check-up and a repeat of the herbal medicine that I'd had her on for over a year. While the herbs had her blood pressure under control they weren't curing the problem because on the rare occasions that she forgot to take them her hypertension returned. Having leant a valuable lesson the previous week I once again turned to homeopathy for help, came up with Lachesis as a treatment, and within a few months she had stable and normal blood pressure with no further treatment required apart from a maintenance regime that I'd had her on to start with.

How long have you been in practice?

40 years.

You've run five practices during your career. How much - or how little - has your practice changed over the course of your career? In what ways?

I think most of us start out in practice feeling fairly tense and insecure. Over time though you learn to relax into it and as you do, you notice that your clients do as well. After a few years I learnt to worry less, absorb more about what was

happening with clients and open myself up more to what I could do to help. I'm trying hard to retire these days and haven't seen any new clients for years, but prevention now is a far more important thing to my clients than treatment. Most competent practitioners can successfully treat most clients but keeping clients healthy in the long term without the need for any medicine, natural or otherwise, is a bit more of a challenge, and it's what I like to focus on these days.

Have fluctuations in government policies and regulations over that time exerted much influence over the way you practise?

They have. The recent loss of private health insurance rebates for many of our modalities has obviously meant that they can't be offered to clients and can't be used as a marketing tool. Happily though, this is about to be remedied, thanks in large part to the hard work of a few key people in organisations like the ATMS, and it'd be nice to think that we can hold on to them once they're back.

We continue to see a shrinkage in our dispensaries as more and more natural medicines are regulated out of our hands due to movements in the federal government's Poisons Standard and associated Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP), both of which govern what we can and can't stock and prescribe to clients. For example, when I entered the profession I had access to Blue flag, Borage, Lungwort, Comfrey, Coltsfoot and Ephedra. In recent times these have been placed in Schedule 10 of the SUSMP on the basis that they're "substances of such danger to health as to warrant prohibition of sale, supply and use" and are therefore no longer available to us for internal use.

Do you have a referral network with other natural medicine practitioners/ other health practitioners?

Yes. Referral networks are critical. We can't do everything for our clients on our own but we can certainly get close to it if we have good connections to other practitioners. Over the years I've worked closely with massage practitioners, acupuncturists, osteopaths, chiropractors, Yoga teachers, medical practitioners, reflexologists, aromatherapists, psychologists, pharmacists, fitness instructors, counsellors and other naturopaths and homeopaths who could act as locums for me if required. I've referred lots of clients to these practitioners over the years and have had lots of referrals back from them.

What is your opinion about the integration of natural medicine with mainstream medicine?

In theory it's a great idea but it depends on the model that's used. Here in Australia the most common manifestation of that is the private integrative medicine clinic. The big ones frequently employ GP's, mind-body practitioners, psychologists, acupuncturists, chiropractors, naturopaths and maybe massage practitioners and nutritionists. What I've noticed in the clinics that I've seen is that often the practitioners in those clinics who may have been trained in wholistic care become more reductionist/orthodox in their outlook and the way that they deal with clients. So I think it's a great idea but for it to work everyone needs to stay connected to their philosophical roots.

Would you like to see natural medicine practitioners working more closely with mainstream medical or other health practitioners? If so, why/if not, why not?

Yes, I would. Simply because of the advantages to clients - the cross-fertilisation of philosophies and viewpoints that occurs when different healthcare modalities meet can produce some excellent results, both diagnostically and clinically. In addition, there's a significant lack of trust between the average medical practitioner and the average natural medicine practitioner. This does nobody any good, particularly clients, and working more closely together reduces the potential for mistrust.

The reputation and acceptance of homeopathy seems to have suffered more than some other natural medicine modalities (e.g., remedial massage, acupuncture). What are your thoughts about that?

The mechanism by which homeopathy operates is unknown, seems scientifically counter-intuitive, and for a lot of people, if they don't know how it works, then it can't work. A local GP came to see me a few years ago and said that he'd been to a medical conference overseas and had picked up Dengue fever. He specifically asked me to treat him with homeopathy. When I asked him why he said that so that he could be certain that it wouldn't work. Unfortunately for his prejudices it did. And fortunately for me he sent a number of his friends who'd been to the same conference and contracted the same disease along to the clinic and most of them had successful recoveries. Most were great client referral sources. Experience tends to dissolve philosophical obstacles in those who are open to the experience.

What are your thoughts about evidence-based medicine? Do you see any signs of increasing acceptance among mainstream practitioners and government policy-makers of the sort of evidence for homeopathy's efficacy that you regularly provide to readers of JATMS?

I think evidence-based medicine (EBM) is great, as long as it's done properly. If you read the works of John Ioannidis it's obvious that it can be misused and often has been, regardless of the format, whether that's the classical EBM instrument; the randomised controlled trial (RCT), or the allegedly more comprehensive systematic review (SR). But if it's done properly, with minimal bias and maximum objectivity, the RCT or SR are very valuable tools, particularly in the natural medicine arena where for lots of potential clients, Dr Google rules, and not very wisely.

What can individual practitioners and industry bodies like ATMS do better to encourage policy-makers and

regulators to acknowledge and respond to the broad community use of natural medicine? Are their models for action in other countries' public health spheres that you know of and that we could adopt?
That's a question that's grown grey hair across the scalps of lots of association and industry experts. I think what the ATMS has been doing and is doing will eventually get us there. Initiatives such as Natural Medicine Week, constant social media pressure, political lobbying, representation on government policy-making panels and advisory bodies, all of which strongly reinforce the role that natural medicine can and does play in community healthcare, are effective policies.

In addition to your homeopathic practice, you are also well known for your expertise in business management (and congratulations on the 4th edition of The Business of Healing).
Thanks!

How did this interest arise? How did you develop it into expertise – autodidactically, or did you do courses in management?
When I did naturopathy training back in the 1980's there were about thirty graduating in that year. Five years later about 10 of us were still in practice. Ten years later about five were left and after 20 years, just three. We'd had no business training and that's what sent most out of the profession. People ran out of money, or out of patience, or both, so they had to do something else to survive. The main reason that I was able to keep going was that I'd done business training before doing naturopathy, had set up and operated two businesses, and used what I'd learnt to keep the clinic afloat. I moved from Sydney to Adelaide in 1994 and not long after that I was asked by a local college to teach practice management to their naturopathy students, then another local college asked me to teach it to their homeopathy and Chinese medicine students, and not long after that I was asked to do the same at several other colleges around the country, at Southern Cross University, and at Cornell Uni in the US. Some of the students at Southern Cross told me that they were getting RSI from writing notes and asked if I could write a textbook. That ended up being a book called *The Business of Healing*.

What proportion of practices do you think fail to flourish because of neglect of the sort of information you've set out so comprehensively?
Before practice management became a formal element within the curricula of most natural medicine training courses, the failure rate in our profession was very high. After that subject was introduced the extent of that failure improved but those failures still occur. After teaching practice management in lots of places for a long time and having kept in touch with many students over that time, one thing has become abundantly clear. If you're a new practitioner starting out it's critical that you accept that you're a business operator, as well as a healer, and act accordingly. Most of us when we graduate are very heavily invested in clinical practice. It's fascinating and valuable and it's the primary focus of most of the courses that we do, but there's nowhere near enough time given to training in the actual operation of the business that acts as the platform for our clinical practice. In the thousands of hours of teaching that are delivered in some natural medicine courses, the best of them devote a mere 40 hours to practice management. It's simply not enough. Business is the foundation of our clinical practices. As new practitioners if we don't give this the time it deserves - set up a strategy for commercial success and work to that strategy and all of its tactical elements such as practice location, clinic design, pricing, admin, marketing and social media management - we can run out of time, personal wellbeing, job satisfaction, money, and our clinical practice will become simply unsustainable.

What is your view of the state of natural medicine in Australia today?
I think it's healthy. Apart from the business training issue mentioned earlier, there is one other ongoing concern though. Apart from remedial massage providers, the number of local providers of recognised training in naturopathy, nutrition and herbal medicine has shrunk alarmingly over the past few decades and homeopathic medicine training providers have shrunk to just one local operator. Unless things improve in this area we'll see a declining population of natural medicine practitioners as the numbers of outgoing retirees eclipses the number of newly emerged practitioners.

Where do you think natural medicine is heading?
Natural medicine is already mainstream, with the majority of Australians using it in some form. I can't help but feel that, previously mentioned issues notwithstanding, it will continue to have strong community support.

What are the biggest issues facing natural medicine today? Does homeopathy face issues of its own alongside more generic ones?
The previously mentioned shrinkage of the natural medicine profession and negative impacts from government regulation are probably the two primary issues and these issues are even more important for homeopathy.

How do you suggest that all these issues be addressed?
Do what we can to encourage the growth of natural medicine education providers, improve competence in business management for students and existing practitioners, ensure that we have strong representation in government, and continue to provide high quality sustainable healthcare to our local communities.

Many thanks, Robert, for generously offering your time and your wisdom for this interview. I'm sure our readers will benefit hugely.

Research on Homeopathy: *An update*

Robert Medhurst | BNat ND DNutr DRM DBM DHom

Here in Australia, as is probably the case in most other parts of the world, it's impossible to walk through a pharmacy or health food shop without seeing terms such as, "clinically proven", "scientifically formulated", or "clinically effective", adorning advertisements for therapeutic goods. Clearly, the notion of scientific support is an important consideration for potential purchasers of these products, and it's often an important consideration for people who may be considering a particular form of therapy for the first time. In the case of homeopathy, there's an abundance of scientific research to support its choice as a therapy, and following are brief summaries of recently published research studies from peer-reviewed journals.

Human Studies

1. Karp JC, et al. Treatment with Ruta graveolens 5CH and Rhus toxicodendron 9CH may reduce joint pain and stiffness linked to aromatase inhibitors in women with early breast cancer: results of a pilot observational study. Homeopathy. 2016;105(4):299-308. Aromatase inhibitors are a class of drugs used to treat some forms of cancer. The aim in this study was to determine the possible effect of two homeopathic medicines, Ruta graveolens 5CH and Rhus toxicodendron 9CH, in the prevention of aromatase inhibitor (AI) associated joint pain and/or stiffness in women with early, hormone-receptor positive, breast cancer. Women were recruited in two groups, according to which of the two study centres they attended: one receiving homeopathy in addition to standard treatment (group H) and a control group, receiving standard treatment (group C). All women were treated with an AI. In addition, women in group H also took Ruta graveolens 5CH and Rhus toxicodendron 9CH (5 granules, twice a day) up to 7 days before starting AI treatment. The homeopathic medicines were continued for 3 months. Clinical data were recorded using a self-assessment questionnaire at inclusion (T0) and 3 months (T3). Primary evaluation criteria were the evolution of scores for joint pain and stiffness, the impact of pain on sleep and analgesic consumption in the two groups after 3 months of treatment. A total of 40 patients (mean age 64.9±8.1 years) were recruited, 20 in each group. Two-thirds of the patients had joint pain before starting AI treatment. There was a significant difference in the evolution of mean composite pain scores between T0 and T3 in the two groups (-1.3 in group H vs. +3.4 in group C; p=0.0001). The individual components of the pain score (frequency, intensity and number of sites of pain) also decreased significantly in group H. A total of 9 patients in group C (45%) vs. 1 (5%) in group H increased their analgesic consumption between T0 and T3 (p=0.0076). After 3 months of treatment, joint pain had a worse impact on sleep in patients in group C (35% vs. 0% of patients; p=0.0083). The differences observed in the evolution of morning and daytime stiffness between the two groups were smaller (p=0.053 and p=0.33, respectively), with the exception of time necessary for the disappearance of morning stiffness, which was greater in group C (37.7±23.0 vs. 17.9±20.1 min; p=0.0173).

2. Manchanda RK, et al. A randomized comparative trial in the management of Alcohol Dependence: Individualized Homoeopathy versus standard Allopathic Treatment. Indian J Res Homoeopathy., 2016;10:172-81. Workers from India's Central Research Institute and Central Council for Research in Homoeopathy compared the effects of individualised homeopathy (IH) with standard allopathic (SA) treatment for people with alcohol dependence using a controlled, open-label design. Subjects were screened verbally using the CAGE scale. A total of 80 people who fulfilled the inclusion criteria were randomised to either IH (n=40) or SA (n=40) treatment and followed up for 12 months. The primary outcome was the level of change in the Severity of Alcohol

Dependence Questionnaire [SADQ] rating scale at 12 months. Data analysis was done for both intention-to-treat (ITT) and per-protocol (PP) populations. The results showed that IH was superior to SA in the management of alcohol dependence. The medicines most frequently used were Sulphur, Lycopodium clavatum, Arsenicum album, Nux vomica, Phosphorus, and Lachesis.

3. Palm J, et al. Effectiveness of an add-on treatment with the homeopathic medication SilAtro-5-90 in recurrent tonsillitis. Complement Ther Clin Pract. 2017;28:181-91. In this international, pragmatic, controlled clinical trial, 256 patients (6-60 years) with moderate recurrent tonsillitis were randomised to receive either SilAtro-5-90, a homeopathic combination, in addition to standard symptomatic treatment, or standard treatment only. The primary outcome was the mean time period between consecutive acute throat infections (ATI) within 1 year (analysed via repeated events analysis). During the evaluation year, the risk of getting an ATI was significantly lower (hazard ratio: 0.45, proportional means model, $p = 0.0002$, ITT) with SilAtro-5-90 compared to control. Tonsillitis-specific symptoms were significantly reduced ($p < 0.0001$, ITT) and the need of antibiotics to treat acute throat infections ($p = 0.0008$; ITT) decreased.

4. Motiwala FF, et al. Effect of Homoeopathic treatment on Activity of Daily Living (ADL) in Knee Osteoarthritis: A prospective observational study. Indian J Res Homoeopathy. 2016;10:182-7. An Indian research team set out to investigate the effect of individualised homeopathic medicines in improving ADL in knee osteoarthritis (OA) patients by reducing pain and stiffness, and limiting the disease progress. A total of 131 consecutive patients with OA of the knee were recruited and followed up for minimum period of 12 months. Two orthopaedic surgeons diagnosed the disease based on clinical examination of the patients. Three trained homeopathic physicians prescribed individualised homeopathic medicines and the patients were evaluated for pain on WOMAC Osteoarthritis Index LK3.1 (IK) survey form measuring pain, stiffness and ADL. The pain was also measured on Numerical pain rating scale (NRS) for further confirmation. The homeopathic intervention was associated with a mean ADL score reduction of 35.85 down to 19.08 (p-.0.0001). Mean pain on WOMAC Osteoarthritis Index survey form improved from 10.50 to 5.48 (p-0.0001). The mean pain score on NRS improved from 6.34 to 3.77 (p-0.0001) and the mean morning stiffness also improved from 4.55 to 2.18 (p-0.0001).

5. Sorrentino L, et al. Is there a role for homeopathy in breast cancer surgery? A first randomized clinical trial on treatment with Arnica montana to reduce post-operative seroma and bleeding in patients undergoing total mastectomy. J Intercult Ethnopharmacol. 2017;6(1):1-8. This study aimed to evaluate the benefits of homeopathically prepared Arnica montana on post-operative blood loss and seroma production in women undergoing unilateral total mastectomy by administering Arnica Montana 1000 Korsakovian dilution (1000 K). From 2012 to 2014, 53 women were randomly assigned to A. montana or placebo and were followed for up for 5 days. The main end point was the reduction in blood and serum volumes collected in drainages. Secondary end points were duration of drainage, a self-evaluation of pain, and the presence of bruising or hematomas. The results showed that the use of Arnica 1000 K was associated with a reduced post-operative blood and seroma collection.

6. Mittal R, et al. An open-label pilot study to explore usefulness of Homoeopathic treatment in nonerosive gastroesophageal reflux disease. Indian J Res Homoeopathy. 2016;10:188-98. This was a pilot study undertaken to explore the effect of homoeopathic medicines in the treatment of people with non-erosive gastrooesophageal reflux disease (GORD) or non-erosive reflux disease (NERD). A total of 34 people were enrolled, having symptoms of heartburn and/or regurgitation at least twice a week, and having a GORD symptom score of more than 4. Homoeopathic medicine was prescribed on the basis of the presenting symptoms. Response to treatment was assessed on GORD symptom score, visual analogue scale (VAS) for heartburn, and the World Health Organisation quality of life-BREF (WHO-QOL) questionnaire evaluated at baseline and at the end of 8 weeks of treatment. Significant differences were found in pre- and post-treatment GORD symptom score (8.79 ± 2.7 vs. 0.76 ± 1.8; $P = 0.001$) and the VAS for heartburn (47.47 ± 19.6 vs. 5.06 ± 11.8; $P = 0.001$). Statistically significant improvement was also seen in three domains of the WHO-QOL score (i.e. psychological health, social relationship, and environmental domain).

In-Vitro Studies

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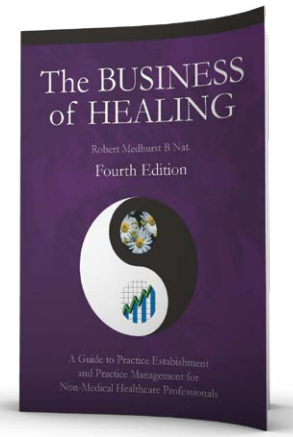
crystallisation assays and to ascertain the potential role of B. vulgaris in CaOx crystallisation. The crystallisation studies performed indicate that B. vulgaris exerts a strong inhibition of CaOx crystallisation both at the level of nucleation and aggregation, at all potencies.

2. do Nascimento HFS, et al. In-vitro assessment of anticytotoxic and antigenotoxic effects of CANOVA(®). Homeopathy, 2016;105(3):265-9. Canova (CA) is a complex containing several homeopathic medicines and is indicated in clinical conditions in which the immune system is impaired and works against tumours. N-methyl-N-nitrosourea (NMU) is an N-nitroso compound, with genotoxic/mutagenic properties. This study evaluated the in-vitro antigenotoxic and anticytotoxic effects of CA in human lymphocytes exposed to NMU. Samples of human lymphocytes that were subjected to different concentrations of a mixture containing CA and NMU were used. The genotoxicity/antigenotoxicity of CA was evaluated via the comet assay, anticytotoxicity was assessed by quantification of apoptosis and necrosis using acridine orange/ethidium bromide. The use of CA was associated with a significant reduction in DNA damage induced by NMU and frequency of NMU-induced apoptosis after 24 h of treatment.

3. Wani K, et al. Evaluating the anticancer activity and nanoparticulate nature of homeopathic preparations of Terminalia chebula. Homeopathy. 105;4:318-26. The objective of this study was to investigate the anti-cancer activity of homeopathic preparations of Terminalia chebula (TC) and evaluate their nanoparticulate nature. Mother tincture (MT) and other homeopathic preparations (3X, 6C and 30C) of TC were tested for their effect on the viability of breast cancer (MDAMB231 and MCF7) and non-cancerous (HEK 293) cell lines by 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. Cell growth assay was performed to analyse the effect of the different potencies on the growth kinetics of breast cancer cells. MT and 6C were evaluated for the presence of nanoparticles by using scanning electron microscopy (SEM) and transmission electron microscopy (TEM). MT decreased the viability of breast cancer (MDAMB231 and MCF7) and non-cancerous (HEK 293) cells. However, the other potencies (3X, 6C and 30C) decreased the viability of only breast cancer cells without affecting the viability of the non-cancerous cells. All of the potencies reduced the growth kinetics of breast cancer cells, more specifically at 1:10 dilution at 24, 48 and 72 h. Under SEM, MT appeared as a mesh-like structure whereas under TEM, it showed presence of nano-clusters. The 6C potency contained 20 nm sized nanoparticles.

The Business of Healing. 4th edition

Robert Medhurst. Published by the author. 2024. For correspondence and purchase, medhurstr@yahoo.com.

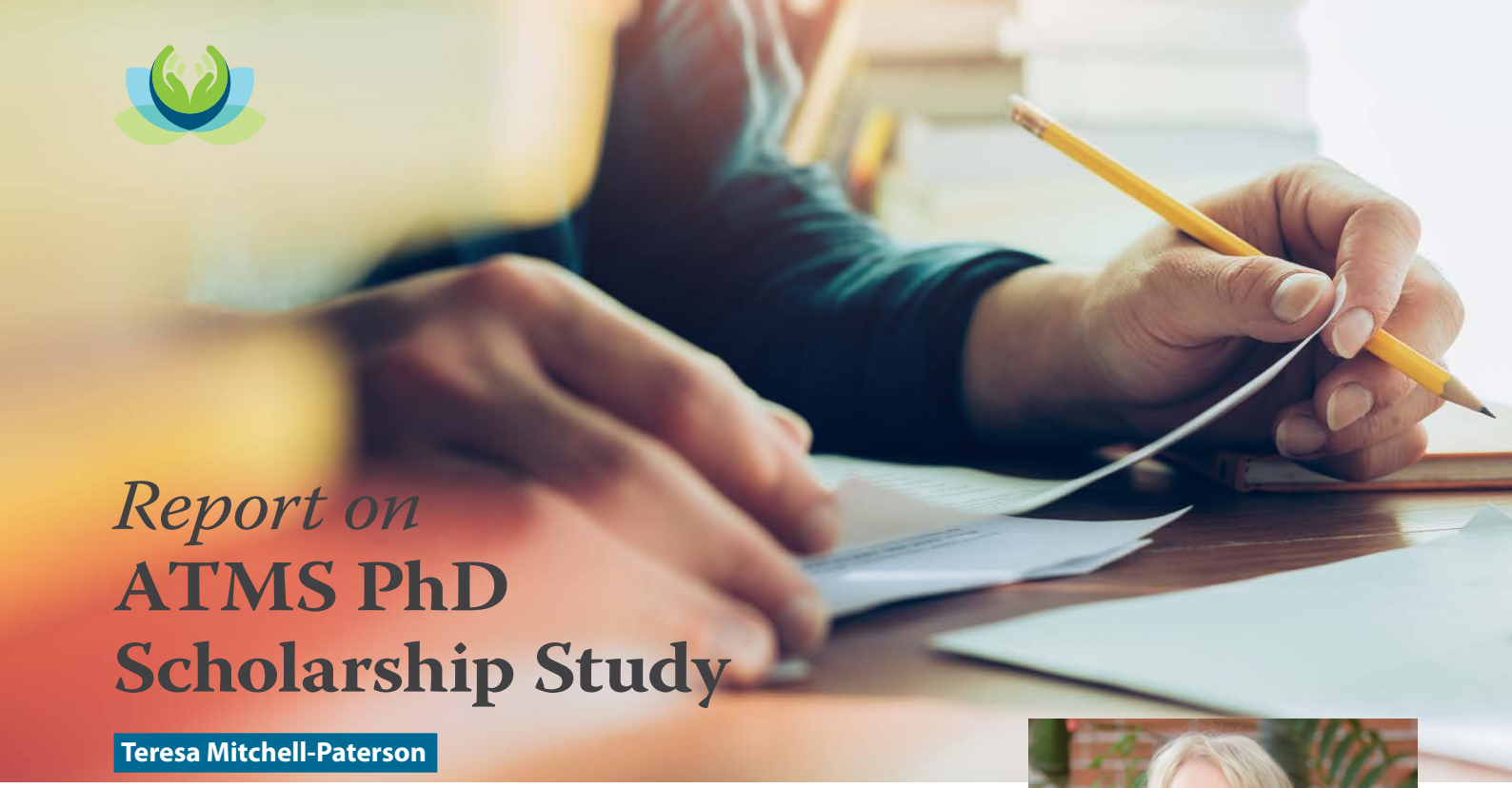


Reviewed by Stephen Clarke.

This is the fourth edition of Robert Medhurst's definitive work on building and managing non-medical health care businesses (the third edition was reviewed by Christine Pope in a previous edition of JATMS.) Since the first edition appeared in 2002 it has come to be the authoritative text for a generation of natural medicine practitioners in the critical field of successful practice management. This new edition presents a great deal of new information as it moves on from the third (which was published 8 years ago). Updated and enlarged guidance on marketing, search engine optimisation and social media are included. Updates have also been made to applicable legislation, laws, regulations and requirements, and health records management. There's also new information on clinic booking systems and dispensary control. New sections include Single Touch Payroll, onboarding new staff, telehealth, client records data breaches, and adverse reaction management. Extensive additions have been made to the best way to manage the closure of a clinic in the event that a practitioner is retiring from or selling a practice. There's also a step-by-step guide to starting your business.

Regardless of the extent and quality of their training, their commitment to healing, or their personal qualities, newcomers to the field will fail to flourish if they lack the attributes and skills needed to physically establish a practice and maintain its procedural nuts and bolts. Robert Medhurst's book comprehensively provides all the information present and emerging practitioners will need to acquire these attributes and skills. Even before this new edition it has long been the prescribed text on its subject in most Australian natural medicine training institutions. It is written in clear and well structured language, as befits its authoritative content, and there is an exhaustive 13 page index – a boon in light of the amount of detailed knowledge offered to its readers.

The author has a recommended retail price on this book, including GST, of $66.00 plus postage. However, for ATMS members it's being offered at $44 including GST plus postage. This offer will last until the publication date of the next edition of this Journal. To take this offer up, please contact the author directly by emailing ***medhurstr@yahoo.com*** *with your membership number.*



Report on ATMS PhD Scholarship Study

Teresa Mitchell-Paterson

Introduction

I have been fortunate to receive the inaugural ATMS PhD Scholarship, and I am genuinely grateful for this. The background to my research involves my experience of the intricate relationship between low-fibre diets, high-output stomas (HOS), and the perceived quality of life (QoL) from the perspective of stoma patients. The influence of a high-output stoma (HOS) affects both physical and psychological aspects of patient lives, impacting QoL.

What is a stoma?

A stoma is an opening to the external surface of the stomach with the intestine pulled through and connected to a bag for faecal drainage. The clinical definition of a high faecal output stoma is an amount that extends beyond what is considered acceptable, a volume of liquid between 1.6 litres and 2 litres a day. This results in substantial amounts of faecal matter expulsion, multiple bag changes, possible leakage around the stoma (pancaking), odour, and psychosocial challenges for the stoma patient.

Stoma-related concerns

We can only imagine how the lack of sphincter control in the restriction of faecal matter in stomas is contrasted with the controlling aspects of two sphincters in a natural bowel. This underlines the unique challenges faced by stoma patients. The potential impact on daily life, fear of eating, and psychological repercussions are extensive for many people with a stoma. In a recent cross-sectional Victorian study, 40% of patients living with a stoma cited depressive symptoms, compared with only 6% of the general population. Additionally, 9% of respondents cited suicidal ideation, which is three times higher than the general Australian population.

Lack of consistent literature

While scoping the literature in this research area, I noted a need for more published articles. The nutritional guidelines published for managing HOSs display inconsistencies that merit attention. These inconsistencies lead to confusion and, conceivably, further stoma complications.

Current thinking and management of stoma output

While drug interventions exist to control output, they pose potential setbacks, including life-threatening bowel blockages. In contrast, a low-fibre dietary modification offers a simpler, more effective, and cost-saving approach in most cases, resulting in less bowel output and a more manageable condition. Addressing the common question of whether a low-fibre diet can still be healthy, I highlight the disparity in knowledge between general health recommendations of a high-fibre diet and the specific needs of stoma patients, an area that has so far been under-researched and under-represented.

Research approach

The study adopts an individualistic epistemology, integrating patients' personal experiences and narratives to comprehend the meaning attached to the reduction of HOS and its implications for QoL. One of the many hats I wear apart from research, teaching, and private practice is as a Telehealth Nutritionist Advisor with over a decade of experience, providing insights into the challenges stoma patients face, emphasising the crucial role of dietary manipulation and education in enhancing their QoL.

For this research, I have both a personal and clinical history to draw upon, enabling me to highlight interactions with patients and a family member who encountered stoma dietary complications and QoL issues. The narrative approach I have chosen for the research aligns with social inquiry principles, emphasising the significance of storytelling in describing life experiences. This study provides mutual learning for all involved, where

the participants and I work together to discover issues of concern, why they exist, and how they may be addressed. My nutritionist role and observations regarding the lack of post-surgical dietary guidance for stoma patients serve as a foundation for the study.

Aim of the research

The research aims to elucidate the issues associated with high faecal output stomas, as it is crucial to recognise the traumatic experiences endured by patients and the vital need for better management, particularly through diet.

Giving a voice to people living with stoma concerns

By combining personal experiences, patient narratives, and scientific research, the study seeks to inform healthcare practitioners and researchers about the complexities of stoma care and the potential benefits of targeted dietary interventions from the patient's perspective.

I have encountered many personal anecdotes in my role as a nutritionist, and many stand out. One was a woman who had two beautiful dogs that required daily walking. On one occasion, the stoma bag leaked, permeated through her jumper, and ran into her track pants, only saved from escaping through the bottom of her trousers by the elastic edging. This example of high output overflow during a routine dog walk vividly illustrates the disruptive impact on daily activities. Her stoma output had severely restricted her life until she received advice on fibre intake.

The research so far

My journey so far as a novice researcher has been an interesting mix of excitement and frustration, which I have been told is 'normal' for a PhD student. Scoping literature, learning philosophy, writing proposals, planning the journey, and the ethics approval process have been challenging. I am pleased to say I have achieved all. This is the background to a PhD before starting the practical research phase, which will commence early this year. I have been fortunate to have two exceptional supervisors and, of course, the Scholarship from ATMS, which allows for the luxury of time to complete my compelling drive to assist this under-represented subset of the Australian community.

My research underscores the importance of dietary advice post-stoma surgery to mitigate complications and improve QoL. It reinforces my desire to improve the understanding of the HOS patient, giving rise to a simple, effective, cost-saving approach of a low-fibre diet on HOS and QoL.

Artificial Intelligence and Higher Education: *Dancing with the AI Tiger*

Louise Rubic | MPH, BHSc (Comp Med), Senior Lecturer, Nutrition Vertical, Torrens University Australia

Abstract

The most recent ATMS Educators Forum delved into the implications of large language models (LLMs) within the higher education landscape, exploring our engagement with artificial intelligence (AI) as both a transformative ally and a formidable challenge. Inspired by the discourse in preparation for the event, the forum presentation titled *'Artificial Intelligence: Dancing with the Tiger'*, was developed to describe a brief AI history and acknowledged the nuanced dance with ChatGPT, an emblematic figure of chat-based generative AI. During the forum a word cloud survey resulted in two dominating perceptions of AI: potential and scary. These perceptions made way for insightful discussions from educators and students, concluding that AI is already pervasive in education and that navigating through its potential perils and harnessing its promises to foster a more inclusive and dynamic learning environment is becoming essential.

Introduction

The introduction of AI into the educational domain, epitomised by LLMs such as ChatGPT, heralds a potential paradigm shift towards greater inclusivity and enhanced pedagogical methodologies.[1] AI's repertoire, spanning from natural language processing (NLP) to complex decision-making capabilities, mirrors human cognitive functions, offering a unique conduit for replicating and augmenting human learning experiences. This very capability is causing mixed feelings among educators who must now navigate how these rapidly evolving generative AI tools can be used constructively and safely.[2] This article traces the trajectory of AI's evolution and revisits some of the concepts arising from discussions in the recent ATMS Educators Forum, exploring digital pedagogy, new challenges for educators, the prevalence of AI uptake by students and educators, as well as the benefits that generative AI technology offers.

Historical Context and Technological Evolution

AI is a melding of machines and software that learn, reason and adapt as humans do in tasks such as interpreting natural language, visual perception, and the decision-making processes. However, it has been said that AI is hard to clearly define as it is imitating something we don't fully understand, that being our own human intelligence. Mid-last century, mastery of chess was seen as 'the fruit fly of intelligence' and 'if one could devise a successful chess machine, one would seem to have penetrated to the core of human intellectual endeavour'.[3] IBM's Deep Blue chess computer beat the world's best chess player in 1997, which was heralded as a breakthrough for human-level intelligence in machines.

From IBM's Deep Blue to OpenAI's groundbreaking initiatives, the technological evolution of AI has been marked by significant milestones that underscore the transition from rudimentary machine learning to advanced deep learning instruments. In 2015, OpenAI was founded as a non-

profit research company with the goal of bringing artificial general intelligence (AGI) into mainstream use. The objective was noble in that the company planned on developing AI software transparently and with free access. However, the financial costs needed to build the computing power and neural networks to realise the AGI potential necessitated the injection of commercial capital in 2019, courtesy of Microsoft.[4]

In 2020, after several trial iterations, OpenAI released Generative Pre-Trained Transformer 3 (GPT-3) that included a related model called Codex, allowing computer programmers to write code faster using natural language. OpenAI turned their attention to combining vision with language, and trained GPT-3 to find patterns between words and images resulting in DALL-E, an art generator operated by speaking or typing a description. DALL-E is an acronym for the surrealist artist Salvador Dali, and "Eve," a character from the Pixar movie WALL-E. OpenAI revealed ChatGPT-3.5 to the world in in November 2022.[5] The adoption rate was the fastest of any previous technology reaching one million users in five days, and one hundred million just three months later.

The development and rapid adoption of large language models (LLMs), notably ChatGPT, signals a leap in their application with profound implications for various sectors, including education. An important note is that to build the knowledge base for a LLM it must be trained on internet-based datasets that include books, articles, websites, and social media, to learn intricate patterns to perform tasks such as answering questions, engaging in conversations, and tackling problem-solving scenarios.[6] The knowledge cutoff date for ChatGPT-3.5 was January 2022, and for GPT-4 Turbo (a subscription-only version) it was April 2023.[7]

The Pedagogical Implications of LLMs in Higher Education

The two dominating perceptions of AI from the educator's forum, of 'potential' and 'scary', align with sentiments across the higher education sector.[8] The potential of AI is an optimistic view that acknowledges it as a new opportunity to improve and enhance student learning. The contrary view holds concern that AI heralds a reduction in the value of education with the potential that students may not graduate with the necessary knowledge to be effective in their fields of work. Nevertheless, AI integration using ChatGPT Application Program Interfaces (APIs) is becoming pervasive in educational applications promising pedagogical innovations, from personalised learning pathways to scalable educational resources. The uptake of APIs in education software means the technology is more accessible, with instant access to conversational-style interactions that can recognise natural, conversational language to formulate responses adapted to the student profile.[6]

Suggested pedagogical approaches explore how educators can teach students about the precarious

partnership of AI-mediated learning while instilling the values of quality standards.[9] If engaging AI-mediated learning, students need to be trained to understand how to have meaningful interactions with the technology to elucidate its full potential as a learning partner.

Challenges and Ethical Considerations

Realising the benefits of generative AI in educational settings necessitates overcoming challenges, including various ethical considerations, the digital divide, and the potential for AI to perpetuate biases. The potential of AI to inadvertently exacerbate educational inequalities or to undermine academic integrity presents significant hurdles to its effective and ethical application in higher education.[10] Moreover, the rapid pace of AI development often outstrips the formulation of comprehensive governance frameworks and ethical guidelines, leading to a fragmented and inconsistent approach to AI integration across institutions. While educators are reporting the effectiveness of AI tools in streamlining administrative tasks, a barrier to its adoption is the lack of clear strategies to upskill staff in supporting students in its ethical use.

User engagement with ChatGPT declined overall by around 10% mid-last year, but an informal Australian survey found that there is steady growth in the number of students using AI for self-directed learning and assessments. The survey results aligned with sentiments shared by the student panel from the Educators Forum. Generative AI can support the exploration of topics and brainstorm ideas, but inaccuracies, also known as hallucinations, and biases are recognised as limitations. The survey also highlighted that students are more confident in understanding these imitations than educators, demonstrating inconsistencies between the expectations of learning institutions of their teachers and the actual AI knowledge and confidence amongst staff.[11]

Maintaining academic integrity has always been an important focus in education. With the accessibility of generative AI tools, it is understandable that educators have increasing concerns given that the detectability rates of AI in assessments are inaccurate or very low. Assessment policies must be updated to ensure students have clear guidelines on the practical use of AI. In response to the rapidly changing landscape of AI and its ethical use in education, the Tertiary Education Quality and Standards Agency (TEQSA) provides advice for students navigating how AI may be an effective study collaborator.[12] The era of ChatGPT reinforces the need to cultivate open, respectful conversations of its use and limitations, AI professional development opportunities, and to revisit effective assessment design.

Conclusion

Looking ahead, the future of AI in education hinges on the balance between leveraging its potential to transform teaching and learning practices and addressing the ethical, technical, and pedagogical challenges it presents. This entails fostering a collaborative ecosystem wherein educators, technologists, policymakers, and students collectively explore the possibilities and limitations of AI. Engaging in this 'dance' with AI requires a commitment to ongoing dialogue, critical examination, and adaptive innovation to ensure that AI serves as a catalyst for enhancing, rather than detracting from, the educational experience.

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Continuing Professional Education

Continuing Professional Education (CPE) is a structured program of further education for practitioners in their professional occupations.

The ATMS CPE policy is designed to ensure its practitioners regularly update their clinical skills and professional knowledge. One of the main aims of CPE is to keep members abreast of current research and new developments which inform contemporary clinical practice.

The ATMS CPE policy is based on the following principles:

- Easily accessible to all members, regardless of geographic location
- Members should not be given broad latitude in the selection and design of their individual learning programs
- Applicable to not only the disciplines in which a member has ATMS accreditation, but also to other practices that are relevant to clinical practice which ATMS does not accredit (e.g. Ayurveda, yoga)
- Applicable to not only clinical practice, but also to all activities associated with managing a small business (e.g. book-keeping, advertising)
- Seminars, workshops and conferences that qualify for CPE points must be of a high standard and encompass both broad based topics as well as discipline-specific topics
- Financially viable, so that costs will not inhibit participation by members, especially those in remote areas
- Relevant to the learning needs of practitioners, taking into account different learning styles and needs
- Collaborative processes between professional complementary medicine associations, teaching institutions, suppliers of therapeutic goods and devices and government agencies to offer members the widest possible choice in CPE activities
- Emphasis on consultation and co-operation with ATMS members in the development and implementation of the CPE program

ATMS members can gain CPE points through a wide range of professional activities in accordance with the ATMS CPE policy. CPE activities are described in the CPE policy document as well as the CPE Record. These documents can be obtained from the ATMS office (telephone 1800 456 855, fax (02) 9809 7570, or email **info@atms.com.au**) or downloaded from the ATMS website at **www.atms.com.au.**

It is a mandatory requirement of ATMS membership that members accumulate 20 CPE points per financial year. CPE points can be gained by selecting any of the following articles, reading them carefully and critically reflecting on how the information in the article may influence your own practice and/or understanding of complementary medicine practice. You can gain one (1) CPE point per article to a maximum of three (3) CPE points per journal from this activity:

- **Grace S, Baltrotsky K. The National Natural Therapies Workforce Survey Part 1**
- **Baker J. Plantar heel pain: A soft tissue approach**
- **MeEwen B. Health impacts of sugar-sweetened beverages**
- **Medhurst R. Research in homeopathy: An update**
- **Pagura I. Sexual harassment: Changes to Australian workplace laws 12 December 2023**

As part of your critical reflection and analysis, answer in approximately 100 words the following questions for each of the three articles:

1. What new information did I learn from this article?
2. In what ways will this information affect my clinical prescribing/techniques and/or my understanding of complementary medicine practice?
3. In what ways has my attitude to this topic changed?

Record your answers clearly on paper for each article. Date and sign the sheets and attach to your ATMS CPE Record. As a condition of membership, the CPE Record must be kept in a safe place, and be produced on request from ATMS.

Sexual harassment: *Changes to Australian workplace laws*

Ingrid Pagura | BA, LLB

In late 2022 the Anti-Discrimination and Human Rights Legislation Amendment (Respect at Work) Act 2022 (Cth) came into force. While most of us did not take much notice at the time, we will now need to, because parts of those amendments will have a bearing on our daily life in the workplace. From 12 December 2023 major changes came into operation.

The focus on an employer and a person conducting a business (PCBU) shifts from managing a situation when sexual harassment has occurred to actively preventing it. They must 'take proactive and meaningful action to prevent' this from happening in their workplace. At the same time, the criteria for a finding of sex-based harassment have been lowered. The PCBU must eliminate risks and if that is not reasonably practicable then minimise these risks. Failure to do so leads to penalties.

Before we can work out how to prevent this, we need to understand what it is all about. Sexual harassment is defined as 'any unwelcome sexual advance, unwelcome request for sexual favours or other unwelcome conduct of a sexual nature which make a person feel offended, humiliated or intimidated, where a reasonable person would anticipate that reaction in the circumstances'.

Let's look at some of these points.

'Unwelcome' has its usual meaning: the other person doesn't want it. 'A reasonable person would anticipate that reaction in the circumstances' means that you judge, not how any particular individual reacted to the behaviour, but how a 'reasonable person' would have reacted in those circumstances. This could mean you need to anticipate the possibility that your action/s might offend, humiliate or intimidate a reasonable person. Another type of sex-based harassment is defined as unwelcome conduct based on a person's gender, sex or sexuality.

Creating a hostile work environment is now also included as an offence. This applies where the 'work environment is offensive, intimidating or humiliating to a person because of their sex or characteristics linked to their sex'. This places a legal focus on the workplace, not solely on any individual in the workplace. The offence may be that there are nude calendars on the wall, or a culture of banter and joking of a sexual nature. Action doesn't have to be directed at anyone in particular, and it may encompass behaviour that was previously thought of as acceptable. It is deemed a sufficient cause for offence that a worker comes to the workplace and subjectively finds the environment 'offensive, intimidating or humiliating.' .

Another point needs to be clarified. The harassment can be in person, by phone, by email or online, including on social media platforms and can be done out of work hours.

So, what do you need to do to ensure you are meeting your legal obligations in relation to this positive duty?

1. Knowledge and leadership

What has changed is that it is no longer enough for the leadership team to say, "We have an HR department for that". The positive duty means that you must actively prevent this occurring in your workplace by speaking about it, having a plan to eliminate it, and dealing with complaints that arise.

All this needs to be demonstrated and recorded. For example, having records of everyone having undertaken training will help, but that isn't enough. The law now requires you to have this front and centre, so if you have a regular Board meeting, sexual harassment prevention must be an agenda item. The same would apply to regular team meetings or holding regular toolbox talks.

Finally, management must be seen to be role models by walking the walk as well as talking the talk.

2. Undertake a risk assessment

Do a risk assessment as you would for any potential hazard. Identify the risks of transgressing against the new rules, assess their likelihood and put control measures in place. Start talking about it to your workers. Consultation is important as it will show that you are taking the legislation seriously.

In the first place, look at your harassment policy, if you have one, and make sure it is updated with these new rules. It must specifically now also mention sex-based harassment and the potential for a hostile work environment.

Often workplaces have lumped harassment, bullying and discrimination together in one policy. This is no longer acceptable. You must have now have a stand-alone policy to cover this. All employees must know where they can find the policy, and what it says.

3. Communication and training

As a PCBU you must clearly communicate your expectations to your staff. You must send an unequivocal message from the entire leadership team that sexual harassment is unacceptable in the workplace. This communication can no longer be hidden in an induction pack, it must be clearly visible.

Training is also a part of this. All staff must undertake formal training that now embraces excluding sexual harassment, sex-based harassment and creation of a hostile work environment. Always keep records of this training. Informal training should also be done regularly to support this. This can be having conversations on the topic, and posters around the workplace, for example.

4. Complaint handling

An important way to meet your positive duty as a PCBU is to set up a procedure for handling complaints. You must outline a clear investigation process and communicate this to all staff. Everyone needs to be aware of how they can report incidents. Again, this could be covered by training or posters around the workplace.

Encourage staff to ask questions and report incidents.

Make sure you keep records of how you communicated this to staff, and of course keep records of complaints and how you managed them.

5. Prevention plan

All PCBUs must have a Prevention Plan which outlines what the business is doing to prevent and respond to sexual harassment in the workplace. This, of course, is underpinned by your risk assessment.

Make sure your plan sets out all the steps you are taking in your workplace to eliminate sexual harassment from the workplace. This is where you should record what you have done and will be doing, such as training, adding this as an agenda item for a Board meeting, updating the Policy or placing posters around the workplace, for example.

What happens if I don't comply?

From 12 December 2023, the Australian Human Rights Commission (AHRC) will have the power to enforce compliance with the positive duty. This means that it can commence an inquiry when it 'reasonably suspects' that an organisation or business is not complying with the positive duty. This can come from information received, media reports or reports by affected workers.

Another change is that the AHRC can conduct a workplace inspection to check on compliance, like WorkSafe investigations. They can ask to see documents and records to show that you have complied with your positive duty.

To assist you in meeting your new duties, please go to **Respect@Work** at https://**www.respectatwork.gov.au/** and the SafeWork Australia's Code of Practice: Managing the Risks of Sexual and Gender-Based Harassment at Work at https://**www.safeworkaustralia.gov.au/doc/model-code-practice-sexual-and-gender-based-harassment**

Regulation Report

Chantel Ryan |
Chair, Regulatory Committee

NTREAP report delayed

As we previously reported, the Natural Therapies Review by NTREAP (Natural Therapies Review Expert Advisory Panel) was on track for conclusion in 2023, with a report due early 2024. Unfortunately, we were advised in January that the release of the report would be delayed until June 2024.

Although this delay is disappointing, ATMS understands several meetings have been scheduled to finalise the reviews, which is encouraging. However, even if the reports are finalised in June 2024, we do not expect that any modalities will be reinstated until at least April 2025 when health fund packages will be reviewed.

As always ATMS will keep members updated on the progress of the Natural Therapies Review and will continue to actively advocate for its completion and the return of natural therapies to their rightful place in private health insurance.

Celebrating 30+ years **of ATMS membership**

David Shorrocks

What has kept you practising for 30+ years?

The continuous learning criteria required to maintain accreditation. The benefits I have achieved in giving many clients a better life from the various treatments I have applied to them. This skill and others I had gained allowed me for over 20 years travel with State and National sporting teams to aid their performances during their events whilst on tour. During that time I was practising my profession as a Remedial Massage Therapist, I was a serving Police Officer with the NSW Police Force rising to the rank of Superintendent. Through my policing experiences I saw people at their worse. I took thousands of victims and witness statements. I learnt an invaluable skill in how to elicit information from people through selective questioning and letting people talk without interruptions and not answering the questions being asked. Even now in my own clinic I have clients who have been seeing me for over 20 years. I have been privileged to still treat my children and their children in this modality during their sporting performances at representative level in netball.

After retiring from the NSW Police Force in 2007 I gained entrance to Western Sydney University and completed a Bachelor of Applied Science (Sport and Exercise) degree and then an Honours Degree in Health Science. Having these degrees and Remedial Massage and Therapeutic Diplomas I am able to link the two, giving my clients a better outcome. What I am trying to say is keep learning other modalities, but you will continue to use Remedial Massage techniques in gaining the best results for your client.

What have been the most important changes to natural medicine you have seen during your career?

The benefits we can give cancer and disability patients.
The updating skills to assist athletes at club level and high performance (e.g., Commonwealth Games in Queensland 2018 looking after Netball and Rugby Sevens). The regular podcasts, seminars, CPE updates which are so important in maintaining your skill level and improving the treatment you can give your patients. The acceptance by health funds and general health practitioners referring clients for treatment.

What changes in natural medicine would you most like to see?

Fine tune the numerous techniques that already have been developed. More mentoring programs introduced. Continue with the podcast and face-to- face seminars with practical sessions included. Offer scholarships for research and their outcomes published.

Look at University level making Remedial Massage compulsory in Bachelor of Applied Science and Physiotherapy and not just an elective. This may entice students to become fully accredited in our field as they will see the worth in this modality in the rehabilitation process of many injury cases and disability.

What advice do you have for today's emerging practitioners?

Do not become tunnel-visioned in your first years of practice. Broaden your scope of knowledge and hands-on experiences. You may need to volunteer your time to gain this exposure and see the fruits of your skill when working with people on a regular basis (e.g., sporting bodies, age care facilities).

It takes time to earn a reputation in any skill acquisition. Be prepared to accept constructive criticism and learn from it. Finally, remember your patient deserves the utmost professionalism in improving their life and overall well-being.

Always show empathy, remain professional and ethical in all avenues of this profession. I have a saying, "Knowledge is a wonderful thing to have, provided you give it to someone else".

Paula Owen

What has kept you practising for 30+ years?

I am a Remedial Massage Therapist and Herbalist. Firstly, the most important thing that has kept me practising for 30+ years has been the outcomes from clients I have treated. My primary practice has been Remedial Massage. Clients book in for a range of reasons, but usually they have some physical pain or discomfort. When you address their pain through treatment and talk to them about the techniques you have implemented they understand what is happening with their body. When you make recommendations to them for further treatments and they follow through you are working with their ailments and providing management for their symptoms. Remedial massage works. When clients feel the benefits it's rewarding for them and you. Developing ongoing client relationships over a period of time also means that your clients develop trust in you and your work. They will relax more in sessions and you develop a good therapeutic relationship with them.

I have seen good results with Herbal Medicines I have prescribed to clients over the years. I believe in Herbal Medicine and the use of plants to support the body towards better health. I have taken herbs for my own health since I was a teenager and have used herbs with my children and family over many years. This has kept me engaged in the work I have done with clients over the years.

What have been the most important changes to natural medicine you have seen in your career?

One of the most important changes I have seen is wider recognition of natural medicine. Remedial Massage has become more recognised as a valid therapeutic treatment, than when I first started out. Herbal Medicine has become more widely recognised as well. There is a lot more information and awareness about natural medicine available to the public.

How do you envisage natural medicine developing over the next 30 years? What changes in natural medicine would you most like to see?

I believe that natural medicine will continue to grow in popularity over the next 30 years. I have seen the Herbal Medicine Industry become more evidence-based and scientific. My opinion on this is two fold:

- I do think the Herbal Medicine Industry requires ongoing evidence-based knowledge on herbs.

- However, I also think that it has lost some of the basics of treating systems in the body for improving system health. I think there has been a shift away from treating the person as an Individual with a wholistic view of treating them. The approach of treating the person in front of you with knowledge of their health and history of their health problems and medical conditions, their lifestyle and stress are also important when considering what herbs and supplements to give them. In my opinion, herbal medicine and nutrition have at times become too scientific. We are natural medicine practitioners and not doctors. In my experience, clients want time to talk to you as a practitioner about their health concerns, their stress and lifestyle. We need to give them that time and a wholistic approach to manage their health. This is something we offer them as practitioners that doctors lack, which is a limited amount of time they can spend with their patients.

I would like to envisage more GP's and medical practitioners recommending natural medicine to their patients and more referrals to Natural Health Practitioners, and a more collaborative approach and networking that could include medical treatment alongside natural medicine treatment.

What advice do you have for today's emerging practitioners?

You will start out like I did, which was to follow what you were trained to do as a natural health practitioner. Follow the book, so to speak. If you continue in your given field, you will start to develop your own style and way of working. This, I think is important to remain in the Industry. Why? I think when you develop your own style and techniques you are listening to who you are as a professional and how you want to work. Trust in yourself and develop your own way of working professionally with clients. People will come to you because of your style and way of working with them.

You will also make mistakes like I did. That's part of learning in any Industry of work. Don't give up when you make mistakes. Take them as a learning experience and grow from them.

Paula is a Western Herbalist and a Remedial Massage Therapist. She is also a Clinical Psychotherapist and offers psychotherapy sessions for individuals, couples and families. Her practice is based in Katoomba, Blue Mountains. Ph: 0429 577 655 Email: ***bluemoutains.therapies@gmail.com*** *Website:* ***bluemtstherapies.com.au***

Elizabeth C. Gibson

My name is Liz Gibson and I live in the remote city of Mount Isa in Northwest Queensland. I have supported our community for over 30 years.

It was not my intention to become a health practitioner. This happened quite by chance. When my husband was 35 years old, he was diagnosed with arthritis in the spine. The doctors told him that he would be in a wheelchair by the time he was 40 and that there was nothing that could be done except prescribe stronger and stronger pain medication. We had three young children at the time, so this was devastating news for us. As a wife and a mother, I decided to look for alternative ways forward. I studied nutrition, vitamin and mineral therapy and massage. I am pleased to say that my husband never ended up in that wheelchair. He started Judo at 47 years old and he is still enjoying the sport at the age of 74 and not looking to stop any time soon. He is certainly fitter now than he was at 35.

When my children were young, it was very convenient to run my practice from home so that I could be available to meet my family's needs. When the children were older, I joined the Palliative Care Team at Mount Isa Base Hospital and continued to run my practice. I continued to work with the Palliative Care Team for four and a half years and it was a real honour to help people die with dignity and to support their families through this most challenging of times. Aromatherapy and massage were very helpful modalities for this work.

During this time, I became interested in Primary Health Care and Community Health so I studied and gained my Masters Degree and then went on to study Family Therapy and Relationship Counselling. I have worked in many wonderful and fascinating areas and am now in private practice as a Clinical Family Therapist, a Registered Counsellor and a Certified Gottman Relationship Therapist.

I have been able to integrate the health modalities into my business to assist people to become both mentally and physically well. The last 30+ years have been quite an amazing and exciting journey.

Elizabeth is a Clinical Family Therapist and Relationship Counsellor and is based in Mount Isa, Queensland. She can be contacted at Ph: 0487 089 933. Email: ***liz-puck@hotmail.com***

Celebrating the ATMS Natural Medicine Awards 2023

On Friday 10 November, ATMS hosted the annual Natural Medicine Awards Gala Dinner and the Practitioner of the Year, Clinic of the Year and Student of the Year winners for 2023 were announced.

It was a wonderful evening to celebrate all the winners and finalists in our annual Natural Medicine Awards. It also provided an opportunity to connect with our esteemed ATMS practitioners, industry collaborators and friends.

The evening was facilitated by Director Christine Pope with an introduction from our outgoing CEO, Charles Wurf and a final thanks from our President, Peter Berryman. The keynote speaker, Carrun Squires, an integrative naturopath and nutritionist, shared her inspiring journey with *Involvement Volunteers International* and their impactful initiative the *Nutrition & Public Health Program* which operates in Fiji. Her humble account of volunteering in Fiji utilising natural medicine skills to enhance local health served as a source of encouragement for fellow practitioners to explore similar opportunities. Heartfelt thanks to Carrun for offering us this valuable insight.

ATMS would like to thank everyone who entered or nominated for the awards. We had an impressive volume of entrants. We applaud the efforts of every single entrant for their contribution to natural medicine in Australia.

We are thrilled to introduce the 2023 winners and highly commended finalists for the ATMS Natural Medicine Awards!

ATMS Practitioner of the Year, Carla Wrenn

Practitioner of the Year

Carla Wrenn
Naturopath and Nutritionist
Peninsula Herbal Dispensary

Carla Wrenn has been a naturopath for over 20 years and is a passionate integrative medicine practitioner, with the professional aim to change statistics on the complex and chronic disease crisis in Australia and around the world.

Carla predominantly consults with patients experiencing complex health complaints and those requiring Oncology support before, during or after their treatment. Carla uses a holistic assessment approach to provide each person with an individualised and integrative treatment strategy, using nutritional and herbal medicine, diet and lifestyle advice to achieve significant health improvements and restore optimal health status.

ATMS Practitioner of the Year finalists

Highly commended finalists

Rebecca Winter
Remedial Massage and Myofascial Therapist
North Avoca Holistic Wellbeing

Kimmi Katte
Clinical Nutritionist and Lifestyle Expert in Lymphoedema and Lipoedema Management
Kimmi Katte Nutritional Synergy

Liza Twohill
Naturopath
Liza Twohill Holistic Health

ATMS Clinic of the Year, Jackies Sports Massage

2023 Clinic of the Year

Jackie's Sports Massage, NSW
jackiessportsmassage.com.au

Jackie's Sports Massage is a Remedial Massage centre established over 28 years ago by Jackie Messaike in Sydney. The mission is pain relief and body awareness for all body types and fitness levels. They aim to help people achieve and maintain a high level of health and wellbeing so they can reach their personal fitness, work or life goals pain and injury free. The team are passionate about massage excellence and providing a premium service.

Highly commended finalists

Life Essence Natural Therapies &
Counselling Centre, QLD
lifeessence.com.au

Rebalance Chinese Medicine, VIC
rebalancetcm.com

Tonic Natural Health, NSW
tonicnaturalhealth.com.au

ATMS Clinic of the Year finalists

2023 Student of the Year winner

Olivia Croker
Endeavour College of Natural Health – Sydney

Olivia Croker is a fourth-year naturopathy student at Endeavour College of Natural Health. She is committed to becoming a knowledgeable, capable and competent naturopath to live her mission of providing affordable, accessible and effective health promotion education to individuals and communities.

Olivia also contributed to the global health community through a Public Health and Nutrition project in Fiji in June 2023.

ATMS Student of the Year Olivia Croker pictured with past President, Peter Berryman.

Highly commended finalists

Deb Sant
Australian Institute of Fitness– Adelaide

Rah Cechellero
Torrens University – Sydney

Christopher Loukas
RMIT – Melbourne

ATMS Student of the Year finalists

Watch out for the 2024 ATMS Natural Medicine Awards. Applications and nominations will open in August.

Acupuncture and TCM

***Lam TF, Lyu Z, Wu X.* et al.** Electro-acupuncture for central obesity: a patient-assessor blinded, randomized sham-controlled clinical trial. BMC Complement Med Ther. 2024; 24, 62. https://doi.org/10.1186/s12906-024-04340-5

Background: Central obesity is considered as a significant health threat to individuals. Scientific research has demonstrated that intra-abdominal fat accumulation is associated with higher metabolic and cardiovascular disease risks independent of Body Mass Index (BMI). This study aimed to evaluate the efficacy and safety of electro-acupuncture in treating central obesity compared with sham acupuncture.

Method: This was a patient-assessor blinded, randomized, sham-controlled clinical trial. One hundred sixty eight participants aged between 18 and 65 years old with BMI ≥ 25 kg/m2 and waist circumference (WC) of men ≥ 90 cm / women ≥ 80 cm were enrolled and allocated to the acupuncture or sham acupuncture group equally. For the acupuncture group, disposable acupuncture needles were inserted into eight body acupoints, including Tianshu (ST-25), Daheng (SP-15), Daimai (GB-26), Qihai (CV-6), Zhongwan (CV-12), Zusanli (ST-36), Fenglong (ST-40), and Sanyinjiao (SP-6) with electrical stimulation. For the control group, Streitberger's non-invasive acupuncture needles were utilized at the same acupoints with identical stimulation modalities. The treatment duration was 8 weeks with 2 sessions per week and the follow-up period was 8 weeks. The primary outcome was the change in WC before and after the treatment. The secondary outcomes were the changes in hip circumference, waist-to-hip circumference ratio, BMI, and body fat percentage during the treatment and follow-up period.

Results: The acupuncture group displayed a significant change in WC compared to the sham group both treatment and follow-up period (MD = -1.1 cm, 95% CI = -2.8 to 4.1). Significant change in body fat percentage was recorded for both groups after treatment but no significance was observed during the follow-up period (MD = -0.1%, 95% CI = -1.9 to 2.2). The changes in hip circumference were also significant both treatment and follow-up period for the acupuncture group (MD = -2.0 cm, 95% CI = -3.7 to -1.7). Compared with sham acupuncture, the body weight (MD = -1 kg, 95% CI = -3.3 to 5.3), BMI (MD = -0.5, 95% CI = -0.7 to 1.9) also decreased significantly within and between groups. The incidence of adverse events was similar in the two groups.

Conclusion: This study provided evidence that electro-acupuncture could be effective in treating central obesity by reducing WC, hip circumference, body weight, BMI, and waist-to-hip circumference ratio.

***Safdari A, Khazaei S, Biglarkhani M.* et al.** Effect of acupressure on pain intensity and physiological indices in patients undergoing extracorporeal shock wave lithotripsy: a randomized double-blind sham-controlled clinical trial. BMC Complement Med Ther. 2024; 24, 55. https://doi.org/10.1186/s12906-024-04360-1

Background: Despite the widespread use of extracorporeal shock wave lithotripsy (ESWL) as a treatment for kidney stones, it is essential to apply methods to control pain and improve patient comfort during this procedure. Therefore, this study aimed to investigate the effect of acupressure at the Qiu point on pain intensity and physiological indices in patients undergoing ESWL.

Methods: This randomized, sham-controlled clinical trial was conducted at the Shahid Beheshti Educational-medical Center in Hamadan City (western Iran) from May to August 2023. Seventy-four eligible patients were split into intervention (n = 37) and sham (n = 37) groups. Ten minutes before lithotripsy, the intervention group received acupressure at the Qiu point, while the sham group received touch at a neutral point. The primary outcomes were pain intensity measured by the Visual Analog Scale (VAS) and physiological indices such as blood pressure and heart rate at baseline, 1, 10, 20, 30, 40, and 50 min after the intervention. The secondary outcomes included lithotripsy success and satisfaction with acupressure application.

Results: The analysis of 70 patients showed no significant differences in the demographic and clinical information of the patients across the two groups before the study ($P > 0.05$). Generalized estimating equations revealed that the interaction effects of time and group in pain and heart rate were significant at 30 and 40 min ($P < 0.05$). The results of this analysis for systolic blood pressure revealed a significant interaction at 30 min ($P = 0.035$). However, no significant interaction effects were found for diastolic blood pressure changes ($P > 0.05$).

Conclusions: Acupressure at the Qiu point positively impacts pain in patients undergoing ESWL treatment and increases their satisfaction. However, these results for physiological indices require further studies. Thus, acupressure can be considered a simple, easy, and effective option for pain management in patients during this procedure.

***Kayo T, Suzuki M, Mitsuma T.* et al.** The effect of acupuncture on exercise capacity in patients with COPD is mediated by improvements of dyspnea and leg fatigue: a causal mediation analysis using data from a randomized controlled trial. BMC Complement Med Ther. 2024; 24, 44. https://doi.org/10.1186/s12906-024-04353-0

Background: Acupuncture is known to improve exercise capacity in patients with chronic obstructive pulmonary disease (COPD), but its mechanism remains unknown. Whether acupuncture improves exercise capacity in patients with COPD through alleviation of leg fatigue and dyspnea is examined by applying causal mediation analysis to previous trial data.

Methods: Sixty-two patients with COPD completed treatments with either real or placebo acupuncture once a week for 12 weeks. Walk distance measured using the 6-minute walk test and intensities of leg fatigue and dyspnea in the modified Borg scale were evaluated at baseline and after treatment. The intervention effect of acupuncture against the placebo acupuncture on two mediators, changes in

leg fatigue and dyspnea, and whether they mediated improvements in walk distance, were analyzed.

Results: Linear regression analysis showed that the unstandardized regression coefficients [95% confidence interval (CI)] for the intervention effect by acupuncture were -4.9 (-5.8–-4.0) in leg fatigue and -3.6 (-4.3–-2.9) in dyspnea. Mediation analysis showed that when changes in leg fatigue were considered as a mediator, direct effect, indirect effect and proportion mediated were 47.1 m (95% CI, 4.6–85.1), 34.3 m (-2.1–82.1), and 42.1%, respectively, and when changes in dyspnea were considered as a mediator, they were 9.8 m (-32.9–49.9), 72.5 m (31.3–121.0), and 88.1%, respectively, and the effects of joint mediator were -5.8 m (-55.4–43.9), 88.9 m (32.7–148.5), and 107.0%, respectively.

Conclusion: The improvement in exercise capacity by acupuncture is explained by changes in both leg fatigue and dyspnea.

Yang YC, Wei XY, Zhang YY. **et al.** Modulation of temporal and occipital cortex by acupuncture in non-menstrual MWoA patients: a rest BOLD fMRI study. BMC Complement Med Ther. 2024; 24, 43. https://doi.org/10.1186/s12906-024-04349-w

Objective: To investigate the changes in amplitude of low-frequency fluctuation (ALFF) and degree centrality (DC) values before and after acupuncture in young women with non-menstrual migraine without aura (MWoA) through rest blood-oxygen-level-dependent functional magnetic resonance imaging (BOLD fMRI).

Methods: Patients with non-menstrual MWoA (Group 1, n = 50) and healthy controls (Group 2, n = 50) were recruited. fMRI was performed in Group 1 at 2 time points: before acupuncture (time point 1, TP1); and after the end of all acupuncture sessions (time point 2, TP2), and performed in Group 2 as a one-time scan. Patients in Group 1 were assessed with the Migraine Disability Assessment Questionnaire (MIDAS) and the Short-Form McGill Pain Questionnaire (SF-MPQ) at TP1 and TP2 after fMRI was performed. The ALFF and DC values were compared within Group 1 at two time points and between Group 1 and Group2. The correlation between ALFF and DC values with the statistical differences and the clinical scales scores were analyzed.

Results: Brain activities increased in the left fusiform gyrus and right angular gyrus, left middle occipital gyrus, and bilateral prefrontal cortex and decreased in left inferior parietal lobule in Group 1, which had different ALFF values compared with Group 2 at TP1. The bilateral fusiform gyrus, bilateral inferior temporal gyrus and right middle temporal gyrus increased and right angular gyrus, right superior marginal gyrus, right inferior parietal lobule, right middle occipital gyrus, right superior frontal gyrus, right middle frontal gyrus, right anterior central gyrus, and right supplementary motor area decreased in activity in Group 1 had different DC values compared with Group 2 at TP1. ALFF and DC values of right inferior temporal gyrus, right fusiform gyrus and right middle temporal gyrus were decreased in Group1 at TP1 compared with TP2. ALFF values in the left middle occipital area were positively correlated with the pain degree at TP1 in Group1 (correlation coefficient r, r = 0.827, r = 0.343; P < 0.01, P = 0.015). The DC values of the right inferior temporal area were positively correlated with the pain degree at TP1 in Group 1 (r = 0.371; P = 0.008).

Conclusion: Spontaneous brain activity and network changes in young women with non-menstrual MwoA were altered by acupuncture. The right temporal area may be an important target for acupuncture modulated brain function in young women with non-menstrual MwoA.

Chmielewska, D., **Malá, J.,** Opala-Berdzik, A. et al. Acupuncture and dry needling for physical therapy of scar: a systematic review. BMC Complement Med Ther. 2024; 24, 14. https://doi.org/10.1186/s12906-023-04301-4

Background: There is a continuing interest in finding effective methods for scar treatment. Dry needling is gaining popularity in physiotherapy and is defined by Western medicine as a type of acupuncture. The terms acupuncture and dry needling have been used interchangeably so we have focused on the efficacy of dry needling or acupuncture in scar treatment.

Objective: The aim of this systematic review was to determine the usefulness of dry needling or local acupuncture for scar treatment. In our search process, we used the terms 'acupuncture,' 'needling,' or 'dry needling' to identify all relevant scientific papers. We have focused on the practical aspects of local management of different scar types with dry needling or acupuncture.

Search strategy: The search strategy included different combinations of the following keywords: 'scar', 'keloid', 'dry needling', 'needling', 'acupuncture', 'treatment', 'physical therapy'. This systematic review was conducted in accordance with PRISMA guidelines. MEDLINE (PubMed, EBSCOHost and Ovid), EMBASE (Elsevier), and Web of Science databases were searched for relevant publications from inception through October 2023.

Inclusion criteria: The studies that investigated the effectiveness of dry needling or acupuncture for scar treatment were included.

Data extraction and analysis: The main extraction data items were: the needling technique; needle: diameter, length; needling locations; manual needling manipulation; number of sessions; settings; outcomes and results.

Results: As a result of a comprehensive search, 11 manuscripts were included in the systematic review, of which eight were case reports, two were randomized trials and one study concerned case series. Two case reports scored 2–4 out of 8 points on the JBI checklist, five studies scored 5–7, and one study scored 8 points. The methodological quality of the two clinical trials was rated as good or fair on the PEDro scale. The case series study scored 7 of 10 points on the JBI checklist. A meta-analysis was not possible as only two randomized trials, eight case reports, and

one case series were eligible for review; also, scar assessment scales and pain severity scales were highly heterogeneous.

Conclusions: The studies differed regarding the delivery of dry needling or local acupuncture for scar treatment. Differences included treatment frequency, duration, number of treatments, selection of needle insertion sites, number of needles used, angle of needle placement, and use of manual needling manipulation.

Aromatherapy

***Okamoto A, Karibe H, Tanaka S.* et al.** Effect of aromatherapy with peppermint essential oil on the gag reflex: a randomized, placebo-controlled, single-blind, crossover study. BMC Complement Med Ther. 2024; 24, 60. https://doi.org/10.1186/s12906-024-04334-3

Background: Sensitive gag reflexes prevent dental patients from receiving appropriate treatment. Aromatherapy helps patients relax during dental procedures. However, the effect of aromatherapy on the gag reflex caused by the stimulation of the oral cavity is unknown. This study aimed to evaluate whether aromatherapy reduces gag reflexes during oral stimulation.

Methods: In this randomized, placebo-controlled, single-blind, crossover study, the gag reflexes of 24 healthy individuals (12 females and 12 males; mean age: 34.3 ± 9.5 years) were quantified. A standard saliva ejector was slowly guided down the participant's throat to determine the maximum tolerance of the gag reflex, and the insertion distance was measured to quantify the gag reflex. All individuals participated in an aromatherapy session with peppermint essential oil and a placebo session with distilled water. The gag reflex was quantified before (baseline) and after each session. Another measurement was performed using nitrous oxide/oxygen inhalation as a positive control.

Results: Gag reflex values significantly increased after aromatherapy with both peppermint essential oil and placebo compared to baseline values (paired t-test, $P < 0.001$ and $P = 0.014$, respectively). The gag reflex value also increased significantly during nitrous oxide/oxygen inhalation (paired t-test, $P < 0.001$). There was no significant difference in the increase rate of gag reflex values between the positive control and aromatherapy interventions, but it was significantly lower after the placebo intervention (repeated measures analysis of variance, $P = 0.003$; post-hoc test, $P = 0.83$ and $P = 0.02$).

Conclusion: Aromatherapy with peppermint essential oil has the potential for reducing gag reflex during dental procedures.

***You J, Shin YK.* & Seol G.H.** Alleviating effect of lavender (Lavandula angustifolia) and its major components on postherpetic pain: a randomized blinded controlled trial. BMC Complement Med Ther. 2024; 24, 54. https://doi.org/10.1186/s12906-024-04362-z

Background: Postherpetic neuralgia (PHN) causes severe pain which can lead to decreased quality-of-life. This study aimed to evaluate the effects of inhalation of lavender (Lavandula angustifolia) oil and its major components (linalool and linalyl acetate) on the pain in patients with PHN.

Methods: This study was performed at an outpatient clinic. Sixty-four patients with postherpetic neuralgia were randomly allocated to a control group (almond oil) or one of three experimental groups (lavender oil, linalool, or linalyl acetate diluted in almond oil at concentration of 1% v/v), and the participants inhaled the aroma by natural breathing. Quality, severity, and intensity of pain were measured before and after the intervention.

Results: Six patients discontinued the intervention for personal reasons; hence, data from 58 patients were analyzed (control group, n = 14; 1% lavender oil group, n = 15; 1% linalool, n = 15; 1% linalyl acetate, n = 14). Reduction in sensory pain was greater in the 1% lavender oil group, 1% linalool group, and 1% linalyl acetate group than in the control group (all $P < 0.001$). Reduction in affective pain was greater in the 1% lavender group ($P < 0.001$) and the 1% linalool group ($P = 0.007$) than in the control group. Decreases in pain severity and intensity were significantly greater in all three intervention groups than in the control group.

Conclusions: Inhalation of lavender oil and its major volatile components effectively reduced the quality, severity, and intensity of postherpetic pain, suggesting that lavender oil, linalool, and linalyl acetate may each be an effective intervention for reducing pain in patients with postherpetic neuralgia.

***Elhawary EA, Nilofar N, Zengin G.* et al.** Variation of the essential oil components of Citrus aurantium leaves upon using different distillation techniques and evaluation of their antioxidant, antidiabetic, and neuroprotective effect against Alzheimer's disease. BMC Complement Med Ther. 2024; 24, 73. https://doi.org/10.1186/s12906-024-04380-x

Citrus fruit essential oil is considered one of the widely studied essential oils while its leaves attract less attention although being rich in nearly the same composition as the peel and flowers. The leaves of bitter orange or sour orange (Citrus aurantium L.) were extracted using three different techniques namely; hydrodistillation (HD), steam distillation (SD), and microwave-assisted distillation (MV) to compare their chemical composition. The three essential oil samples were analyzed through GC/FID and GC/MS analyses. The samples were tested in vitro using different antioxidant techniques (DPPH, ABTS, CUPRAC, FRAP, PBD, and MCA), neuroprotective enzyme inhibitory activities (acetylcholine and butyl choline enzymes), and antidiabetic activities (α-amylase and α-glucosidase). The results showed that thirty-five volatile ingredients were detected and quantified. Monoterpenes represented the most abundant class in the three essential oils followed by sesquiterpenes. C. aurantium essential oil carried potential antioxidant activity where SD exhibited the highest antioxidant activity, with values arranged in the following order: FRAP (200.43 mg TE/g), CUPRAC (138.69 mg TE/g), ABTS (129.49 mg TE/g), and DPPH (51.67 mg TE/g). SD essential oil also presented the most potent α-amylase

(0.32) inhibition while the MV essential oil showed the highest α-glucosidase inhibition (2.73 mmol ACAE/g), followed by HD (2.53 mmol ACAE/g), and SD (2.46 mmol ACAE/g). The SD essential oil exhibited the highest BChE and AChE inhibitory activities (3.73 and 2.06 mg GALAE/g), respectively). Thus, bitter orange essential oil can act as a potential source of potent antioxidant, antidiabetic, and neuroprotective activities for future drug leads.

Complementary and alternative medicine

***Møller SR, Ekholm O.* & Christensen AI.** Trends in the use of complementary and alternative medicine between 1987 and 2021 in Denmark. BMC Complement Med Ther. 2024; 24, 23. https://doi.org/10.1186/s12906-023-04327-8

Background: Complementary and alternative medicine (CAM) has been widely and increasingly used worldwide during the past decades. Nevertheless, studies in long-term trends of CAM use are limited. The aim of this study was to assess long-term trends in the prevalence of CAM use (both overall and for specific CAMs) between 1987 and 2021 in the adult Danish population and to examine certain sociodemographic characteristics of CAM users.

Methods: Data derived from nationally representative health surveys in the general adult population (≥ 16 years) in Denmark (the Danish Health and Morbidity Surveys) conducted in 1987, 1994, 2000, 2005, 2010, 2013, 2017, and 2021. The response proportion declined from 79.9% in 1987 to 45.4% in 2021. CAM use was assessed by questions on ever use of specific types of CAMs and overall use within the past 12 months. Differences in use of CAMs across educational levels were assessed using the Slope Index of Inequality (SII).

Results: An overall increase in the prevalence of CAM use within the past 12 months was found between 1987 (10.0%) and 2021 (24.0%). However, a stagnation was observed between 2010 and 2017, after which the prevalence decreased in 2021. In all survey waves, the prevalence was higher among women than men. For both sexes, the prevalence tended to be highest among respondents aged 25–44 years and 45–64 years. The group with 13–14 years of education had the highest prevalence of CAM use compared to the other educational groups (< 10 years, 10–12 years, and ≥ 15 years). SII values for both men and women increased between 1987 and 2021, which indicates an increase in differences of CAM use across educational groups. In all survey waves the most frequently used CAMs included massage and other manipulative therapies, acupuncture, and reflexology.

Conclusions: The use of CAM has increased markedly within the last decades and recently stagnated at high levels, which underlines the importance of securing high quality information and education for the public, health professionals, and legislators to ensure and promote safe use of CAMs.

Herbal medicine

***Shortt G, Shortt N, Bird G.* et al.** Mānuka oil based ECMT-154 versus vehicle control for the topical treatment of eczema: study protocol for a randomised controlled trial in community pharmacies in Aotearoa New Zealand. BMC Complement Med Ther. 2024; 24, 61 (2024). https://doi.org/10.1186/s12906-024-04358-9

Background: Eczema is a chronic, relapsing skin condition commonly managed by emollients and topical corticosteroids. Prevalence of use and demand for effective botanical therapies for eczema is high worldwide, however, clinical evidence of benefit is limited for many currently available botanical treatment options. Robustly-designed and adequately powered randomised controlled trials (RCTs) are essential to determine evidence of clinical benefit. This protocol describes an RCT that aims to investigate whether a mānuka oil based emollient cream, containing 2% ECMT-154, is a safe and effective topical treatment for moderate to severe eczema.

Methods: This multicentre, single-blind, parallel-group, randomised controlled trial aims to recruit 118 participants from community pharmacies in Aotearoa New Zealand. Participants will be randomised 1:1 to receive topical cream with 2% ECMT-154 or vehicle control, and will apply assigned treatment twice daily to affected areas for six weeks. The primary outcome is improvement in subjective symptoms, assessed by change in POEM score. Secondary outcomes include change in objective symptoms assessed by SCORAD (part B), PO-SCORAD, DLQI, and treatment acceptability assessed by TSQM II and NRS.

Discussion: Recruitment through community pharmacies commenced in January 2022 and follow up will be completed by mid-2023. This study aims to collect acceptability and efficacy data of mānuka oil based ECMT-154 for the treatment of eczema. If efficacy is demonstrated, this topical may provide an option for a novel emollient treatment. The community-based design of the trial is anticipated to provide a generalisable result.

***Kim S, Kim Y.* & Cho SH.** Effectiveness of Shugan Jieyu capsules for psychiatric symptoms of epilepsy: a systematic review and meta-analysis. BMC Complement Med Ther. 2024; 24, 63. https://doi.org/10.1186/s12906-024-04361-0

Background: The relationship between epilepsy and depression is bidirectional. One condition exacerbates the other. However, there are no current guidelines for treating depression in epilepsy patients. In some cases, seizures worsen when antidepressants (AD) are prescribed or when they are discontinued due to adverse events. The Shugan Jieyu capsule, composed of Acanthopanax senticosus and Hypericum perforatum, is a widely used herbal medicine for treating depression. This study aimed to explore the effectiveness and safety of Shugan Jieyu capsules (SJC) in relieving depression in patients with epilepsy.

Methods: We searched English, Korean, Japanese, and Chinese databases in October 2023 to collect all relevant randomized clinical trials (RCTs). The primary outcomes were the depression scale scores and seizure frequency. The secondary outcomes were quality of life (QoL) and adverse events.

Results: Nine RCTs were included in this meta-analysis. Compared with AD, SJC showed significant differences in the improvement of depression (SMD: 3.82, 95% CI: 3.25, 4.39) and reduction in seizure frequency (MD: 0.39 times/month, 95% CI: 0.28, 0.50). SJC showed more beneficial results than antiepileptic drugs (AED) in terms of antidepressant effects (SMD: 1.10, 95% CI: 0.69, 1.51) and QoL (MD: 11.75, 95% CI: 10.55, 12.95). When patients were prescribed AED, the additional administration of SJC improved depression symptoms (SMD: 0.96, 95% CI: 0.28, 1.63). The SJC treatment group had a lower incidence of side effects than the control group. However, the difference was not statistically significant.

Conclusions: Our results suggest that SJC may be effective in treating depression in patients with epilepsy. Additionally, SJC has the potential to help reduce seizure frequency in epilepsy patients with depression.

Su H, Yan Q, Du W. **et al.** Calycosin ameliorates osteoarthritis by regulating the imbalance between chondrocyte synthesis and catabolism. BMC Complement Med Ther. 2024; 24, 48. https://doi.org/10.1186/s12906-023-04314-z

Osteoarthritis (OA) is a severe chronic inflammatory disease. As the main active component of Astragalus mongholicus Bunge, a classic traditional ethnic herb, calycosin exhibits anti-inflammatory action and its mechanism of exact targets for OA have yet to be determined. In this study, we established an anterior cruciate ligament transection (ACLT) mouse model. Mice were randomized to sham, OA, and calycosin groups. Cartilage synthesis markers type II collagen (Col-2) and SRY-Box Transcription Factor 9 (Sox-9) increased significantly after calycosin gavage. While cartilage matrix degradation index cyclooxygenase-2 (COX-2), phosphor-epidermal growth factor receptor (p-EGFR), and matrix metalloproteinase-9 (MMP9) expression were decreased. With the help of network pharmacology and molecular docking, these results were confirmed in chondrocyte ADTC5 cells. Our results indicated that the calycosin treatment significantly improved cartilage damage, this was probably attributed to reversing the imbalance between chondrocyte synthesis and catabolism.

Elhawary EA, Moussa AY. **& Singab ANB.** Genus Curcuma: chemical and ethnopharmacological role in aging process. BMC Complement Med Ther. 2024; 24, 31. https://doi.org/10.1186/s12906-023-04317-w

Aging or senescence is part of human life development with many effects on the physical, mental, and physiological aspects which may lead to age-related deterioration in many organs. Genus Curcuma family Zingieraceae represents one of the well-studied and medically important genera with more than eighty species. The genus is reported to contain different classes of biologically active compounds that are mainly presented in diphenylheptanoids, diphenylpentanoids, diphenylalkanoids, phenylpropene derivatives, alkaloids, flavonoids, chromones, terpenoids, phenolic acids and volatile constituents. Rhizomes and roots of such species are rich with main phytoconstituents viz. curcumin, demethoxycurcumin and bis-demethoxycurcumin. A wide variety of biological activities were demonstrated for different extracts and essential oils of genus Curcuma members including antioxidant, anti-inflammatory, cytotoxic and neuroprotective. Thus, making them as an excellent safe source for nutraceutical products and as a continuous promising area of research on lead compounds that may help in the slowing down of the aging process especially the neurologic and mental deterioration that are usually experienced upon aging. In this review different species of the genus Curcuma were summarized with their phytochemical and biological activities highlighting their role as antiaging agents. The data were collected from different search engines viz. Pubmed®, Google Scholar®, Scopus® and Web of Science® limiting the search to the period between 2003 up till now.

Lifestyle medicine

Laskosky NA., **Huston P, Lam WC.** et al. Are Tai Chi and Qigong effective in the treatment of traumatic brain injury? A systematic review. BMC Complement Med Ther. 2024; 24, 78. https://doi.org/10.1186/s12906-024-04350-3

Background: Traumatic brain injury (TBI) adversely affects both young and old and is a growing public health concern. The common functional, psychological, and cognitive changes associated with TBI and recent trends in its management, such as recommending sub-threshold aerobic activity, and multi-modal treatment strategies including vestibular rehabilitation, suggest that Tai Chi/Qigong could be beneficial for TBI. Tai Chi and Qigong are aerobic mind-body practices with known benefits for maintaining health and mitigating chronic disease. To date, no systematic review has been published assessing the safety and effectiveness of Tai Chi/Qigong for traumatic injury.

Methods: The following databases were searched: MEDLINE, CINAHL Cochrane Library, Embase, China National Knowledge Infrastructure Database, Wanfang Database, Chinese Scientific Journal Database, and Chinese Biomedical Literature Database. All people with mild, moderate, or severe TBI who were inpatients or outpatients were included. All Types of Tai Chi and Qigong, and all comparators, were included. All measured outcomes were included. A priori, we chose "return to usual activities" as the primary outcome measure as it was patient-oriented. Cochrane-based risk of bias assessments were conducted on all included trials. Quality of evidence was assessed using the grading of recommendation, assessment, development, and evaluation (GRADE) system.

Results: Five trials were assessed; three randomized controlled trials (RCTs) and two non-RCTs; only two trials were conducted in the last 5 years. No trial measured "return to normal activities" or vestibular status as an outcome. Four trials - two RCTs and two non-RCTS - all found Tai Chi improved functional, psychological and/or cognitive outcomes. One RCT had a low risk of bias and a high level of certainty; one had some concerns. One non-RCTs had a moderate risk of

bias and the other a serious risk of bias. The one Qigong RCT found improved psychological outcomes. It had a low risk of bias and a moderate level of certainty. Only one trial reported on adverse events and found that none were experienced by either the exercise or control group.

Conclusion: Based on the consistent finding of benefit in the four Tai Chi trials, including one RCT that had a high level of certainty, there is a sufficient signal to merit conducting a large, high quality multi-centre trial on Tai Chi for TBI and test it against current trends in TBI management. Based on the one RCT on TBI and Qigong, an additional confirmatory RCT is indicated. Further research is indicated that reflects current management strategies and includes adverse event documentation in both the intervention and control groups. However, these findings suggest that, in addition to Tai Chi's known health promotion and chronic disease mitigation benefits, its use for the treatment of injury, such as TBI, is potentially a new frontier.

Nissim M, Rottenberg Y, Karniel N. **et al.** Effects of aquatic exercise program versus on-land exercise program on cancer-related fatigue, neuropathy, activity and participation, quality of life, and return to work for cancer patients: study protocol for a randomized controlled trial. BMC Complement Med Ther. 2024: 24, 74. https://doi.org/10.1186/s12906-024-04367-8

Background: Exercise has shown positive effects on fatigue, exhaustion, neuropathy, and quality of life in cancer patients. While on-land exercises have been studied, the aquatic environment offers unique advantages. Water's density and viscosity provide resistance, enhancing muscle strength, while hydrostatic pressure improves venous return. This trial aims to investigate the effect of aquatic exercises on time to return to work, work hours, work-related difficulties, daily life activity and participation, quality of life, exhaustion, fatigue, and neuropathy among cancer patients, compared to on-land exercise intervention group and a non-exercise group.

Methods: This randomized controlled trial will include 150 cancer patients aged 18–65 years with stage III colon cancer or breast cancer patients with lymph node involvement. Participants in the aquatic exercise intervention group will undergo an 8-week, twice-weekly group-based Ai-Chi program, while the on-land exercise group will perform identical exercise. The control group will not engage in any exercise.

The primary outcome will be assessed using an employment barriers questionnaire, capturing return to work date and working hours and daily life participation and activity and quality of life. Secondary outcomes include exhaustion, fatigue, and neuropathy. Data will be collected at baseline, post-intervention (8 weeks), and at 3,12, and 24 months. Mixed variance analyses will explore relationships among groups and over time for independent variables, with separate analyses for each dependent variable.

Discussion: The potential benefits include an earlier return to work for patients, reducing their need for social and economic support. The study's implications on socio-economic policies are noteworthy, as a successful intervention could offer a cost-effective and non-invasive solution, improving patients' quality of life and increasing their participation in daily activities. This, in turn, could lead to a faster return to work, contributing to both personal well-being and broader societal interests by reducing reliance on social services.

Foale S, Botma Y. **& Heyns, T.** Mindfulness-based interventions to support wellbeing of adults in low socio-economic settings: a realist review. BMC Complement Med Ther. 2024; 24, 52. https://doi.org/10.1186/s12906-023-04263-7

Background: Mindfulness as a modality involves training the innate human capacity for present-moment awareness with a view to cultivating a more harmonious and integrated life experience, especially in the face of hardship. Over the past four decades, the field of mindfulness has grown rapidly. Despite a substantial body of literature outlining the many benefits of mindfulness practice within a range of contexts and populations, the authors noticed that studies addressing the adaptation, application and value of mindfulness-based interventions (MBIs) for adults within socio-economically challenged setting were scant. To address this gap, we conducted a realist review of studies pertaining to MBIs within low socio-economic settings, to determine the extend and nature of research in this sector and culminating in a program theory which may be useful for the design of interventions going forward.

Methods: We selected realist review as the methodology as it is well suited to investigating the complex nature of social interventions. The value of realist review is that the exploration of the causal relationships between the mechanisms (M) within a specific context (C) towards particular outcomes (O) offers a deeper understanding of the intervention which may assist in more effective delivery going forward. The review follows the guidelines presented by the Realist and Meta-narrative Evidence Synthesis – Evolving Standards project.

Results: Of the 112 documents identified, 12 articles met the inclusion criteria. Of these 12 studies, 10 were conducted in the United States, with little representation across the rest of the globe. The interventions described in these articles were varied. We identified mechanisms that offered beneficial outcomes for participants across a range of contexts, with indications of how interventions might be adapted towards greater accessibility, acceptability, and feasibility within communities.

Conclusion: By reviewing the various programs in their respective contexts, we developed a program theory for implementing socio-culturally adapted MBIs in low socio-economic settings. In the future, this program theory could be tested as a means to create a sense of wellbeing for people living in low socio-economic settings.

Massage, myotherapy and other bodywork

***Klaus M, Kutschan S, Männle H.* et al.** Reflexology in oncological treatment – a systematic review. BMC Complement Med Ther. 2024; 24, 32. https://doi.org/10.1186/s12906-023-04220-4

Background: As cancer and its therapy comes with a wide range of negative effects, people look for options to mitigate these effects. Reflexology is among the options of complementary medicine.

Method: In March 2022 a systematic search was conducted searching five electronic databases (Embase, Cochrane, PsychInfo, CINAHL and Medline) to find studies concerning the use, effectiveness and potential harm of reflexology on cancer patients.

Results: From all 821 search results, 29 publications concerning 26 studies with 2465 patients were included in this systematic review. The patients treated with reflexology were mainly diagnosed with breast, lung, gastrointestinal and hematological cancer. Outcomes were mainly pain, quality of life, anxiety, depression, fatigue. The studies had moderate to low quality and reported heterogeneous results: Some studies reported significant improvements in above mentioned outcomes while other studies did not find any changes concerning these endpoints.

Conclusion: Due to the very heterogeneous results and methodical limitations of the included studies, a clear statement regarding the effectiveness of reflexology on cancer patients is not possible. The current evidence indicates that reflexology is superior to passive control groups for pain, quality of life and fatigue, however, more studies with comparable active control groups are needed.

***Simon A, Nizard JJ, Chevalier P.* et al.** Impact of the practice of touch-massage® by a nurse on the anxiety of patients with hematological disorders hospitalized in a sterile environment, a randomized, controlled study. BMC Complement Med Ther. 2024; 24, 1. https://doi.org/10.1186/s12906-023-04302-3

Context: In addition to curative care, supportive care is beneficial in managing the anxiety symptoms common in patients in sterile hematology unit. We hypothesize that personal massage can help the patient, particularly in this isolated setting where physical contact is extremely limited. The main objective of this study was to show that anxiety could be reduced after a touch-massage® performed by a nurse trained in this therapy.

Methods: A single-center, randomized, unblinded controlled study in the sterile hematology unit of a French university hospital, validated by an ethics committee. The patients, aged between 18 and 65 years old, and suffering from a serious and progressive hematological pathology, were hospitalized in sterile hematology unit for a minimum of three weeks, patients were randomized into either a group receiving 15-minute touch-massage® sessions or a control group receiving an equivalent amount of quiet time once a week for three weeks. In the treated group, anxiety was assessed before and after each touch-massage® session, using the State-Trait Anxiety Inventory questionnaire with subscale state (STAI-State). In the control group, anxiety was assessed before and after a 15-minute quiet period. For each patient, the difference in the STAI-State score before and after each session (or period) was calculated, the primary endpoint was based on the average of these three differences. Each patient completed the Rosenberg Self-Esteem Questionnaire before the first session and after the last session.

Results: Sixty-two patients were randomized. Touch-massage® significantly decreased patient anxiety: a mean decrease in STAI-State scale score of 10.6 [7.65–13.54] was obtained for the massage group ($p \leq 0.001$) compared with the control group. The improvement in self-esteem score was not significant.

Conclusion: This study provides convincing evidence for integrating touch-massage® in the treatment of patients in sterile hematology unit.

Naturopathy

***Chakrovorty A, Bhattacharjee B, Saxena A, Samadder A, Nandi S.* Current Naturopathy to Combat Alzheimer's Disease.** Curr Neuropharmacol. 2023; 21(4): 808–841. doi: 10.2174/1570159X20666220927121022

Neurodegeneration is the progressive loss of structure or function of neurons, which may ultimately involve cell death. The most common neurodegenerative disorder in the brain happens with Alzheimer's disease (AD), the most common cause of dementia. It ultimately leads to neuronal death, thereby impairing the normal functionality of the central or peripheral nervous system. The onset and prevalence of AD involve heterogeneous etiology, either in terms of genetic predisposition, neuro-metabolomic malfunctioning, or lifestyle. The worldwide relevancies are estimated to be over 45 million people. The rapid increase in AD has led to a concomitant increase in the research work directed towards discovering a lucrative cure for AD. The neuropathology of AD comprises the deficiency in the availability of neurotransmitters and important neurotrophic factors in the brain, extracellular beta-amyloid plaque depositions, and intracellular neurofibrillary tangles of hyperphosphorylated tau protein. Current pharmaceutical interventions utilizing synthetic drugs have manifested resistance and toxicity problems. This has led to the quest for new pharmacotherapeutic candidates naturally prevalent in phytochemicals. This review aims to provide an elaborative description of promising Phyto component entities having activities against various potential AD targets. Therefore, naturopathy may combine with synthetic chemotherapeutics to longer the survival of the patients.

***Leach M, Veziari Y.* Evidence J.** Leach*, Veziari Y. Complementary Therapies in Clinical Practice. 2023; 52, 101777. https://doi.org/10.1016/j.ctcp.2023.101777

Background and Purpose: Evidence implementation refers to the application of appropriate enabling strategies to improve clinician engagement with the best

available evidence. To date, little attention has been paid to evidence implementation in disciplines such as naturopathy. This study addresses this knowledge gap by examining the determinants of evidence implementation in Australian naturopathic practice.

Materials and methods: This cross-sectional study was open to all Australian naturopaths who had internet access and were fluent in the English language. Participants were invited to complete the 84-item Evidence-Based practice Attitude and utilization Survey (EBASE) online between March and July 2020.

Results: The survey was completed in full by 174 naturopaths (87.4% female; 31.6% aged 40–59 years). While participant attitudes were predominantly favourable of evidence implementation, engagement in evidence implementation activities was reported at a low to moderate level. Factors impacting participant engagement in such activities included a lack of clinical evidence in naturopathy, lack of time, and a moderate to moderately- high level of self-reported skill in evidence implementation. Enablers of evidence implementation were access to the internet, free online databases, full-text journal articles, and online education materials.

Conclusion: This study has provided valuable insights into the level of, and factors impacting evidence implementation among Australian naturopaths. Attitude did not pose a major barrier to evidence implementation; rather, the barriers were largely structural and cognitive. This suggests that the obstacles to evidence implementation in naturopathy are most likely surmountable with the right means and concerted effort.

Maunder A, Arentz S, Armour M, Costello MF, Ee C. **Effectiveness of adjunct naturopathy for improved pregnancy rates in women with diminished ovarian reserve: feasibility of a randomised controlled trial.** Reproductive BioMedicine Online. doi: https://doi.org/10.1016/j.rbmo.2024.103844

Research question: Is it feasible to conduct a randomized control trial (RCT) to assess the effectiveness of whole-system naturopathy in improving pregnancy rates among women with diminished ovarian reserve (DOR)?

Design: We conducted a two-arm, parallel group, assessor-blinded feasibility RCT. Australian women with DOR who were trying to conceive (either naturally or with medically assisted reproductive treatments were randomly assigned to naturopathy plus usual care or usual care alone for 16 weeks). Primary outcomes were feasibility (recruitment, adherence, retention rates), acceptability and safety. Secondary outcomes included ongoing pregnancy rates, live birth rates and health-related outcomes (mental health, quality of life, diet, exercise, sleep, weight). Statistical significance of the differences between the two groups (pvalues) were exploratory.

Results: One hundred and fifteen women completed the screening survey between March and November 2022. Of these, 66 women were assessed for eligibility and 41 (62%) consented. Recruitment resulted in seven enrolments each month. All 41 participants (100%) adhered to the intervention, 38 (93%) completed endpoint questionnaires, 32 (78%) found study participation to be acceptable and 18/21 (86%) from the intervention group would recommend a naturopathic intervention to other women with DOR. The naturopathic treatment was associated with only mild and temporary adverse events. There was no between group differences for pregnancy and live birth rates.

Conclusion: The evaluation of whole-system naturopathy through a RCT was feasible and the treatment was acceptable and well-tolerated according to women with DOR. Outcomes from this study will help inform sample size calculations powered for fertility outcomes for future RCTs on this topic.

Nutrition

Shah A, Wondisford FE. **Gluconeogenesis flux in metabolic disease.** Annual Review of Nutrition. 2023; 43, 153-177. https://doi.org/10.1146/annurev-nutr-061121-091507

Gluconeogenesis is a critical biosynthetic process that helps maintain whole-body glucose homeostasis and becomes altered in certain medical diseases. We review gluconeogenic flux in various medical diseases, including common metabolic disorders, hormonal imbalances, specific inborn genetic errors, and cancer. We discuss how the altered gluconeogenic activity contributes to disease pathogenesis using data from experiments using isotopic tracer and spectroscopy methodologies. These in vitro, animal, and human studies provide insights into the changes in circulating levels of available gluconeogenesis substrates and the efficiency of converting those substrates to glucose by gluconeogenic organs. We highlight ongoing knowledge gaps, discuss emerging research areas, and suggest future investigations. A better understanding of altered gluconeogenesis flux may ultimately identify novel and targeted treatment strategies for such diseases.

Bailey RL, Jun S, Cowan AE, Eicher-Miller HA, Gahche JJ, Dwyer JT, Hartman TJ, Mitchell DC, Seguin-Fowler RA, Carroll RJ, Tooze JA. **Major Gaps in Understanding Dietary Supplement Use in Health and Disease.** Ann Rev Nut. 2023; 43, 179–197. doi: 10.1146/annurev-nutr-011923-020327.

Precise dietary assessment is critical for accurate exposure classification in nutritional research, typically aimed at understanding how diet relates to health. Dietary supplement (DS) use is widespread and represents a considerable source of nutrients. However, few studies have compared the best methods to measure DSs. Our literature review on the relative validity and reproducibility of DS instruments in the United States [e.g., product inventories, questionnaires, and 24-h dietary recalls (24HR)] identified five studies that examined validity (n = 5) and/or reproducibility (n = 4). No gold standard reference method exists for validating DS use; thus, each study's investigators chose the reference instrument used to measure validity. Self-administered questionnaires agreed well with 24HR and inventory methods when comparing the prevalence of commonly used DSs. The inventory method captured nutrient amounts more accurately than the other methods. Reproducibility (over 3 months

to 2.4 years) of prevalence of use estimates on the questionnaires was acceptable for common DSs. Given the limited body of research on measurement error in DS assessment, only tentative conclusions on these DS instruments can be drawn at present. Further research is critical to advancing knowledge in DS assessment for monitoring purposes.

Cerdó T, Nieto-Ruíz A, García-Santos JA, Rodríguez-Pöhnlein A, García-Ricobaraza M, Suárez A, Bermúdez MG, Campoy C. **Current knowledge about the impact of maternal and infant nutrition on the development of the microbiota-gut-brain axis.** Ann Rev Nut. 2023; 43, 251–278. doi: 10.1146/annurev-nutr-061021-025355

The prenatal and early postnatal periods are stages during which dynamic changes and the development of the brain and gut microbiota occur, and nutrition is one of the most important modifiable factors that influences this process. Given the bidirectional cross talk between the gut microbiota and the brain through the microbiota–gut–brain axis (MGBA), there is growing interest in evaluating the potential effects of nutritional interventions administered during these critical developmental windows on gut microbiota composition and function and their association with neurodevelopmental outcomes. We review recent preclinical and clinical evidence from animal studies and infant/child populations. Although further research is needed, growing evidence suggests that different functional nutrients affect the establishment and development of the microbiota–gut–brain axis and could have preventive and therapeutic use in the treatment of neuropsychiatric disorders. Therefore, more in-depth knowledge regarding the effect of nutrition on the MGBA during critical developmental windows may enable the prevention of later neurocognitive and behavioral disorders and allow the establishment of individualized nutrition-based programs that can be used from the prenatal to the early and middle stages of life.

Ekawidyani KR, Abdullah M. **Diet, nutrition and intestinal permeability: A mini review.** Asia Pacific Journal of Clinical Nutrition. 2023; 32(1), 8-12.

Background and Objectives: Intestinal permeability (IP) is known to contribute to the immune system activation and inflammation; thus, it is proposed to have a role in the pathogenesis and exacerbation of many chronic diseases. Several studies have indicated that diet and nutritional status are risk factors for increased IP. In this mini review, we discussed the recent evidence on the association of diet, nutritional status, and intestinal permeability assessed by zonulin concentrations in serum and feces.

Methods and Study Design: Literature searching was conducted in Pubmed, ProQuest and Google Scholar using the keywords "diet quality", "intestinal permeability", "nutritional status", and "zonulin" combined with Boolean operators "AND" and "OR".

Results: Some studies indicated that intake of proper nutrition and good diet such as low total calorie intake, high intakes of omega-3 polyunsaturated fatty acids, fiber, vitamins, minerals, probiotics, and polyphenol-rich diet have significant impact on improvement of intestinal permeability marked by lower zonulin concentrations. Higher zonulin concentrations are found in those with overweight and obesity indicating that these population have increased IP. Most studies were conducted in adults and there are limited studies in children and adolescents. In addition, no studies have assessed diet quality to obtain a comprehensive picture on the complexities of diet in the population in relation to intestinal permeability.

Conclusions: Diet and nutritional status are linked to zonulin concentrations, indicating a role in intestinal permeability. Further research should be conducted to investigate the relationship between diet quality, as measured by appropriate diet quality indices, and intestinal permeability in children, adolescents, and adults.

Lanou AJ, Mast AC, Hill BD, Kim S-S, Hanaway P. **A randomized, placebo-controlled clinical trial of a novel dietary supplement on standardized CNS vital signs cognitive performance parameters.** J. Complement. Integr. 2023; 29(5): 303-312.

Objective: To test the effectiveness of a novel dietary supplement as a support for cognitive function in healthy younger and older adults.

Design: A double-blind, randomized, placebo-controlled trial of the dietary supplement, Braini ® in two age cohorts with 60 participants: 31 healthy younger adults (18-30 years) and 29 healthy older adults (55-80 years).

Intervention: A 28-day intervention of a dietary supplement (active or placebo) taken daily with cognitive assessment using CNS Vital Signs computer-based testing at day 0 and 28. Participants were asked to fill out a daily survey regarding compliance with supplement protocol, changes in health, adherence to the protocol, and reported side effects. CNS Vital Signs provides aged normed aggregated outcome measures for Processing Speed, Psychomotor Speed, Reaction Time, Cognitive Flexibility, Executive Function, and Motor Speed.

Results: Significant improvements in performance were found for two CNS Vital Signs domains, Cognitive Flexibility ($p = 0.048$), and Executive Function ($p = 0.025$) in the treated younger adults ($n = 12$) compared with the placebo group ($n = 19$) at day 28 compared with baseline. The Shifting Attention Test Reaction Time (SAT-RT), a measure of shifting attention correct response reaction time, showed significant improvement at 28 days in those taking Braini in both younger ($p = 0.004$) and older adult cohorts ($p = 0.05$) with an average improvement over the control subjects of 44%. No serious side effects were reported.

Conclusions: The dietary formulation, Braini, safely and significantly improved cognitive flexibility and executive function in younger adults and trended positively in older adults in this study that was stopped prematurely due to pandemic restrictions. Scores on SAT-RT significantly improved in both younger and older adults. Further studies are needed to confirm that Braini reliably improves cognitive function in additional CNS domains in healthy adults.

HEALTH FUND UPDATE

Health Fund	Acupuncture	Chinese Herbal Medicine	Counselling	Hypnotherapy	Nutrition	Remedial Massage (HLT Diploma or higher level qualification)	Remedial Therapies (No longer ATMS Accredited)	Traditional Chinese Remedial Massage (HLT Diploma or higher level qualification)
Australian Health Management	✓	✓			✓	✓		
Australian Regional Health Group								
ACA Health Benefits Fund	✓					✓	◆	
Defence Health	✓					✓	◆	
GMHBA *(Geelong Medical)*	✓					✓	◆	
Frank Health Fund	✓					✓	◆	
Health Care Insurance Limited	✓	✓				✓	◆	
HBF	✓	✓		✓	✓	✓	◆	
Health Partners		✓			✓	✓		
HIF *(Health Insurance Fund of WA)*	✓	✓				✓	◆	
Hunter Health *(previously known as Cessnolck DHBF)*	✓					✓	◆	
Latrobe Health Services	✓					✓	◆	
MDHF (Mildura District Hospital Fund)	✓				✓	✓		
AIA Health *(previously known as MyOwn Health)*	✓					✓	◆	
Navy Health Fund	✓	✓				✓	◆	
Nurses & Midwives Health	✓	✓				✓		
Onemedifund	✓	✓				✓	◆	
Peoplecare Health Insurance	✓	✓				✓	◆	
Phoenix Health Fund	✓				✓	✓	◆	
Police Health Fund (including Emergency Services)	✓	✓				✓	◆	
Queensland Country Health	✓	✓			✓	✓		
Reserve Bank Health Society	✓	✓				✓	◆	
St Lukes	✓					✓	◆	
see-u by HBF (previously known as CUA)	✓	✓			✓	✓	◆	
Teachers Health	✓	✓				✓	◆	
Teachers Union Health	✓					✓	◆	
Transport Health	✓	✓				✓	◆	
Westfund	✓	✓			✓	✓	◆	
Australian Unity	✓	✓		✓	✓	✓		
BUPA	✓	✓				✓		✓
CBHS Health Fund	✓	✓				✓		✓
Doctors Health Fund						✓		
HCF (inc Railway and Transport Health)	✓	✓				✓		
Medibank Private	✓	✓	✓	✓	✓	✓		✓
NIB	✓	✓			✓	✓		

✓ *Therapy covered by Fund*

Please note that this table is only a guide to show what funds cover ATMS accredited modalities. If the modality that you are accredited for is not listed, this means that no health fund covers the modality. The only exceptions are Chiropractic and Osteopathy. ATMS accreditation in a modality does not guarantee provider status as all funds have their individual set of strict eligibility requirements. Please see our website www.atms.com.au or contact our office for current requirements. Rebates do not usually cover medicines, only face to face consultations. For further rebate terms and conditions, patients should contact their health fund. Policies may change without prior notice.

◆ ARHG are only recognising Remedial Therapists who are accredited for this modality and were approved for ARHG Provider status under their old criteria.

● ARHG are recognising Chinese Massage, however the eligibility requirements and provider number is exactly the same as Remedial Massage. See ARHG Health Fund Information for further information.

HEALTH FUND NEWS

PROVIDER TERMS AND CONDITIONS ARE LOCATED ON THE ATMS WEBSITE UNDER THE HEALTH FUNDS TAB.

The Four Pillars to remain current with Health Fund Registration

1. Maintain ATMS Membership
2. Maintain current First Aid
3. Maintain current Professional Indemnity Insurance (Chinese Medicine practitioners require a minimum of $5 million and Remedial Massage practitioners require a minimum of $2 million)
4. CPE (continuing professional education) (ATMS accepts completed CPE that enhances clinical practice however Health Funds require CPE to be modality specific)

Acupuncture and Chinese Herbal Medicine practitioners must hold current AHPRA registration

Working With Children

Practitioners working with under 18's MUST hold a current WWC (Working With Children Check) in their practising state. Please send ATMS a copy to **info@atms.com.au**

Additionally to holding a current WWC, ATMS require that the parent of the child or guardian MUST be present during the consultation.

Current renewal certification is essential

Please forward all renewals ASAP to prevent disruption of your health fund provider registration: renewals of your insurance, first aid, AHPRA registration and WWC to **info@atms.com.au** as ATMS must hold a current copy at all times for health fund compliance.

*Lapsed membership, insurance or first aid, or non-compliance with CPE, will result in a member being removed from the health funds list. As health funds change their provider eligibility requirements at any given time, upgrading qualifications may be necessary to be re-instated with some health funds.

Clinical Records

Please note that whilst there is no law or regulation requiring patient clinical notes to be taken in English, many of the major health funds do require patient clinical notes to be taken in English. **Failure to do this will be a breach of the Health Funds Terms and Conditions and may result in the practitioner being removed as a provider for that health fund.**

Receipting Information

- Medibank/AHM do not accept handwritten receipts (As of April 2021), they must be electronic.
- Sample receipt can be found on our website in the Health Fund tab
- Receipts must be numbered.
- Only one modality per day can be claimed by a client.

Treating Family, Partners and Business Partners of the Clinic

Health Funds do not permit the payment of benefits if the treated member is a partner, dependent, parent, sibling, or business partner of the servicing provider.

By definition, a provider can only perform one initial consultation with a member. Initial consultations attract a higher benefit than a subsequent consult. Only one 'initial consult' is allowed for any patient per condition.

Health Fund Clinic address requirements

It is **MANDATORY** that you provide the full clinic address with the street number, street name, suburb, state, and post code, phone number and email address. No PO Boxes acceptable. All updates are forwarded to the health funds by ATMS.

***Note Medibank have a limit of 3 clinic addresses for Remedial Massage practitioners and Bupa have a limit of 4 clinic addresses regardless of the modality.**

Sharing provider numbers is fraud and against the law

An Accredited member must never allow anyone to use their provider details, as this constitutes health fund fraud. Health fund fraud is a criminal offence which may involve a police investigation and expulsion from the ATMS Register of Members.

No health funds rebate on mobile services

Mobile Services are services at Hotels, Markets, Retreats or Corporate.

Home visits

Health Funds that do accept home visit services for rebates are: Aust Unity, CBHS, GU Health and NIB. Home Visit must be Stamped or pre-printed on the receipt.

Gift vouchers

Most Health Funds do not accept Gift Vouchers as the person receiving the treatment did not pay for the service. It is up to the Health Fund should they recognise it.

Being a provider implies acceptance of the terms and conditions for the health funds

It is of note that the health funds require practitioners to be in private practice. Some health funds will not recognise claims where accommodation, facilities or services are provided or subsidised by another party such as a public hospital or publicly funded facility. Rebates are only claimable for the face-to-face consultation (not the medicines or remedies); however, this does not extend to mobile work including markets, corporate or hotels.

Online or phone consultations are not recognised for health fund rebates

Please be aware that whilst a health fund may indicate that they provide a rebate for specific modalities, this rebate may only be claimable if the client has the appropriate level of health cover with that fund and has not exceeded any limits on how much they are eligible to claim back over a certain period of time.

Acupuncture & Chinese Herbal Medicine overseas qualification (health funds do not accept any other modality completed overseas)

Health Funds do accept overseas Acupuncture and Chinese Herbal Medicine qualifications. The below documents are required:

- VETASSES letter stating the qualification is equivalent/comparable to the Australian BA Health Science TCM/Acupuncture
- Genuine Letter this states that the qualification is a genuine qualification
- IELTS Overall Band Level 7 in English Competency (Bupa only)

Specific requirements for individual health funds

Australian Health Management (AHM)

Names and details of eligible ATMS members will be sent to AHM. Provider numbers will be populated in the ATMS member portal.

HBF– Hypnotherapy

Names and details of eligible ATMS members will be sent for this modality each month.

Australian Unity

Names and details of eligible ATMS members will be sent to Australian Unity. ATMS members will need to contact Australian Unity initially on 1800 035 360 to register as a provider and to receive provider numbers.

BUPA

Names and details of eligible ATMS members will be sent to BUPA. Provider numbers will be populated in the ATMS member portal.

CBHS Health Fund Limited

Names and details of eligible ATMS members will be sent to CBHS. Use your ATMS member number as your provider number e.g., ATMS23345.

Doctors Health Fund

Names and details of eligible ATMS members will be sent to Doctors Health Fund. Use your ATMS member number as your provider number for e.g., ATMS23345. Please note that Doctors Health Fund only covers Remedial Massage.

HCF

Names and details of eligible ATMS members will be sent to HCF. Use your ATMS member number as your provider number e.g., ATMS23345.

Medibank Private

Names and details of eligible ATMS members will be sent to Medibank Private. Provider numbers will be populated in the member portal as well as emailed directly to the practitioner as an attached letter. This letter is required for HICAPS Registration.

NIB including APIA, AAMI Health Insurance, Qantas Health Insurance & GU Health

Names and details of eligible ATMS members will be sent to NIB. Use your ATMS member number as your provider number e.g ATMS23345 except for GU Health. Members are required to contact GU Health directly on 1800 249 966 to register as a provider and to receive a provider number.

Australian Regional Health Group (ARHG) Refer to Health Funds Table for the individual funds listed under ARHG.

Details of eligible members are sent to ARHG.

The ARHG provider number is based on your ATMS number with additional lettering. To work out your ARHG provider number please follow these steps:

1 Add the letters AT to the front of your ATMS member number

2 If your ATMS number has five digits go to step 3. If it has two, three or four digits, you need to add enough zeros to the front to make it a five-digit number (e.g., 123 becomes 00123).

3 Add the letter that corresponds to your accredited modality at the end of the provider number;

A Acupuncture
C Chinese Herbal Medicine
U Nutrition
Y Myotherapy
R Remedial Massage
M Massage Therapy

For e.g., If your ATMS member number is 123 and accredited for Acupuncture, the ARHG provider number will be AT00123A.

▼ Special condition applies for Remedial Massage for the below funds under ARHG:

- Defence Health▼
- GMHBA ▼ (Including Frank Health Fund)
- HBF (Including GMF Health) ▼
- AIA Health ▼

ARHG -Chinese Massage

ARHG do not recognise Chinese Massage. They categorise it as Remedial Massage. For members that hold a Govt Accredited HLT Diploma of Chinese Remedial Massage HLT50102, HLT50107 or HLT50112 are required to use the 'R' status.

Most Funds recognise the 'R' status however there is a couple that prefer the M status, refer to the health funds table.

HICAPS

ATMS members who wish to activate these facilities need to register directly with HICAPS. HICAPS do not cover all health funds and modalities. Please go to **www.hicaps.com.au** or call 1800 805 780 for further information.

Herbal farming and manufacturing update

by Warren Morey | Herbalist and Manager of the Pharmaceutical Plant Company

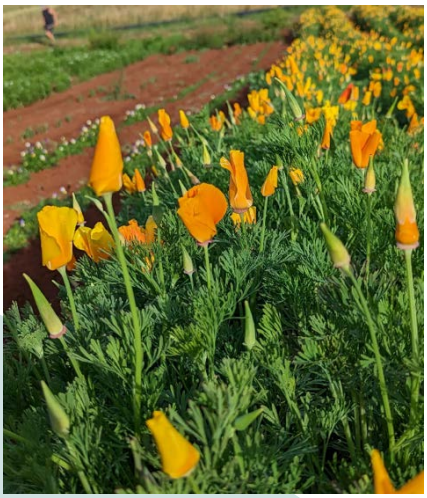
PPC Herbs has never been busier. Summer sees us working hard on processing many fresh Fruits, largely headed to the beverage market. Today sees the arrival of our annual delivery of fresh Green Hulls of Black Walnut. Our supplier has been coming down from Northeast Victoria for over 30 Years. The Hulls are an excellent Antiparasitic and a key ingredient of our Triplex remedy.

The Percolator room never stops. Lots of Withania, Siberian Ginseng and St Marys Thistle are being processed. Herbs used in topicals are also moving well, namely Calendula, Gotu Kola and Arnica.

To keep our content relevant to you, we would welcome any questions you have about herbal manufacturing, you will find my details below.

Farming Update by Ronald van de Winckel (Marleen Herbs)

Although Marleen Herbs expected a drier than normal season for the Spring and Summer, the season provided nice, regular rain. Unfortunately, there was one extreme rain event in early November that caused young plants of Wormwood, Primrose, and emerging seedlings of Astragalus and Withania, to be covered with our red soil. By November it was clear that this had adversely impacted a number of our new season crops. What looked like a good start to the season turned into one of the worst for these crops since we started here in 2010. A freak weather event at a crucial moment can have far reaching consequences. It also emphasizes how fragile supply of good quality botanicals can be.



We finally started with what we call "the Flower Power project" construction of a building to house a little café/tearoom with also space for herb workshops/ education and a shop selling herb products made on the farm. We are not in a hurry; it will take at least another 12 months to be completed.

In the meantime, our Hipcamp site is getting busier with visitors enjoying the relaxing view of herb fields. Visitors traveling around Tasmania can find the site at **www.hipcamp.com/en-AU/land/tasmania-marleen-herbs-of-tasmania-dw9h6qmj?adults=1&children=0**

Since establishing this farm, we planted many shelterbelts and little plantations, essential for healthy growth of medicinal plants. This unfortunately also gives shelter to feral deer and caused a big problem in growing Dandelion, Parsley, or other palatable herbs. Deer are posing an increasing problem in Tasmania. With control measures now in place, it looks like we are finally on top of the issue this year and will be able to get back to growing Dandelion for medicinal use, instead of for the local wildlife.

If you have further questions, please email ***warren.morey@ppcherbs.com.au***

This advertisement is available only to ATMS Accredited Members in accordance with the Therapeutic Goods Advertising Code.

Sydney Institute of Traditional Chinese Medicine Graduation Ceremony 2023

By Yifan Yang | Sydney Institute of Traditional Chinese Medicine (SITCM)

The 2023 Graduation Ceremony at the Sydney Institute of Traditional Chinese Medicine (SITCM) was a vibrant affair, recently celebrated in Sydney. Over 200 attendees, including faculty, students, staff, graduates, parents, and friends, graced the event with their presence. The air was filled with jubilation as participants mingled, sharing in the collective joy of the occasion. Excitement brimmed as graduates donned their caps and gowns, eagerly capturing cherished moments with teachers, family, and friends through photographs.

The CEO of SITCM delivered an inspiring address, extending heartfelt congratulations to the new graduates as they embark on their journey as registered TCM practitioners, poised to serve their communities with acupuncture and Chinese herbal medicine. The student representative expressed gratitude to SITCM for its exceptional training.

After four years of dedicated study and rigorous clinical practice, these graduates have earned their bachelor's degrees with confidence in their skills and practical licensure, enriching Australian society with accessible healthcare options. Their expertise in TCM and acupuncture establishes a solid foundation for high-quality healthcare services.

An esteemed alumnus, who graduated two years prior, shared his career journey, now successfully practicing in two clinics and treating nearly 50 patients weekly. He commended the practical and effective knowledge and skills acquired at SITCM. The college recognized outstanding students with gold, silver, and bronze awards, honouring exemplary character and academic performance. Additionally, outstanding teacher awards were presented, accompanied by certificates, bonuses, and prizes.

The faculty, staff, and students showcased an array of captivating programs during the ceremony, fostering an atmosphere brimming with joy and warmth.

The Sydney Institute of Traditional Chinese Medicine (SITCM) was founded in 1984. In 2011, it achieved accreditation and approval from the Australian Higher Education Agency as a higher education institution offering a comprehensive 4-year bachelor's degree program in Chinese medicine and acupuncture. Delivering Chinese medicine education in English, SITCM proudly holds membership in both the Australian Higher Education Agency and the Chinese Medicine Board of Australia (CMBA). Remarkably, Australia stands as the pioneering Western nation to enact nationwide legislation for the registration of Traditional Chinese Medicine.

Upon completion of the program, graduates are eligible to obtain three licenses: Chinese medicine practitioner, acupuncturist, and Chinese medicine dispenser. The bachelor's degree diploma and credentials conferred by SITCM enjoy recognition across numerous countries worldwide, reflecting its esteemed reputation on an international scale.

The 2024 enrolment cycle at our college has concluded, with the next intake scheduled for July 2024. Individuals interested in exploring this exciting field are encouraged to reach out to the school directly or visit in person for consultation. Our campus is located at 25-29 Dixon St, Haymarket, NSW 2000, Sydney. For inquiries, please contact us at 02 92121968 or via email at **administration@sitcm.edu.au.** Additional information is available on our website at **www.sitcm.edu.au.**

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Australian School of Remedial Therapies

admin@asrt.edu.au |www.asrt.edu.au | 02 9763 2388 | 0416 286 899

Established in Sydney in 1990 and founded and directed by Master Zhang Hao (B. ED, Dip. TCM, RM.) the Australian School of Remedial Therapies offers nationally accredited vocational education training qualifications in Diploma of Remedial Massage and Diploma of (TCM) Remedial Massage.

The school also regularly delivers the short CPE skill update workshops throughout the year which are specifically designed for professional massage therapists and health care workers.

If you like a caring, practical, fun and personalised training tradition and environment then try us!

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BioMedica is an Australian owned company dedicated to the research, development and production of high quality, low excipient and efficacious practitioner formulations. Our products are developed by practitioners for practitioners. As a 'Strictly Practitioner Only' company, BioMedica is strongly dedicated to preserving and enhancing the role of the holistic practitioner.

Our products are only sold to practitioners in a clinical setting, this has been our long standing policy since our inception in 1998, and remains firmly in place to this day.

We also aim to provide highly relevant technical education materials and seminars, with practical research and insights that can be immediately integrated into clinical practice.

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Cathay Herbal

orders@cathayherbal.com | www.cathayherbal.com | 1800 622 042

Established in 1986, Cathay Herbal is a company that is run by practitioners who constantly work to ensure they understand and meet the needs of you, the practitioner. All products sold by Cathay Herbal undergo rigorous development and investigation before being offered as part of their range. With one of the largest ranges of Chinese Classical formulas outside of China, they don't just stock the popular ones. Cathay's range is large and comprehensive. As well as the classical Black Pill range they also have many formulas available in tablet and capsules and a range of herbal granules, liquids and plasters.

Core Body Therapy

info@corebodytherapy.com.au | www.corebodytherapy.com.au | 0405 386 256

Core Body Therapy was developed in 2003 by Chris O'Brien, one of the most respected Myofascial Release Therapists and Teachers in the industry. A complete system of bodywork not offered in any other institution, our hands-on CPE courses will take your therapeutic bodywork deeper than traditional injury therapy moving beyond your initial training.

Core Body Therapy recognises the need for small groups to give the highest quality training possible. We make sure you get plenty of one on one time for optimum learning. Our courses are geared towards dedicated, results oriented therapists seeking to further their practice.

Flordis Integrative Medicine

www.flordis.com.au/health-professionals/ | 1800 334 224

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Hair Tissue Mineral Analysis

lab@interclinical.com.au | **www.interclinical.com.au** | 02 9693 2888

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Helio Supply Co

tcm@heliosupply.com.au | **www.heliosupply.com.au** | 02 9698 5555

Helio Supply Co is a wholesaler of Acupuncture and TCM supplies. We distribute both nationally and internationally and we pride ourselves on our service to customers. Established in 2000, we are committed to providing educational opportunities, a practitioner support line and sourcing the best domestic and international equipment and materials.

Herbs of Gold Pty Ltd

info@herbsofgold.com.au | **www.herbsofgold.com.au** | 02 9545 2633

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hesta@hesta.com.au | **hesta.com.au** | 1800 813 327

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InterClinical Professional

lab@interclinical.com.au | **www.interclinical.com.au** | 02 9693 2888

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Mental Health Training

futuretraining4u@gmail.com | **www.futuretraining4u.com.au** | 0488 171 500

Australia-wide fully accredited training in Mental Health First Aid. Face to Face or Online. Highly relevant, evidence-based, and practical training. Gain CPE recognition by negotiation with your association. Learn how to identify and approach people who are experiencing mental health issues and crises. Build your confidence to have the conversations to support clients, colleagues, family, and friends to possibly save a life. Topics covered include an understanding of depression, anxiety, panic attacks, psychosis, substance abuse and suicide. Contact us today. Courses held regularly.

Metagenics

www.metagenics.com.au | 1800 777 648

Metagenics has been providing Natural Medicines for over 30 years and is the number one supplier of quality Natural Medicines in Australia and New Zealand. We are committed to providing the best education and services, and ensuring we deliver products of high quality and efficacy, helping natural healthcare professionals achieve the best outcomes. We are dedicated to helping people live happier, healthier lives, and believe a personalised and holistic approach is fundamental to addressing the drivers of dysfunction and disease. At Metagenics, we believe that understanding the underlying cause to disease is key in achieving optimal health.

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Terra Rosa

terrarosa@gmail.com | **www.terrarosa.com.au** | 0402 059 570

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Where nature, science and health come together. PPC offers healthcare professionals a choice of either traditionally made herbal extracts from dried plant materials; or fresh plant tinctures that are all grown in Tasmania and processed within hours of harvest. PPC uses Organically certified herb where possible, with the entire Fresh Plant Tincture range being Australian Certified Organic. The Pharmaceutical Plant Company has 25 years experience in manufacturing and distributing traditional herbal extracts, fresh plant tinctures and listed medicines in Australia.

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Australian Traditional-Medicine Society
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Natural Medicine Week™

20 – 26 May 2024

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FIVE THINGS PRACTITIONERS CAN DO FOR NATURAL MEDICINE WEEK:

1

Host a digital event, herbal morning tea, healthy breakfast or a demonstration at your clinic.

2

Get social – share your top health tips, tell your audience more about your therapy and hashtag #naturalmedicineweek on social media to join the conversation.

3

Write an article – promote yourself and your practitioner knowledge on our Natural Medicine Week blog.

4

Send us a recipe – if you've got a tasty, healthy recipe then send it over with original pictures and we can add it to the website.

5

Download the promotional materials – there will be lots of digital graphics, posters and flyers on the website that you can use to market to your clients.

Don't forget to tag ATMS on Instagram @naturalmedicineau and use #naturalmedicineweek so we can repost and promote your clinic.

/atmsnatmed @naturalmedicineau Australian-Traditional-Medicine-Society

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- 30 years of experience
- Using certified organic herbs where possible

130 HERBS

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500mL / 5L

The perfect practice partner

PPC offers healthcare professionals a choice of either traditionally made herbal extracts from dried botanical materials or fresh plant tinctures that are all grown in Tasmania and processed within hours of harvest.

The Pharmaceutical Plant Company has **25 years experience** in manufacturing and distributing traditional herbal extracts, fresh plant tinctures and listed medicines in Australia.

For more information about our herbal extracts or herbal medicines visit www.ppcherbs.com.au or contact us at sales@ppcherbs.com.au

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