

A Cross-Sectional Study of Traditional Chinese Medicine Practitioner's Knowledge, Treatment Strategies and Integration of Practice of Chronic Pelvic Pain in Women

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Abstract

Background Chronic pelvic pain (CPP) in women is persistent, intermittent cyclical and non-cyclical lower abdominal pain, lasting for more than 6 months. Traditional Chinese Medicine (TCM) is a popular treatment option for women's health conditions, but little is known about how treatment for CPP is delivered by TCM practitioners. The aim of this survey was to explore practitioners understanding and treatment of women with CPP, and how they integrate their management and care into the health care system.

Method An online cross-sectional survey of registered TCM practitioners in Australia and New Zealand. Survey domains included treatment characteristics (e.g. frequency), evaluation of treatment efficacy, referral networks, and sources of information that informed clinical decision making.

Results One hundred and twenty-two registered TCM practitioners responded to this survey, 91.7% reported regular treatment of women with CPP. Treatment decisions were most-often guided by a combination of biomedical and TCM diagnosis (77.6%), and once per week was the most common treatment frequency (66.7%) for acupuncture. Meditation (63.7%) and dietary changes (57.8%) were other commonly used approaches to management.

The effectiveness of treatment was assessed using multiple approaches, most commonly pain scales, (such as the numeric rating scale) and any change in use of analgesic medications. Limitations to TCM treatment were reported by over three quarters (83.7%) of practitioners, most commonly due to cost (56.5%) and inconvenience (40.2%) rather than safety or lack of efficacy. Integration within the wider healthcare system was common with over two thirds (67.9%) receiving referrals from health care providers.

Conclusion TCM practitioners seeing women with various CPP symptoms, commonly incorporate both traditional and modern diagnostic methods to inform their treatment plan, monitor treatment progress using commonly accepted approaches and measures and often as a part of multidisciplinary healthcare for women with CPP.

Introduction

Chronic pelvic pain (CPP) in women is defined as intermittent and continuous, cyclical and non-cyclical lower abdominal pain, lasting for more than 6 months.(1, 2) It is characterised by diverse pain symptoms including dysmenorrhea, dyspareunia, dyschezia and dysuria as well as considerable fatigue and negative impacts on mental health.(3, 4) Women with CPP are often encumbered with a substantial, physical, psychological, emotional, social and economic burden.(5–8)

CPP prevalence in women worldwide ranges between 2.1–81%.(9, 10) In Australia, it is estimated to affect approximately 21.5% of reproductive aged women.(11) CPP represents 3.8% of primary care presentations,(12) and up to 10% of outpatient referrals to gynecologists.(13) Endometriosis and

vulvodynia are two of the most commonly diagnosed causes of CPP in women of reproductive age, with estimated lifetime prevalence rates for endometriosis of approximately 11% in Australia (14) and 8–16% for vulvodynia.(15, 16) CPP is associated with an increased risk of psychological morbidity(17) and significantly lowered quality of life.(5, 8). Women may be negatively impacted in several aspects of their lives including employment, friendships, sexual and romantic relationships, academic study and social activities.(5, 8) Clinical guidelines recommend specific treatments for improving women’s functional ability,(18) however many treatments have limited effectiveness for reducing pain symptoms,(19) which is often a primary unmet health care need of women with diagnosed endometriosis.(20) Women with CPP due to endometriosis often report effective pain relief following surgical excision of endometriosis however surgical excision is costly and recurrence rates of pain are high with 50% of women reporting recurrence at 5 years post-surgery.(19, 21) Between 50–75% of women with CPP report discontinuing pharmaceutical pain management due to adverse side-effects and often explore other forms of treatment including healthcare professions from outside of the dominant biomedicine system .(6, 22, 23)

Traditional, complementary and integrative medicine (TCIM) is used by 51% of women with CPP.(24, 25) Traditional Chinese Medicine (TCM) including acupuncture(25, 26) and Chinese herbal medicine(26) are popular TCIM treatments for which there is preliminary, but promising evidence of effectiveness for CPP pain reduction.(27, 28) However, despite women’s self-directed approach to care and utilisation of TCIM, referrals between medical doctors and TCM practitioners in Australia and New Zealand are often low,(29) and impeded by limited interprofessional communication.(30) Part of this may be due to the differences between health care frameworks including the holistic view of the TCM theoretical paradigm and the connected and inseparable body, mind and emotions in contrast to the more Cartesian thinking amongst biomedicine, which tends to view the body as a collection of mechanistic interactions and emphasises mind–body duality.(31) TCM practitioners have historically identified conflict between these two theoretical frameworks, with TCM being “largely incompatible” with the mechanistic framework that underpins biomedicine.(32) Therefore, it is currently unclear what role, if any, biomedical diagnosis and outcome evaluations play when TCM practitioners are treating women with CPP, and how they integrate their treatment as part of the larger, predominantly biomedical healthcare systems in Australia and New Zealand. Given the limited evidence on this topic, this study aims to explore TCM practitioner knowledge and the clinical approach to managing women with CPP within clinical practice in Australia and New Zealand.

Method

Setting

The study presents a cross-sectional survey of TCM practitioners within Australia and New Zealand. Participants were recruited through three professional associations; the Australian Acupuncture and Chinese Medicine Association (AACMA), the Federation of Chinese Medicine and Acupuncture (FCMA), and Acupuncture New Zealand. Registered members of the associations were emailed an invitation to participate between June and September 2018. Interested participants were provided with a participant

information sheet, before recruitment commenced, that outlined the anonymity of the survey and implied consent at end-submission. Reminder invitations were sent via the associations in June, August, and September in 2018. The survey was conducted via web-based QualtricsXM(33) and opened for data collection in May 2018 and closed in October 2018.

Participants

Participants were eligible for inclusion if they were registered with one of the above associations and self-identified as managing women's health in their clinical practice. Additional inclusion criteria included English language skills and access to an internet connected device to complete the survey.

Survey instrument

The survey was a self-administered questionnaire uploaded into the cloud-based survey administration platform Qualtrics XM.(33) Forty one items were designed to describe TCM practitioner's practice characteristics and their management of women with CPP (Supplementary File 1). Practice domains included practitioner's understandings and definitions of CPP, sources of clinical information, types of interventions used, treatment patterns, interdisciplinary referrals and communication, methods used to evaluate efficacy and adverse effects, and practitioner perceived barriers to care.

The first item sought information about the proportion of women attending the practice for treatment. Subsequent items sought information about the practice characteristics including characteristics of women presenting with CPP, the types and frequency of treatments for CPP and associated symptoms, practitioner perceived effectiveness, frequency of adverse effects including negative interactions with pharmaceutical treatments. Frequency of practitioner's review of treatment effects was reported on an eleven-point Likert scale ranging from every week to once per year and/or every menstrual cycle to every third menstrual cycle. Number of treatments required to reduce CPP or associated symptoms was reported on a seven-point Likert scale ranging between 1–3 treatments up to more than 20 treatments, and with two options to report 'treatment rarely reduced pain' or 'did not reduce pain'. Further items sought information about interdisciplinary referral networks and sources of information about CPP and treatment decisions. Frequency of interprofessional referrals during the previous eight weeks were reported on a four-point Likert scale ranging from zero to seven or more. Socio demographic characteristics and geographical location of practice were also sought. Multiple response options were available for most items to capture all information. The questionnaire took 15–20 minutes to complete. The stability of the questionnaire was tested for applicability and accuracy on a pilot sample of three Chinese medicine (CM) practitioners and edited twice to improve question clarity.

Ethics approval

The study was approved by the Western Sydney Human Research ethics Committee (EC00314) H12527 on the 24th of January 2018 and the Endeavour Human Research Ethics Committee (EC00358) #20180212 on the 12th of February 2018. All data collection and analysis was undertaken in compliance with Australian ethical standards (34).

Data analyses

Data were exported from Qualtrics into Microsoft Excel for data cleaning and statistical analysis. Responses from participants that did not treat women but completed the survey were removed. Binary and categorical variables were generated as per the survey questions for descriptive analysis. Descriptive statistics were reported using means and standard deviations or proportions and percentages. Responses to 'other' were reported narratively. Statistical significance was set to $p < 0.05$.

Results

TCM Practitioner socio-demographics

Two thousand four hundred and seventy-four registered practitioners were invited to complete the survey. One hundred twenty-two participants responded and reported regularly consulting with women, of which 111 practitioners (91.7%) reported they regularly treated women with CPP in their clinical practice (overall response rate 4.9%). Twenty-one (18.9%) participants reported treating a woman with CPP at least once every day they were in clinic. Most practitioners were women aged over 40 years (47.7%), in clinical practice for over 15 years (16%) and practicing 4–5 days per week (34.2%). (Table 1)

Table 1
Demographic characteristics of Traditional Chinese Medicine practitioners treating women with CPP.

n = 111	N	%
Age		
18–24 years	0	0
18–30 years	5	4.5
30–40 years	20	18.0
Over 40 years	53	47.7
No Answer	33	29.7
Gender		
Female	52	46.8
Male	25	22.5
Prefer to not disclose	1	0.9
No answer	33	29.7
Practice characteristics		
Employed with salary	6	5.4
Self-employed in own business	72	64.9
Full-time student	6	5.4
Informal practice (friends & family)	1	0.9
Not practicing at present	1	0.9
Other (teaching)	1	0.9
No answer	33	29.7
Number of days per week in clinical practice		
1 day per week	6	5.4
2–3 days per week	25	22.5
4–5 days per week	38	34.2
6–7 days per week	9	8.1
No answer	33	29.7

n = 111	N	%
Years in practice		
Less than 1 year	2	1.8
1–3 years	6	5.4
3–6 years	8	7.2
6–10 years	15	13.5
10–15 years	15	16.0
more than 15 years	52	46.8
No answer	33	29.7
Location of clinic		
Urban	52	46.8
Regional	15	13.5
Rural	0	0
No answer	44	39.6
Country of undergraduate qualification		
Australia	60	54.1
New Zealand	5	4.5
China	6	5.4
UK or US	7	6.3
No answer	33	29.7

Women’s Chronic Pelvic Pain Symptoms

Some key symptoms related to CPP, including dysmenorrhoea (64.4%) and pelvic pain related low quality of life or increased absenteeism (40.2%) were regularly treated, however some common CPP symptoms were not often treated including dyspareunia (16.3%) and dyschezia (13.2%). (Table 2, Fig. 1). All TCM practitioners reported that at least one in four women with CPP presented an abnormal menstrual pattern according to TCM principles which was defined as an imbalance between yin and yang, temperature irregularities and by stagnation or insufficient life energy or Qi. The severity of pain was mostly assessed by questions during the consultation (72%), and about two thirds (67%) of practitioners used a scale to assess presenting pain severity.

Table 2
Presenting symptoms of women with CPP (%)

Number of clients with this presenting symptom	Dyschezia/ Dysuria	Dyspareunia	Dysmenorrhoea	Absenteeism due to pain	Abnormal menstrual cycle*
All	0	0	0	0	2.2
At least 3 of 4	0	0	12.2	5.4	18.5
Over half	2.2	2.2	24.4	13	31.5
1–2 of 4	11	14.1	27.8	21.7	25
Less than 1 in 4	86.8	83.7	35.6	59.8	22.8
<p>*In TCM the menstrual cycle is determined by a range of clinical features including the regularity of menstrual periods, menstrual period duration, characteristics of the pulse and tongue and by the colour and consistency of menstrual blood to assess the yin and yang balance, temperature regulation and life-force (Qi) of individuals.</p>					

TCM practitioners reported potential pathological causes of CPP in women they saw in clinic as endometriosis (66.7%), fibroids (62.2%), irritable bowel syndrome (56.8%), polycystic ovary syndrome (53.2%), urinary tract infections (53.2%) and structural disorders of the lower back (49.5%). Eighteen percent reported other causes including interstitial cystitis, adhesions from surgery and due to adverse effects of assisted reproductive technology (ART). Women with CPP were referred directly for biomedical pathology tests often by 13.5%, sometimes by 10.8%, but never by 38.7% of TCM practitioners.

TCM approach to chronic pelvic pain case management

A combination of biomedical and TCM diagnosis most often guided treatment decisions (55.8%), and 17.1% relied only on TCM principles. Sources guiding treatment were most often text-books and lecture notes (34.2%), followed by peer reviewed academic articles (27.9%), updates published on-line (26.1%) and discussion with clinical peers (22.5%). Other guiding treatment sources included Facebook posts, classic texts and hair tissue analyses of heavy metal concentration reported by 6.3% of TCM practitioners.

Pathological mechanisms understood to contribute to CPP in women included hyper-inflammation (60.4%) and muscle spasm (48.6%). One respondent cited oestrogen dominance as the main underlying mechanism of CPP in women. TCM patterns commonly reported included blood stasis (77.5%), Qi stagnation (67.6%), cold stagnation (62.2%), yang deficiency (56.8%) and damp phlegm (51.4%). Over seven percent (7.2%) reported other TCM patterns associated with CPP including disturbance of the Shen, damp health in the lower Jiao, and cold damp liver and spleen. Sources of information about women with CPP included TCM texts (50.6%), short seminars (48.6%), professional association seminars (44.1%), on-line courses (36.9%) and TCM mentors and teachers (36.9%). Western medicine information sources reportedly informed CPP understanding by 36.0% and 41.4% referred to articles in peer reviewed literature.

Eight percent reported referring to other sources including websites of women's health centres of excellence (Jean Hailes) and social media forums such as collegial Facebook groups.

Acupuncture once per week was the most frequently used treatment modality (66.7%) followed by meditation (63.7%), dietary changes (57.8%) and Chinese exercises (56.7%). Moxibustion was used by 41.8% of respondents. (Figure 1)

TCM treatment effectiveness

Eighty six percent of TCM practitioners reported they perceived their treatment was effective in managing CPP. TCM practitioners reported utilising various approaches for assessing treatment effectiveness as outlined in Figure 2. Pain was assessed during case consultation and history note taking (53.2%) and measured either using participant-reported pain scales (49.5%) and/or through the type and quantity of analgesic medication needed to control pain (47.7%). TCM diagnostic techniques (including diagnosis of tongue and pulse characteristics) were used by 45.9% of practitioners to evaluate the progress of treatment. Other methods of evaluating efficacy included the use of visual analogue scales and abdominal palpation. The least reported assessment tool for pain was the use of validated instruments (14.8%). Treatment efficacy was most often reviewed every month or menstrual cycle (25%).

Treatment limitations and adverse events

Limitations and barriers to treatment for women were reported by 83.7% of practitioners, most often due to the expense (56.5%) and inconvenience (40.2%) of treatment. Limited evidence of effectiveness for treatment was cited as a barrier to treatment by 29.3% and adverse effects of treatment were reported by 12.6%. The most reported adverse effects were worsening intensity of pain or pain occurring at additional menstrual cycle phases such as mid-cycle. Acupuncture was the most common treatment type associated with adverse effects (9.9%) including a reported bowel obstruction following acupuncture treatment.

Interdisciplinary referrals and communications

Integration within the wider healthcare system was common with nearly one half (47.7%) reporting referrals from other health practitioners including 12.4% reporting receiving seven or more referrals in the previous two weeks. General Practitioners (GPs) were the most commonly referring practitioners, followed by osteopaths (22.5%), physiotherapists (19.8%), massage therapists (18.9%) and naturopaths (16.2%). Other western biomedical practitioner's referrers to TCM included gynaecologists (6.3%), pelvic physiotherapists (6.3%), exercise physiologists (5.4%) and pharmacists (3.6%). Background letters of introduction were reported as sometimes being provided by 21.6% of practitioners and never provided by 18.0%. Only one practitioner reported regular receipt of written introductions from referring practitioners.

Over half (53.2%) of TCM practitioners reported regularly referring women with CPP to other practitioners, including 4.5% referring over seven times in the previous two weeks. Referrals were most often to western biomedical providers including GPs (29.7%), gynaecologists (18.0%), pelvic (9.9%) and general

physiotherapists (9.0%) and exercise physiologists (7.2%). Referrals to other TCIM practitioners were also common and included osteopaths (22.5%), chiropractors (17.1%), massage therapists (14.4%) and naturopaths (9.9%). Letters of introduction were always provided by 9.9% of TCM practitioners, sometimes by 18.0% and never by 21.6% of TCM practitioners. Eighteen percent of TCM practitioners reported never referring women with CPP to other health or medical practitioners.

Discussion

This study provides insight into how TCM practitioners manage women presenting with CPP and other symptoms including dysmenorrhea and fatigue. Pelvic pain symptoms such as dyspareunia was an uncommon presenting symptom despite affecting almost three quarters of women with CPP(35) and may reflect the normalisation of menstrual and pelvic pain(36). Just under two thirds of Australian women with CPP do not do not exclusively pursue or continue with medical care.(11, 37) They are motivated to use self-help measures and (self-perceived) low risk, natural interventions including TCIM practitioners whose practices are often based on holistic philosophies, and may provide whole person alternatives and adjuncts to Western biomedical management, which is an expressed need of women with CPP.(38) The majority of TCM practitioners provided treatment informed by both biomedical and TCM sources. Most practitioners in this study perceived their treatments were effective however few reported evaluating their treatments efficacy using validated methods.

Respondents in our sample did not commonly use peer reviewed academic articles as part of their treatment plans, similar to previous research has shown that clinical trial results do not always change practice for acupuncture practitioners (39, 40), which may be due to the perception that randomised clinical trials are not relevant to acupuncture practice, (41, 42). There are a number of factors that can present an issue in translation of clinical trials into community practice including financial and time barriers to regular and frequent treatment (43), similar to that reported by practitioners in this survey. This is a concern as the total number of treatments given might be an important factor in therapeutic outcomes for acupuncture when treating women's health (44–46), and therefore practitioners may be delivering sub-optimal 'doses' of acupuncture treatment (47).

Efficacy and safety has been previously demonstrated for acupuncture in the reducing pain associated with endometriosis(48, 49) and improving quality of life,(50, 51) with these pain improvements being clinically relevant as they exceed the minimally important difference for treatment of pain in women with endometriosis (at least 10 mm on a 100 mm visual analogue scale, or a 20% in absolute pain reduction). (52–54) Whilst over two thirds of practitioners were using scales to assess the severity of women pain on presentation, none reported knowledge of how much reduction constitutes a minimal important clinical effect. The absence of a validated measure of treatment efficacy may reflect TCM lower value of research based knowledge and information over traditional techniques,(55) which is not unique to TCM but is critical in the integration of health services and interprofessional communication of referral networks.

Many practitioners reported non-integration through referral pathways into health care settings. Barriers to interprofessional referrals have been cited as being due to biomedical dominance and a lack of clarity about each other's roles.(56–58) Cross-professional education and training about practices, mutual understanding of responsibilities and limitations, and processes including formal correspondence may assist overcoming these barriers, which is important because failures in interprofessional communication are a leading cause of patient harm.(30, 56, 58) As TCM represents 11% of primary care capability in rural areas of Australia(59) and acupuncturists up to 8.8% of services for women with other reproductive needs,(60) improved integration and shared care could improve safety as well as continuity of care and the healthcare experiences of women with CPP. TCM as part of multidisciplinary clinical care for women with CPP due to endometriosis, has been shown to improve women's self-efficacy by cultivating confidence and resilience, relieving social isolation and improving quality of life.(61)

Limitations

Limitations of this research included the low response rate, limiting the validity and generalisability of the findings for TCM treatment of women. Reliance on professional associations distribution of the survey limited the opportunity for reminder emails and there were no financial incentives for participants. Surveys of health practitioners have notoriously low response rates(62) and are increased by incentives and reminders. The response of practitioners treating CPP as a proportion of practitioners treating women was higher than the presentation of women with CPP to conventional primary care(12) and more than the prevalence of CPP in women,(9) suggesting that findings of TCM for treatment of women with CPP were more robust. Additionally, participant recall bias may have limited the accuracy of findings in this survey, however the limited recall period used (previous eight weeks to three months depending on the question) should have minimised the impact of this.

Future research

While there are limitations to this study, future research within this topic are warranted. Further research into the perceived effectiveness of TCM treatment from the perspective of women with CPP requires whether exploration to identify areas relating to their self-motivated reasons for TCM use, cost effectiveness, and the experience of care these women encounter. Additionally, investigation into how TCM including acupuncture can fit within the current model of care for these women requires exploration to identify the barriers and benefits to interdisciplinary collaborations between TCM and biomedicine.

Conclusion

Traditional Chinese Medicine practitioners provide treatments within a biomedical framework, informed by traditional practices and perspectives, and form an important part of a multidisciplinary healthcare team when treating women with CPP. The usage of research to guide clinical treatments was uncommon and may represent barriers in translating clinical trials into clinical practice. Continuity of care and safety could be improved by further integration of TCM into mainstream healthcare services which may be facilitated through improved interprofessional communication.

Abbreviations

ART Assisted Reproductive Technologies

CM Chinese Medicine

CPP Chronic Pelvic Pain

TCIM Traditional, Complementary and Integrative Medicine

TCM Traditional Chinese Medicine

Declarations

Ethics approval + informed consent

The study was approved by the Western Sydney Human Research ethics Committee (EC00314) H12527 on the 24th of January 2018 and the Endeavour Human Research Ethics Committee (EC00358) #20180212 on the 12th of February 2018. Informed consent was obtained for all participants. The participant information form informed of potential risks from participation in the survey, that consent was implied through participation and that responses could not be withdrawn due to anonymity of survey.

Consent for publication: Not applicable

Availability of data and material

The datasets generated and/or analysed during the current study are not publicly available due to institutional ethics policy but are available from the corresponding author on reasonable request.

Competing interests

The authors have no competing interests to declare. SA, MA and CS: As a medical research institute, NICM Health Research Institute receives research grants and donations from foundations, universities, government agencies, individuals and industry. Sponsors and donors also provide untied funding for work to advance the vision and mission of the Institute. SA and JA are practitioners at an academic gynaecology clinic. MA is a member of the clinical advisory board for Endometriosis Australia and an acupuncturist in occasional clinical practice. JA is the Medical Director of Endometriosis Australia (NFP). RR has no competing interests to declare.

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Authors contributions

All authors (SA, CAS, RR, JA and MA) conceived of the study and contributed to its design, coordination and administration. SA, CAS, RR and MA designed the sampling strategy, recruitment, data collection and data analyses and liaised with Chinese Medicine professional associations. MA and SA undertook the data analysis and interpretation. CAS, RR and JA reviewed the quality of data and data analyses. SA lead the writing of the draft manuscript. All authors read, edited and approved the final manuscript.

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