FINAL Dissertation

Effects of Jing Method Advanced Clinical Massage in Adults with Chronic Shoulder Pain

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A dissertation submitted in partial fulfilment of the requirements of Jing Advanced Massage Training for the Professional Diploma in Advanced Clinical Massage and Sports Massage

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"I certify that this work has not been accepted in substance for any degree, and is not concurrently being submitted for any degree other than that of the Diploma in Advanced Clinical Massage and Sports Massage being studied at Jing Advanced Massage Training. I also declare that this work is the result of my own investigations except where otherwise identified by references and that I have not plagiarised the work of others".

Steven Murdoch: _____

Date:

Abstract

Objective

The purpose of this study was to assess the effects of the Jing Method Advanced Clinical Massage in adults with chronic shoulder pain.

Method

7 participants with chronic shoulder pain recorded pain and disability levels using the Shoulder Pain and Disability Index (SPADI) outcome measurement tool over a 6-week control period. This was followed by a 6-week multimodal treatment, comprising touch therapy, education and self-care, referred to as the Jing Method protocol for chronic shoulder pain.

Results

A notable reduction in pain and disability of 54% was recorded overall, with some participants recording an 85% improvement.

Conclusion

This study suggests that The Jing Method Advanced Clinical Massage may be beneficial in treating adults with chronic shoulder pain and therefore may be considered as a more viable treatment to less effective, more expensive or higher risk interventions such as NSAIDs and surgery.

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Abbreviations

CS	**Central Sensitisation**
CSP	**Chronic Shoulder Pain**
FS	**Frozen Shoulder**
LBP	**Low Back Pain**
MSK	**Musculoskeletal**
NCCIH	**The National Center for Complementary and Integrative Health**
NICE	**The National Institute for Health and Care Excellence**
NSAID	**Nonsteroidal Anti-inflammatory Drug**
PNF	**Proprioceptive Neuromuscular Facilitation**
PROMs	**Patient Reported Outcome Measures**
RCT	**Rotator Cuff Tendinopathies**
ROM	**Range of Motion**
S/S	**Signs and Symptoms**
SIS	**Subacromial Impingement Syndrome**
SPADI	**Shoulder Pain and Disability Index**

Literature Review

Introduction

Chronic pain is experienced by a quarter of adults in the UK (IPSOS, 2022). Chronic, or persistent pain, is pain that lasts for 3 or more months, or for longer than the expected healing time (NCCIH, 2018). Conventional treatments for chronic shoulder pain (CSP) include nonsteroidal anti-inflammatory drugs (NSAIDs), surgery, and physiotherapy (Hawk et al., 2017). Evidence suggests; however, that NSAIDs may actually cause chronic pain (Parisien et al., 2022), that surgery is no more effective than a placebo (Karjalainen et al., 2019; Rangan et al., 2020), and that most physiotherapy no longer includes touch (Artus et al., 2017; Littlewood, Lowe and Moore, 2012; MacDonald et al., 2020). Furthermore, growing evidence suggests that as chronic pain exists in the absence of damaged tissue and manifests due to biopsychosocial factors, such as anxiety and depression, we need to move away from medicalising CSP and instead find therapies that calm the nervous system (Dunn et al., 2014; Gomoll et al., 2004; Reyes et al., 2017). The purpose of this study was to assess the effects of the Jing Method Advanced Clinical Massage in adults with CSP. The Jing Method takes a multimodal approach, promoting a therapeutic alliance, touch therapy, education and self-care. It is based on the biopsychosocial model of pain and modern neuroscience (Fairweather and Mari, 2015, p. 6).

Prevalence and impact of shoulder pain

Shoulder pain is the third most common musculoskeletal (MSK) pain-related reason for someone to visit their GP (Artus et al., 2017). Incidents of shoulder pain increase with age,

reaching their peak around age 50 (Linsell et al., 2005). Furthermore, reduced shoulder mobility due to pain, stiffness or weakness can greatly impact a person's ability to carry out everyday tasks such as dressing or washing (Mitchell et al., 2005).

Types of shoulder pain

Many chronic shoulder disorders present similar clinical characteristics and a lack of consensus on diagnosis can complicate choosing the most appropriate treatment (Mitchell et al., 2005). The most common diagnoses are rotator cuff defects, impingement issues, rotator cuff tendinopathies (RCTs), adhesive capsulitis, also known as frozen shoulder (FS), shoulder instability and shoulder arthritis (Burbank et al., 2008; Garvin et al., 2017; Redondo-Alonso et al., 2014).

The over-medicalising of chronic shoulder pain

Researchers warn; however, that we are over-medicalising CSP. Dhillon, K. (2019) argues that shoulder impingement diagnoses are inaccurate and unnecessary. This is backed by McFarland et al. (2013) who argue that the theory of a wearing down of the rotator cuff has no evidence. Lewis et al. (2020) go further, stating there is an over-excessive and unnecessary investigation and intervention of MSK conditions and that normal human functions are being labelled as abnormal.

How is shoulder pain diagnosed and treated?

A shoulder pain diagnosis usually consists of a detailed history and clinical examination (Perez-Palomares et al., 2009). X-rays and scans are widely used to confirm a diagnosis of RCTs and FS. Blood tests are also commonly used to exclude other diagnoses (Artus et al., 2017). Treatments include NSAIDs, surgery, steroid injections and exercises (Hawk et al., 2017). The most common intervention is physiotherapy (Artus et al., 2017).

Are NSAIDs like ibuprofen turning acute pain chronic?

New evidence raises concerns about the potential adverse effects of NSAIDs like ibuprofen. Analysis of the UK Biobank database of 5,000 people concluded that despite their short-term analgesic benefits, NSAIDs likely turn acute pain into chronic pain by blocking the inflammation and repair process (Parisien et al., 2022).

The unsubstantiated use of surgery

Despite its wide use, there is still no evidence that costly surgery should be a considered path for CSP. There is a high certainty of evidence that subacromial decompression surgery is no more effective than a placebo in treating CSP presenting as an impingement (Karjalainen et al., 2019). Furthermore, there is no high-quality evidence that surgery is effective in the treatment of FS (Rangan et al., 2020).

The diminishing use of touch therapy

Whilst physiotherapy is the most widely used treatment option for CSP, there has been a decline in the use of touch therapy by physiotherapists, who have instead opted to use advice or exercise as their preferred intervention (Artus et al., 2017; Littlewood, Lowe and Moore, 2012). Furthermore, the Covid-19 pandemic led to a sudden and significant further move away from patient contact, with few physiotherapists having returned to including manual therapy in their patient care (MacDonald et al., 2020).

Why pain becomes chronic

Melzack and Wall (1965) first hypothesised that pain experience was not as simple as a linear process from peripheral nerve endings to the brain (nociception). It is now understood that combined biopsychosocial influences, including past pain experiences, anxiety and catastrophising (non-nociception) contribute to the pain experience. These biopsychosocial influences lead the brain to perceive an over-amplified danger to the tissue, creating a pain response known as central sensitisation (CS), (Melzack, 1999, Tracey and Mantyh, 2007; Tracey 2016). Systematic reviews have concluded that CS plays a key role in CSP (Noten et al., 2016; Plinsinga et al., 2015; Sanchis et al., 2015).

Melzack (1965) initially proposed that a gate-like mechanism exists in the spinal cord. Small fibre ‘pain’ signals open the gate and large fibre ‘relaxation’ signals, through stimuli such as massage, close the gate. Developing on this theory, Melzack (1999) hypothesised that the brain has a neural (body-self) network that integrates the many sensory inputs, thus creating the pain experience.

Moseley (2003) hypothesised that as CS occurs with a combination of both nociceptive and non-nociceptive mechanisms, effective treatment should include explaining pain to patients and focusing on decreasing pain-response inputs, whilst gradually increasing exposure to sensory and non-sensory stimuli.

Evidence supporting massage for chronic shoulder pain

Based on Moseley's hypothesis, treatments which address biopsychosocial factors, and calm the nervous system, should in turn reduce CS and chronic pain, including CSP. This theory is supported by a systematic review's findings that massage touch therapy causes cortisol to decrease by 31% and serotonin and dopamine to increase by 28% and 31% respectively (Field et al., 2005). This is backed by other studies arguing that massage effectively reduces chronic MSK pain (Furlan et al., 2015; Hernandez-reif et al., 2001; Keeratitanont et al., 2015; Walach, Güthlin and König, 2003).

A randomised controlled trial of 401 adults with chronic low back pain (LBP) concluded that both relaxation massage and structural massage were effective at relieving signs and symptoms (S/S) for at least 6 months (Cherkin et al., 2011). However, Furlan et al. (2015) concluded that massage was only beneficial for LBP in the short term. Their systematic review; however, had two significant limitations: Firstly it included studies with only 10 minutes of massage intervention. Secondly, it included massage studies with mechanical devices, such as TENS machines, instead of human touch.

Evidence supporting the Jing Method for chronic shoulder pain

Fairweather and Mari (2015, p. 6) argue that the Jing Method, whilst incorporating conventional massage, reduces nociceptive inputs and CS, because it places emphasis on the biopsychosocial model and adopts a multimodal approach through consultation, massage and self-care education. They describe this multimodal approach with the acronym **HFMAST**: **H** - The use of heat or cold; **F** - The use of fascial techniques; **M** - Muscle treatment with trigger point therapy; **A** - Acupressure point stimulation; **S** - Stretching; and **T** - Teaching self-care.

Fairweather and Mari maintain that whilst useful in themselves, the components of HFMAST have a cumulative effect when used concurrently in the same treatment. It is therefore useful to explore the evidence behind each of the different modalities involved in the Jing Method HFMAST approach.

Multiple small studies have concluded the Jing Method is effective in reducing the S/S of CSP (Chung; 2018, Mistry 2016). Further studies during the Covid-19 pandemic concluded that “online only” Jing Method protocols were also effective in reducing S/S of CSP (Cleeve, 2021; Watson-Bance, 2021).

The consultation and therapeutic alliance

The consultation allows the therapist to explore potential biopsychosocial factors such as previous trauma, beliefs, and anxieties or the presence of catastrophising (Fairweather and Mari, 2015, p. 35). The establishment of a professional and trusting relationship is evidenced to have a significant positive impact on the improvement of MSK pain outcomes (Ferreira et al., 2012; Fuentes et al., 2013; Kinney et al., 2018; Lakke and Meerman, 2016).

HFMAST

Yasui et al. (2010) demonstrated that **heat** directly calms sympathetic nervous system activities. Separate studies have shown that heat is more effective than ibuprofen in relieving pain (Lloyd et al., 2004; Nadler et al., 2002). Heat has also been shown to improve ROM, (Bleakley and Costello, 2013).

There is a significant body of evidence demonstrating that direct and indirect manipulation of the **fascia** reduces pain and increases ROM (Bron et al., 2011; Hains, Descarreaux and Hains, 2010; Sergienko and Kalichman, 2015; Shah et al., 2015; Sohns et al., 2016).

First documented by Travell and Simons (1983) **trigger points** are irritable nodules within taut bands of muscle that have predictable pain patterns when pressed. Multiple randomised control trials have demonstrated that trigger point therapy can significantly reduce S/S of chronic pain, including CSP (Bron et al., 2011; Shah et al., 2015; Sohns et al., 2016).

Acupressure has been demonstrated to be beneficial in the treatment of many conditions (Godley and Smith, 2020). Recent systematic reviews have shown it to be particularly effective in reducing pain (Chen and Wang, 2014; Godley and Smith, 2020). Mobilisation of the shoulder joint is an effective non-invasive intervention demonstrated to decrease pain and increase the range of motion (ROM) in patients with FS (Mertens et al., 2021).

A systematic review concluded that proprioceptive neuromuscular facilitation (PNF) **stretches** are considerably effective at increasing ROM in shoulder external rotation (Tedla and Sangadala, 2019).

Teaching and Self-Management

A systematic review of multi-disciplinary interventions for chronic pain concluded that education, as part of a multi-disciplined approach is likely to improve self-management in people with chronic MSK pain (Joypaul et al., 2019). NHS England (2017) actively promotes involving patients in their own health and care through proactive conversations focused on what matters most to the patient.

A systematic review by Du et al. (2017) found plausible evidence that self-management is effective in improving s/s of chronic LBP. However, Elbers et al., (2018) cautioned that their systematic review of self-management interventions of patients with chronic MSK pain, found generic self-management programmes have limited effects on s/s. A systematic review found that manual therapy when combined with exercises had a considerable positive outcome in pain and ROM in CSP (Brantingham et al., 2011).

Research design

"Within-subject" and "between-subject" are the two primary research designs of an experimental study. In a "within-study" design, participants take part in the whole process. Whereas in a "between-subject" design, they participate in only one aspect of the experiment (Bhandari, 2022; Charness, Gneezy and Kuhn, 2012). Small studies lend themselves to a "within-subject" design as causal relationships between variables can be easily identified; it is cost-effective; and it is statistically powerful because individual variables are not present (Bhandari, 2022).

Research sources

An effective research study requires evidence from a variety of credible sources. Primary sources, such as statistical data, giving first-hand evidence is more credible. However, secondary sources, including commentary from other studies, journal articles and academic books, are also valuable. Sources are available through research databases such as Google Scholar, PubMed and Mendeley. Other potential sources include online resources and libraries (Ryan, 2022).

Method

Ethics approval was obtained from Jing Advanced Massage Training. Participant recruitment adverts were placed through social media and existing clients of the researcher were asked to spread the word. 30 applications were received.

In addition to Google Scholar, PubMed and Mendeley, research was conducted through the institution's research library and online.

As this was a small study, a "within-subject" design was chosen so causal relationships between variables could be easily identified; it was cost-effective, and it would likely be statistically powerful.

The Shoulder Pain and Disability Index (**SPADI**) questionnaire was adopted as the preferred Patient Reported Outcome Measurement (**PROM**) tool, as SPADI is recommended for shoulder stiffness and pain of unspecified origin.

All applicants were invited to an initial telephone call where the basic inclusion and exclusion criteria were assessed. The inclusion criteria were adults over the age of 30 who have had shoulder pain and/or restriction for 4 or more months which affected their ability to perform daily activities such as washing their hair, washing their back, or reaching a high shelf.

Participants completed a digital health history questionnaire in which they provided details on surgeries, medical conditions, current medications, and treatments or therapies they have had

in relation to their shoulder pain. Participants were also emailed a link to the SPADI questionnaire. This was completed via the data-protected downloadable app (PhysiApp).

Participants then had a one-to-one online video consultation via a data-protected secure online practice management software tool (Jane App). Prior to the video call, participants were sent an email outlining the study. During the online consultation, the medical history was reviewed as well as the SPADI questionnaire results. At this time, the researcher re-assessed that the applicants met the full inclusion and exclusion criteria.

After exclusions for surgery, fibromyalgia; subluxation and short-term pain, 8 participants were recruited for this single-group study. One participant withdrew, leaving 4 male and 3 female participants aged between 33 and 56. All participants experienced both pain and active restriction of the shoulder. The duration of their shoulder pain ranged from 5 months to 12 years.

The original issue was explained by all participants to be either unknown or due to overuse. Diagnoses included: no diagnoses, shoulder impingement, bursitis, or osteoarthritis. Previous interventions included: cortisone injection, physiotherapy, osteopathy, chiropractic, exercises, acupuncture, paracetamol, NSAIDs and Thai massage. No intervention resulted in significant or lasting relief. All participants consented to participate by signing a digital form. The study consisted of 2 phases:

Phase 1; the control phase. During this phase the participants completed the SPADI questionnaire each week for six weeks with no intervention. During this time they were requested not to start new treatments for their condition.

Phase 2; the treatment phase. During this phase participants each had 6 hands-on sessions, spaced at weekly intervals. The sessions comprised a short consultation, ROM testing (before and after each session) and the Jing Method shoulder girdle protocol, incorporating heat, myofascial release, trigger point work, static acupressure, and stretches.

During the consultation, participants were asked to subjectively score (0-10), their self-care adherence, stress and anxiety levels, and confidence in the treatment over the previous 7 days.

In between each session, the participants were given daily self-care exercises to complete and record compliance at home. The exercises were expected to take no more than 15 minutes to complete once per day. Participants were asked to complete the SPADI questionnaire 5 days after each hands-on session. The participants received an automated reminder via email.

Results

Combined Mean SPADI Scores - All participants

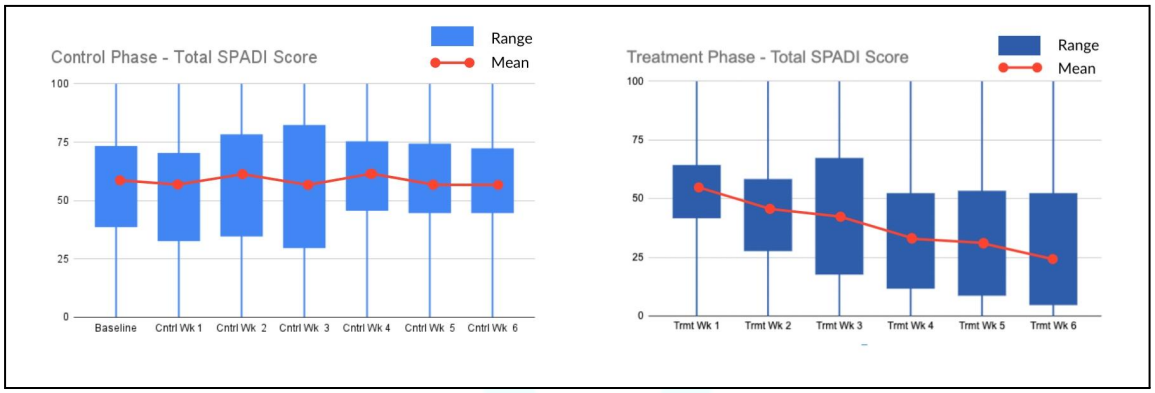

Figure 1: The mean **Total SPADI** score had little change during the six-week *control* period, then improved after each week of treatment, resulting in a **54% improvement** overall.

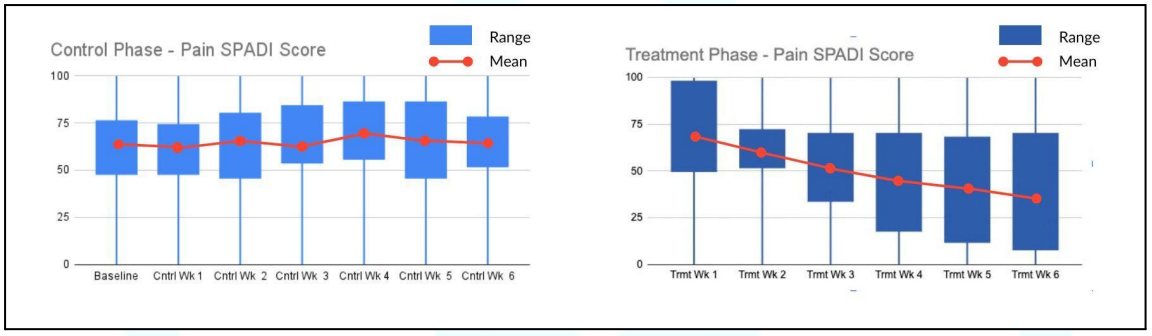

Figure 2: The mean **Pain SPADI** score again had little change over the six-week *control* period. The score increased slightly after the first treatment and then improved after each week of treatment, with a **47% improvement** overall.

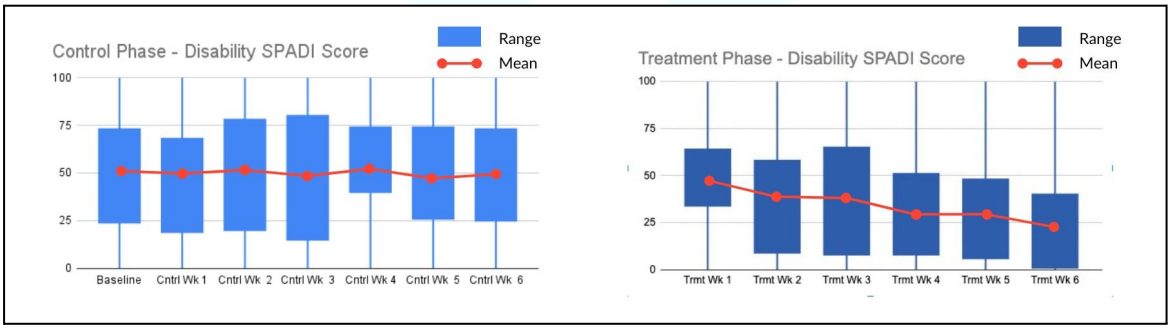

Figure 3: The mean **Disability SPADI** score had little change over the six-week *control* period. The score then improved after each week of treatment, with a **60% improvement** overall by the end of six treatments.

Patterns of Improvement - Individual Participants

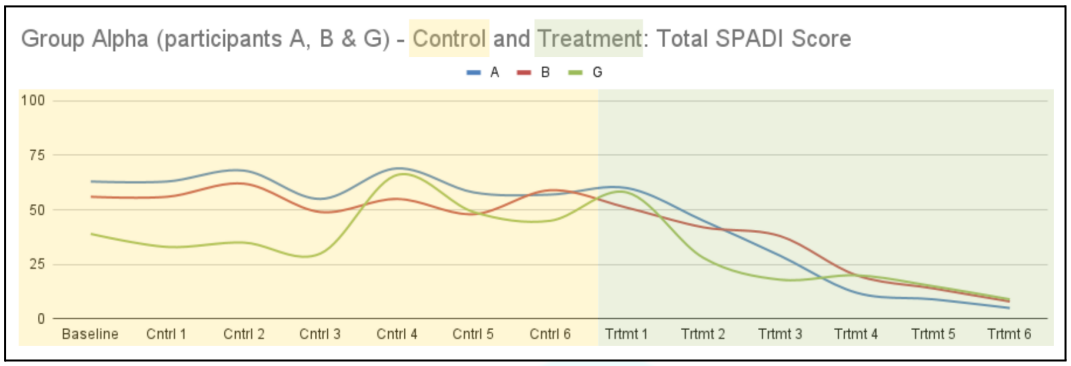

Figure 4: Three participants, A, B & G, (referred to as group Alpha) followed a similar pattern of improvement. Alpha made **significant progress** with a mean improvement of **85%** for their total SPADI score.

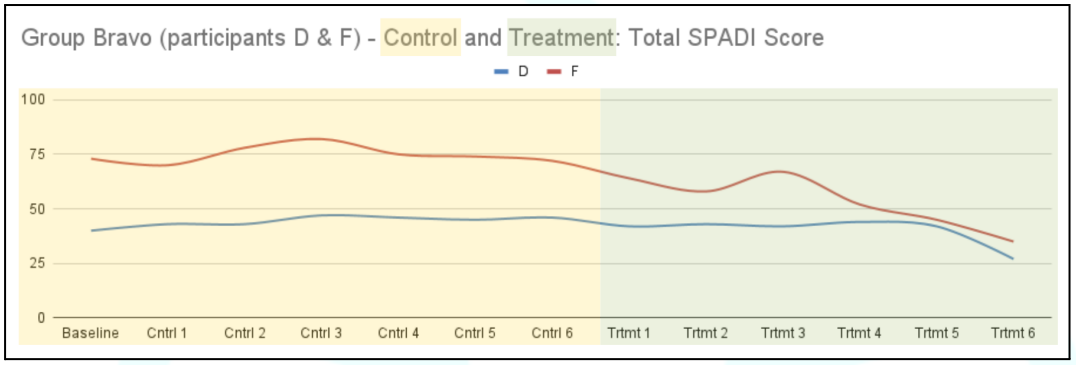

Figure 5: Two participants, D & F, (referred to as group Bravo) followed a similar pattern of improvement. Bravo made **moderate progress** with a mean improvement of **52%** for their total SPADI score.

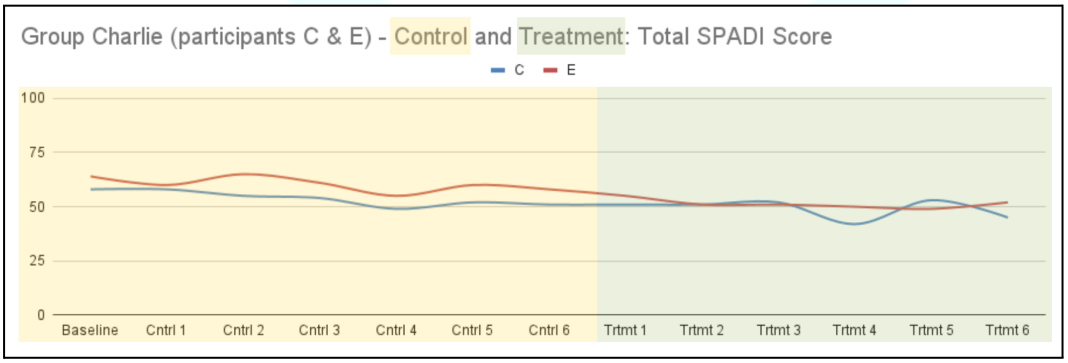

Figure 6: Two participants, C & E, (referred to as group Charlie) followed a similar pattern of improvement. Charlie made **marginal progress** with a mean improvement of **28%** for their total SPADI score.

Potential Influencing Factors

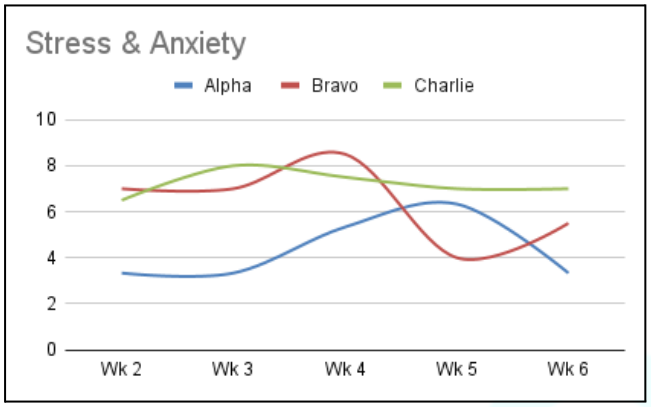

Figure 7: Alpha reported the least Stress & Anxiety with a mean score of 4. Bravo reported a mean score of 6, whilst Charlie's was the highest, with a mean score of 7.

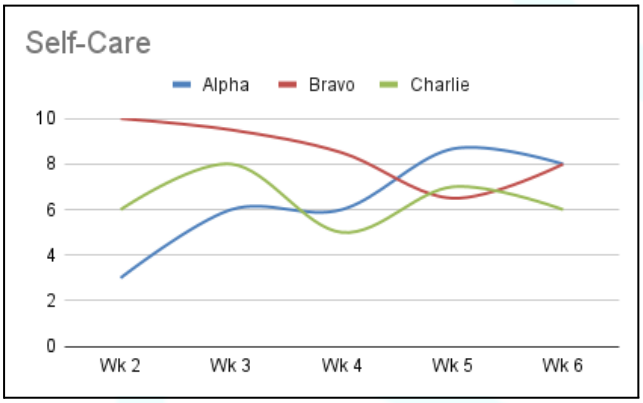

Figure 8: Alpha's Self-Care adherence improved over time. Bravo had the best self-care adherence with a mean score of 9/10. Alpha and Charlie's mean scores for self-care adherence were both 6/10.

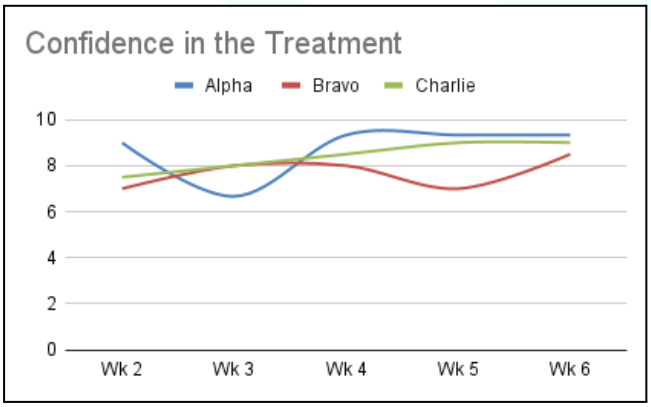

Figure 9: Confidence in the treatment remained relatively high throughout each group. Alpha reported the highest confidence, with a mean of 9. Bravo and Charlie both had a mean score of 8.

Discussion

Summary

This study suggests that The Jing Method Advanced Clinical Massage is beneficial in treating adults with chronic shoulder pain and therefore may be considered as a more viable treatment to less effective, more expensive or higher risk interventions such as NSAIDs and surgery (Karjalainen et al., 2019; Parisien et al., 2022; Rangan et al., 2020).

This study supports previous studies with similar findings (Chung. 2018, Mistry 2016). Signs and symptoms improved in all participants [**Figures 1, 2 and 3**]. 43% of participants reported a significant improvement (85% improvement in total SPADI score) [**Figure 4**], whilst 28% saw a moderate improvement (52% improvement in total SPADI score) [**Figure 5**]. The remaining 28% saw a minimal improvement (28% improvement in total SPADI score) [**Figure 6**].

Interpretations

During the pre-treatment consultations the researcher observed high levels of pain and **restriction,** both **active** and **passive**, particularly on **internal** and **external rotation** of the glenohumeral joint. An assessment of potential FS would support the findings of Kraal et al. (2020) that pain, combined with active and passive restriction is an indicator of FS. Another indicator of FS is prolonged S/S. Our participants exhibited S/S for 5 years on average, with 2 participants having experienced S/S for over 12 years. FS was previously thought to be self-limiting (Rangan 2020; Wong 2017); however, the duration of S/S for our cohort is in

line with research suggesting that patients with FS can experience S/S for well over a decade (Cho, Bae and Kim, 2019).

The researcher observed high levels of guarding, **hyperalgesia** and **allodynia** on palpation. This would support the findings of Noten et al. (2016) that generalised mechanical hyperalgesia and allodynia in patients with CSP indicate the involvement of the **nervous system**. This perhaps also explains that whilst the study demonstrated improvements over the total 6 weeks, there was no notable improvement after the first session (total mean SPADI score of 54%, compared to 55% during the control period). After the first session, the researcher reflected that less pressure might be more beneficial due to the **high sensitivity** levels. This would be in line with the recommendation that "less is more" when practising **myofascial release** (Barnes, 2014; Fairweather and Mari, 2015, p. 106). This also supports the gate theory, that stimulation perceived by the brain as calming, "**closes the gate**," turning off the pain experience (Melzack and Wall, 1965).

Two participants with the greatest restriction made the most progress. This suggests there is no correlation between the initial severity of restriction and the eventual outcome. This again supports research arguing that CSP relates more to the **nervous system** than it does to an MSK shoulder pathology (Noten et al., 2016; Plinsinga et al., 2015; Sanchis et al., 2015).

This study also appears to suggest that consistently high levels of **stress** and **anxiety** can adversely affect the improvement of S/S. The 2 participants referred to as group Charlie [**Figure 7**] reporting the least progress in S/S, also consistently reported the highest levels of stress and/or anxiety. This supports the findings of Wolfensberger et al. (2016) who argue that **depression, anxiety** and **catastrophising**, directly adversely affect PROM outcomes. It also

supports the wider body of evidence that chronic pain is the result of multiple "**biopsychosocial**" factors such as beliefs, anxiety, and previous pain experiences, rather than specifically being a biomechanical issue (Noten et al., 2016, N. Sanchis et al., 2015).

Successful reduction in S/S of the cohort could be attributed to the **multimodal** method of the intervention. This supports the hypothesis of Fairweather and Mari (2015, p. 6) that the cumulative effect of each component is greater than the sum of its parts. It also supports the hypothesis of Moseley (2003) that CS is effectively treated with a multimodal approach, including education and gradual exposure to sensory and non-sensory stimuli. It also gives backing to the findings of Brantingham et al. (2011) that manual and manipulative therapy, combined with a multimodal approach is effective in reducing S/S of shoulder pain and disorders.

The application of **heat** was part of the multimodal approach. This backs the findings of Freiwald et al. (2018). Their study found that **heat therapy**, when included as part of a multimodal approach improved S/S of LBP.

The protocol incorporated **myofascial release** and **trigger point therapy**. The positive outcomes of this study add credence to the theory of Fernández-de-las-Peñas and Dommerholt (2013) that effective trigger point management reduces nociceptive input and in turn, reduces CS. The reduced S/S in this study correlates with the findings of Sergienko and Kalichman (2015) that myofascial release, when included as part of a multimodal approach, improved the S/S of CSP.

There may be a correlation between adherence to **self-care** and improved S/S [**Figure 8**]. Group Charlie, who reported the least progress in S/S, also reported the lowest adherence to self-care. Education was provided, but not directly measured against **self-management** outcomes. Joypaul et al. (2019) argue that there is a direct link between **education** and self-management adherence, whilst Elbers et al. (2018) warn that "generic" self-care has no observable effect on MSK symptoms.

The participants reported growing **confidence in the treatment** (scored between 1 and 10) as the treatments progressed [**Figure 9**]. This appears to support previous studies which argue that there is a correlation between improved S/S and the **relationship with the therapist** (Ferreira et al., 2012; Fuentes et al., 2013; Lakke and Meerman, 2016; Paap et al., 2021; Rangan, Hanchard and McDaid, 2016; Taccolini Manzoni et al., 2018).

Three participants (43%) shared doubts that the **SPADI** questionnaire asked the most appropriate outcome questions, reporting their subjective improvement in pain and ROM was not reflected in the **PROM**. The researcher could have selected an alternative PROM to assess shoulder conditions. Padua et al. (2021) state that ASES, DASH and SPADI were the most frequently reported PROMs for shoulder conditions in their analysis of publications. The researcher chose SPADI which Padua et al. recommend for shoulder stiffness and pain of unspecified origin. Choosing a different PROM, for example, Disabilities of the Arm, Shoulder and Hand (DASH) which contains 30 questions as opposed to SPADI's 13, may have yielded results that were more in line with the participants' subjective experiences.

Limitations

There are several limitations to this study. Firstly the **small number of participants**. A larger cohort may have produced different results.

During the treatment phase, 3 participants were **unwell** for some time. This resulted in each of them postponing one session. Two participants reported that they significantly "jarred" their shoulders during the treatment phase. The **sickness** and the **jarring** could have adversely affected the results.

The study could have been extended to include **post-treatment PROMs**. These results could be measured against Chung (2018) who found that S/S began to return 3 weeks post-intervention. Furlan et al. (2015) argued that massage was beneficial in treating chronic MSK pain but only in the short term. A positive post-treatment PROM could contradict the findings of Furlan et al.

Measurement tools in addition to **SPADI**, such as **ROM testing** or a **visual analogue scale** could have helped produce more comprehensive data.

Recommendations

Future studies could consist of a larger sample group. Formal pre-treatment education on chronic pain and self-management may yield even better results. The inclusion of post-treatment PROMs would demonstrate if the intervention had a lasting benefit or is only effective in the short term.

Conclusion

This research aimed to assess the effects of the Jing Method Advanced Clinical Massage in adults with chronic shoulder pain. This single-group study consisted of a 6-week control period and a 6-week treatment period. The results of which suggest that the Jing Method Advanced Clinical Massage is a valuable tool in the treatment of adults with chronic shoulder pain.

The study supports evidence that chronic shoulder pain likely occurs as a result of multiple biopsychosocial factors, causing central sensitisation and that a multimodal approach, incorporating pain education, manual therapy, and a strong therapeutic alliance can be effective in reducing central sensitisation and therefore treating chronic shoulder pain. Based on these conclusions practitioners should consider the biopsychosocial model and a multimodal approach when treating chronic shoulder pain.

To better understand the implications of these results, future studies could involve a larger cohort, formal pre-treatment education on chronic pain, and be followed up with post-treatment Patient Reported Outcome Measures to assess the long-term effects.

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Appendix 1 - PROM - Shoulder Pain and Disability Index (SPADI)

STEVEN MURDOCH CLINICAL MASSAGE
Musculoskeletal Pain-Care Specialist

Shoulder Pain and Disability Index (SPADI)

Provider: Steven Murdoch

Today's date: _____

Instructions

Please select one option that best represents your experience during the last week attributable to your shoulder problem.

1. How severe is your pain at its worst?

☐ 0 : No pain ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : The worst pain imaginable

2. How severe is your pain when lying on the involved side?

☐ 0 : No pain ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : The worst pain imaginable

3. How severe is your pain reaching for something on a high shelf?

☐ 0 : No pain ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : The worst pain imaginable

4. How severe is your pain touching the back of your neck?

☐ 0 : No pain ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : The worst pain imaginable

5. How severe is your pain pushing with the involved arm?

☐ 0 : No pain ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : The worst pain imaginable

6. How much difficulty do you have washing your hair?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

7. How much difficulty do you have washing your back?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

8. How much difficulty do you have putting on an undershirt or jumper?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

9. How much difficulty do you have putting on a shirt that buttons down the front?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

10. How much difficulty do you have putting on your pants?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

11. How much difficulty do you have placing an object on a high shelf?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

12. How much difficulty do you have carrying a heavy object of 10 pounds (4.5 kilograms)?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

13. How much difficulty do you have removing something from your back pocket?

☐ 0 : No difficulty ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 : So difficult it requires help

Appendix 2 - Jing Method Protocol for Treating Chronic Shoulder Pain

Shoulder Girdle Protocol: Prone

Still work and grounding
Palming the erector spinae (bladder channel) - standing
Direct fascial work with fists to erector spinae
Direct fascial work with fist to trapezius and supraspinatus
Skin rolling over scapula, rhomboids and upper back
Cross hand stretch across shoulder blades
Creative work: Forearm, fist to back and trapezius
Hot stones: Scapula sawing and Upper traps
Stripping supraspinatus, rhomboids and infraspinatus
Scapula mobilisation
Deltoids: trigger point work and cross fibre friction to deltoid tuberosity
Stripping deltoid – broad/ specific/broad
Triceps: Broad work and specific stripping
Teres major and teres minor – compression and cross fibre friction
Cross fibre friction SITS attachments on head of humerus

Sidelying

Side-lying trapezius stretch
Supported shoulder circumduction
Working the vertebral border of the scapula
Latissimus dorsi and axillary border of the scapula: compression and ‘money sign’
Serratus anterior, Latissimus dorsi stretch
‘Devil’ pec stretch

Supine

Sternal attachments of pectoralis major: cross fibre friction
Subclavius and pectoralis major attachments: supported thumbs or fingers
Stripping pectoralis major and intercostals - broad/specific/broad
Working belly of pectoralis major
Palmar effleurage to pectoralis major
Soft tissue release (STR) to pectorals

Appendix 3 - Ethics Form and Participant Approval

	CHECKLIST OF INSTRUCTIONS FOR STUDENTS	✔
1	Complete Section 1 to Section 13	
2	Electronically sign and date	
3	Participation information form	
4	Participation consent form	

Jing BTEC Research Ethics Form

BTEC Level 6 – Professional diploma in advanced clinical sports massage

Section 1: to be completed by student

Student's name:	Steven Murdoch
BTEC Year-group:	2021-2023
Date of application:	June 2022
Student email address:	hello@stevenmurdoch.co.uk
Title of research project:	Effects of The Jing Method Advanced Clinical Massage in adults with chronic shoulder pain.

Section 2:
Does your project involve any primary research using human subjects?
Please delete as appropriate.

	YES	**NO**
Does your project involve any primary research using human subjects?	X	
If yes, does it involve children under 16?		X
If yes, does it involve children under 18?		X
Other vulnerable populations (i.e. mental illness, aged subjects)?		X
Does your project involve NHS patients, NHS staff or Local Authority Service Providers? *If yes, you must obtain 'external ethics approval' for your proposal before the form can be signed-off by 'Jing' and before you can start your fieldwork.*		X
Are you planning to use deception?		X
Are you collecting sensitive personal data such as sexuality, mental health data, etc?		X
Does your project make use of a validated questionnaire?	SPADI (Shoulder pain and disability index)	
Does your project make use of a new/adapted questionnaire or semi-structured interview checklist?		X

Section 3:

Where is your research being undertaken? At Steven Murdoch Clinical Massage treatment room, 71 Princes Avenue, London, N13 6HA.

If your research is being undertaken outside of your own premises, do you have written confirmation from the establishment involved? If yes, please provide evidence.	YES N/A	NO

Section 4:

How will you recruit subjects for this research study?

- Facebook adverts
- Social Media posts: Facebook, Google Business, Instagram, NextDoor
- Local posters
- Current clients and contacts.

Section 5:

How will you manage participant confidentiality? Ensure that the information refers to GDPR and is compliant with this legislation.

- All data held will be in accordance with the UK General Data Protection Regulation (UK GDPR) 2018.
- Clients will be informed on initial sign-up that their personal data will not be shared with third parties and will not be seen by anyone other than the researcher.
- All client names will be replaced by numbers to maintain anonymity.
- All data will be kept securely and password protected in the researcher's cloud-based contact management system.

Section 6:

1. Outline your project procedure

- Participants will be recruited to explore the effects of the Jing Method of Advanced Clinical Massage shoulder girdle clinical massage protocol in adults with chronic shoulder pain.
- Applicants will complete an initial online form of enquiry stating their interest and declaring they meet a basic criteria.
- This will be followed by an exploratory telephone call initiated by the researcher.
- Should there be a joint interest in the applicant becoming a participant, the applicant will be invited to schedule a one-to-one online consultation via a data-protected, secure online practice management software called Jane App.
- Prior to the video call, participants will be sent an email outlining the study.
- Participants will complete a digital health history questionnaire via Jane App.
- In the questionnaire, they will be asked to provide details on surgeries, medical conditions, current medications, and treatments or therapies they have had in relation to their shoulder pain.
- Prior to the online consultation, participants will be emailed a link to complete a Shoulder Pain and Disability Index (SPADI) questionnaire. They will complete this via the data-protected downloadable app (PhysApp).
- During the online consultation, the medical history will be reviewed as well as the SPADI questionnaire results. At this time, the researcher will assess the applicant meets the full inclusion and exclusion criteria.
- Should both parties agree to proceed, the participant will be sent a letter outlining what is expected of them, along with a consent form to sign.
- The study will then consist of 2 phases
- Phase 1: The participants will complete the SPADI questionnaire each week for six weeks. During this time, they will be requested not to have other treatments for the condition.
- Phase 2: The participants will then each have 6 hands-on sessions, spaced at weekly intervals. The sessions will comprise the Jing Method shoulder girdle protocol, incorporating heat, myofascial release, trigger point work, static acupressure, and stretches.
- In between each session, the participants will be given daily self-care exercises to complete and record compliance at home.
- The exercises will take no more than 15 minutes to complete once per day.
- Participants will be asked to complete the SPADI questionnaire 5 days after each hands-on session via PhysApp. The participants will receive an automated reminder via email.

2. Briefly describe, **what your participants** have to do

E.g. will they be interviewed? Where, for how long? Will they complete a Questionnaire? Will they receive a treatment intervention? Will they be involved in a group discussion?

- Applicants will complete an initial online form of enquiry stating their interest and declaring they meet a basic criteria.
- They will then be invited to an exploratory telephone call initiated by the researcher.

- Should there be a joint interest in the applicant becoming a participant, the applicant will be invited to schedule a one-to-one online consultation via the practice management software (Jane App).
- Participants will complete a digital health history questionnaire via Jane App.
- In the questionnaire, they will be asked to provide details on surgeries, medical conditions, current medications, and treatments or therapies they have had in relation to their shoulder pain.
- Prior to the online consultation, participants will receive a link to complete a Shoulder Pain and Disability Index (SPADI) questionnaire. They will complete this via the data-protected downloadable app (PhysApp).
- During the online consultation, the medical history will be reviewed as well as the SPADI questionnaire results. The participants will be asked to answer other questions relating to their pain. At this time, the researcher will assess the applicant meets the full inclusion and exclusion criteria.
- Should both parties agree to proceed, the participant will receive an information sheet via email outlining what is expected of them, along with a consent form which they will be asked to sign.
- Participants will be required to complete a Shoulder Pain and Disability Index (SPADI) questionnaire via a data-protected, secure online and mobile app called PhysiApp, once per week for the duration of 6 weeks without treatment intervention.
- Participants will then attend six one-to-one, 60-minute sessions in Palmers Green, North London.
- Each session will comprise a hands-on treatment of the Jing Method shoulder girdle protocol and a self-care demonstration.
- In addition, participants will receive the self-care exercises on the downloadable data-protected app (PhysiApp) via email.
- Participants will be required to perform and log the completion of the self-care exercises each day for the duration of the six hands-on treatments.
- Exercises will take no more than 15 minutes each day.
- Participants will continue to complete the SPADI questionnaire, via PhysiApp, each week, 5 days after each hands-on treatment.

Section 7:

What sort of materials or stimuli will your participants be exposed to?		
	YES	**NO**
Questionnaires	X	
Pictures (will you take a photo of participants)		X
Sounds	Non-vocal music during treatment	
Words		X
Other	Hands-on Clinical massage	

If using a questionnaire you are required to attach an example.

Pictures may be taken to demonstrate the protocol used as a submission to the dissertation. Any physical features that can personally identify participants of the study will be deleted and permission is required from participants before taking any pictures.

For 'Other' please elaborate:
The Jing Method protocol for shoulder girdle from Fairweather and Mari (2015) Massage Fusion. Sample protocol sheet attached.

Section 8:

What sort of people will the subjects be? E.g. people with non-specific back pain, women above 55 years or people diagnosed with osteoarthritis

- Adults over the age of 30 who have had shoulder pain and/or restriction for 4 or more months which is affecting their ability to perform daily activities such as:
    - washing their hair
    - washing their back
    - reaching a high shelf
- Exclusion criteria:
    - Pregnancy
    - Shoulder replacement
    - A current diagnosis of polymyalgia, or fibromyalgia

Section 9:

If your research study involves minors, how will you obtain participation permission and who is the responsible adult?

N/A

Section 10:

Special Issues. Give brief details of other special ethical issues and the controls you will put in place to minimise ethical risk.

- Qualified and insured therapist
- Therapist registered with CNHC and member of CHP
- Participants' privacy and data confidential and secure
- The researcher will monitor the participants' mental wellbeing throughout the study and will refer to appropriate resources as necessary
- Covid-19 safe, risk assessment will continue to be carried out at the treatment room to minimise risk of virus transmission
- Participants will be advised to work within a low pain threshold and to stop any exercises that agitate the shoulder
- Anonymity will be maintained by only referring to participants by an allocated number in written material

Section 11

What procedures will you follow in order to guarantee the confidentiality of your participants' data?

TIP: Personal data (name, addresses etc.) should not be saved whereby they can be associated with the participants' other data.

- Record participants' name, contact details, and DOB
- Each participant will be assigned a number
- All data will be stored on separate files under their number only (anonymously)
- All personal data will be deleted as soon as the study is complete
- All personal data will be secured safely and password protected

Section 12

Does any of the following apply to your research study?	YES	NO
It requires participants to give information of a personal nature	X	
It involves minors or other vulnerable individuals;		X
It involves paying participants or an alternative incentive to participate		X
It could put you or someone else at risk of injury.		X

Section 13:

I understand that I can only start my project, once this ethical application has been approved. This applies to ALL projects, whether using human participants or not.	YES X	NO

Student's handwritten signature:

_____

(To be completed, once ethical approval has been provided)

Print Name:

Steven Murdoch

Date:

IMPORTANT

Consent

Informed consent must be obtained for **all** participants before they take part in your project. The Consent Form (example below) should clearly state the parameters and content of the research. It should explain what is expected of the participants and what they will be doing. It should draw specific attention to any elements that could conceivably cause subsequent objections, and the measures you are taking to ensure the confidentiality of their data. It should also state that the participants are free to withdraw from the study at any time. Studies carried out in schools require the permission of the head-teacher, and of any responsible adults as per the head teachers' recommendation. Minors aged over 14 years should also sign an individual consent form themselves. If you are planning to carry out a project whereby you will be in contact with minors, you must establish from the head-teacher or other responsible adult whether the work proposed will require you to have the relevant DBS disclosure. Please seek advice from your Local Authority.

You must complete a consent form for every participant involved in your study.

PROJECT TITLE: Effects of The Jing Method Advanced Clinical Massage in adults with chronic shoulder pain.

STUDENT NAME: Steven Murdoch
STUDY LOCATION: At researcher's treatment room, 71 Princes Avenue, Palmers Green, North London, UK
Tel: 020 7661 7044
email: hello@stevenmurdoch.co.uk

INFORMATION FOR PARTICIPANTS

Important
Please be advised that you can withdraw your participation from this study at any time. There is no need to submit a reason and there will be no consequences to you as a result of withdrawing.

What will be expected of you, the participant?

- You will complete a digital health history questionnaire via a data-protected, secure online practice management software called Jane App.
- In the questionnaire, you will be asked to provide details on surgeries, medical conditions, current medications, and treatments or therapies they have had in relation to their shoulder pain.
- You will attend a one-to-one video consultation, consisting of a detailed consultation, with questions relating to your shoulder pain, and lifestyle.
- You will be required to complete a Shoulder Pain and Disability Index (SPADI) questionnaire via a data-protected, secure online and mobile app called PhysiApp, once per week for the duration of 6 weeks without intervention.
- You will then attend six, weekly one-to-one, 60-minute sessions in Palmers Green, North London.
- Each session will comprise a hands-on treatment of the Jing Method shoulder girdle protocol and a self-care demonstration.
- In addition, you will receive the self-care exercises on the downloadable data-protected app (PhysiApp) via email.
- You will be required to perform and log the completion of the self-care exercises, each day for the duration of the six hands-on treatments.
- Exercises will take no more than 15 minutes each day.
- You will continue to complete the SPADI questionnaire, via PhysiApp, each week, 5 days after each hands-on treatment.

What does the initial consultation and research study involve?

Our video consultation will take approximately 20 minutes. We will review the health questionnaire that you will have already completed. We will review the first Shoulder Pain and Disability Index (SPADI) questionnaire that you will have completed and discuss the pain you are experiencing.

The study will consist of 2 phases, each lasting approximately 6 weeks.

The first phase will be about understanding and recording the average pain levels of the participants through 6 (weekly) recordings of the SPADI questionnaire.

The following six weeks will consist of 6-weekly hands-on massage sessions and self-care exercises that participants will perform between sessions. Again, each week, participants will complete the SPADI questionnaire once per week.

The total duration of the study will be 13 weeks.

Once the study is completed, anonymised data will be analysed, comparing the averages of the first 6 SPADI results, with the 6 SPADI results of the hands-on period. The aim will be to appraise the effectiveness of the intervention: Effects of The Jing Method Advanced Clinical Massage in adults with chronic shoulder pain.

Are there any risks involved?

The manual treatments are safe and performed within a comfortable pain threshold. You will be given simple self-care exercises to perform. These will consist of self-massage, mobilisation and stretching. All are safe and you will be advised to perform them within a comfortable pain threshold.

Occasionally, you may feel more pain or stiffness after a session or the self-care exercises. This is expected to be temporary. There is a potential risk of bruising after the massage session.

What are the potential benefits to you; the participants?

Potential benefits will be a decrease in shoulder pain and an increase in shoulder mobility. This, in turn, could improve everyday function and the ability to perform activities with less pain. As a result, there is the potential for improved well-being.

How the results of the study will be used

Your data will be mathematically analysed together with all the other participants' data, and the findings from this analysis will be communicated to the project supervisor and possibly other practitioners. Communication of the findings may be in the form of all / any of the following: a dissertation, reports in scientific journals, articles in newsletters, and presentation at a conference.

Confidentiality

All data and personal information will be stored securely in accordance with the terms of the General Data Protection Regulation (GDPR), 2018, and will be accessible only by the student, Steven Murdoch. After completion of the study, all data will be made anonymous (i.e. all personal information associated with your data will be removed). Your data will be anonymous in any written reports, articles, and presentations of the results of the study.

What to do now you have decided to participate

If you would like to participate, please return a completed consent form to Steven Murdoch. If you have any further questions, please contact **me** on the telephone number or email address above.

Thank You.

PARTICIPANT CONSENT FORM

Title of study:

Effects of The Jing Method Advanced Clinical Massage in adults with chronic shoulder pain.

Name of student: Steven Murdoch

- I have read the information sheet about this study
- I have had an opportunity to ask questions and discuss this study
- I have received satisfactory answers to all my questions
- I have received sufficient information about this study
- I understand that I am / the participant is free to withdraw from this study:
- At any time (until such date as this will no longer be possible, which I have been told)
- Without giving a reason for withdrawing
- That I am free to refuse to answer any question without saying why
- That the services I am receiving will not be affected whether I participate or not.
- I understand that my research data may be used for a further project in an anonymous form, but I am able to opt-out of this if I so wish, by ticking here.
- I agree to take part in this study

Signed (participant)	Date
Name in block letters	
Signed (parent/guardian/other) (if under 18)	Date
Name in block letters:	
BTEC students contact details (including telephone number and e-mail address): Steven Murdoch Steven Murdoch Clinical Massage 020 7661 7044 hello@stevenmurdoch.co.uk	

Section 3: Jing 's assessment (to be completed by Jing)

EITHER:
This project is not designed to include fieldwork with human participants. Insofar as secondary data are to be used, I am confident that appropriate procedures are in place for data protection and non-disclosure of any personal or confidential data.

Signature: .....date: .....

OR:
This project is designed to include fieldwork with human participants.
(please circle yes or no)

YES / NO All necessary statutory, legislative or other formal external approvals have been obtained (e.g., permissions, police checks, external research ethics and governance approvals in the case of research involving NHS staff or patients or Local Authority service providers or users).

YES / NO The design of this study ensures that the dignity, welfare and safety of the participants will be ensured and that if children or other vulnerable individuals are involved they will be afforded the necessary protection.

YES / NO I am confident that participants will be given all necessary information before the study, in the consent form, and after the study if necessary.

YES / NO I am confident the participants' confidentiality will be preserved.

YES / NO I consider that any risks involved to the student, the participants, and any third party are minimal.

YES / NO I consider that Departmental approval should be given, since ethical risks have been appropriately addressed in the proposal and I am confident that steps will be taken to minimise any risks.

Signature: ..... date: .....

If a second opinion was sought from a research ethics expert, the advisor should also sign this form below:
Advisor's name (please print):

Advisor's signature: ..... date: .....
Once the Jing's signature has been obtained, the student must return the completed form to the Jing Office.

Appendix 4 - Participant Letter

Hello (Candidate)

Thank you again for exploring the opportunity to participate in my shoulder pain massage study.

From our telephone call, I am confident you are eligible for the study and I am really looking forward to you participating.

(Thank you for scheduling a video consultation call for X Date. I look forward to seeing you then).

For you to make an informed decision about participating in the study, I will outline everything you need to know below.

If you have any questions at all, please feel free to email me or bring them up at our video consultation.

Is the study for you?

This study is for you if you are over 18 and have had shoulder pain for 4 or more months. Maybe you have tried other treatments with little or no success. Perhaps you have even become resigned to having persistent shoulder pain.

The study is for you if you are open to trying manual therapies and are happy to take on some simple self-care exercises between hands-on sessions.

When does the study take place?

The study runs for **13 weeks from 1st September to 1st December 2022**.

For 6 of those weeks (**17th October to 1st December 2022**), you will attend **6 in-person massage treatment sessions in Palmers Green**, North London, N13.

Why is the shoulder pain massage study happening?

I am a Jing Method clinical massage therapist specialising in the treatment of chronic musculoskeletal pain. In my North London clinic, I work with a range of chronic pain such as migraines, low-back pain, and of course, chronic shoulder pain.

Keen to expand my knowledge and skills in treating chronic pain, in 2019 I embarked on an advanced qualification in my field: the BTEC Level 6 in Advanced Clinical and Sports Massage.

This is the highest level of education a massage therapist can achieve in the UK. It is overseen by experts in the field of Musculoskeletal Pain, Education, Sports Science and Psychology.

As part of our coursework, we are given an opportunity to design and carry out a study into the effects of a clinical massage wellness programme. I have chosen to investigate the effects of the Jing Method clinical massage in adults with chronic shoulder pain.

Does it cost to participate?

It is completely free to participate in the study. However, if you would like to make a contribution to cover costs, I would suggest £20 per session (£120 total). However, again, you do not need to pay anything to participate.

What does the study consist of?

Pre-Study events

- An initial telephone call, exploring the study and introducing the outcome measurement tool: The Shoulder Pain and Disability Index (SPADI) questionnaire.
- Registering on the practice management software (Jane App) and scheduling a video consultation.
- Downloading the PhysiApp app which will contain the SPADI questionnaire.
- Completing an initial SPADI questionnaire.
- A video consultation, consisting of us reviewing your health history, as well as the results of the SPADI questionnaire. I will also ask other questions relating to your shoulder pain.
- Reviewing an information sheet outline of the study, and what is expected of you
- Giving your consent to participate in the study

Study events

The study starts properly on 1st September 2022

- **Phase 1: Understanding your pain:**
    - This phase lasts for 6 weeks and is all about us understanding your pain. Each week on a Tuesday for these 6 weeks, PhysiApp will prompt you to complete the questionnaire via the app. The questionnaire should take no more than 5 minutes to complete.
    - Once that data is gathered and we know what we are dealing with, we will then start to endeavour to make a difference during phase 2, the treatment phase.

- **Phase 2: The Treatment**
    - Phase 2 starts directly after phase 1 and also lasts for 6 weeks.
    - During this time, you will attend six 60-minute in-person, hands-on sessions: one per week.
    - Each session will comprise a hands-on treatment of the Jing Method shoulder pain massage protocol, and a self-care demonstration.
    - Between sessions, PhysiApp will prompt you to do the self-care exercises each day for the duration of the six hands-on treatments. These exercises will take no more than 15 minutes each day.

- During these 6 weeks, you will continue to fill out the SPADI questionnaire, once per week on a Tuesday.
- You will receive an email prompting you to complete the questionnaire via the PhysApp app.
- At the end of the study, I will ask for feedback on what worked for you and what didn't. If the sessions are working for you there will be an opportunity to continue.

Once my research is published, I will share with you my findings and invite you to the conference, where my colleagues and I will be presenting all our findings.

As we are investigating the effectiveness of the Jing method, please let me know if you need to alter your medication, particularly pain relief during the course of the treatment.

How will I protect your privacy?

Your privacy will be protected. All data and personal information will be stored securely in accordance with the terms of the General Data Protection Regulation (GDPR), 2018, and will be accessible only by me, Steven Murdoch. After completion of the study, all data will be made anonymous (i.e. all personal information associated with your data will be removed). Your data will be anonymous in any written reports, articles, and presentations of the results of the study.

Please note that you may at any time withdraw from the project without notice or explanation. Please call or email me with any questions. I am really looking forward to you participating in the study.

What happens next?

If after our video consultation, you would like to continue to participate in the study please let me know. I will then send you an information sheet and participant consent form for you to sign and submit.

Sincerely,

Steven Murdoch, ACMT Advanced Clinical Massage Therapist