Evaluating the effects of The Jing Method™ of Advanced Clinical Massage on women with caesarean scars and lumbopelvic 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

March 2025

Total word count: 4400

"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".

Mrs Catherine Leavett: _____

Date: 24th February 2025

ACKNOWLEDGEMENTS

Studying later in life, when things are more hectic, is not something that can be accomplished alone; rather, it takes a village to get there.

I want to start by thanking my immediate family – my husband, Duncan and children William and Florence. Without their support and sacrifices I would not have been able to attend the in-person training and finish my dissertation.

To my dad and sister Liz, I am grateful for all your love and support you have given me over the past years. I couldn't have done it without you.

There are some people who are unfortunately not here anymore. Whilst they never were able to witness this journey, I know that wherever they are, they are watching over me and raising a glass to celebrate.

One of the blessings I will take with me is my Jing family. You have provided me with love, understanding and a sense of community. For this I am grateful.

Lastly, to my patients who have showed me how clinical massage can help change lives.

‘Scarred, but still standing.
Bruised, but not broken.
Grateful, but not without grief’
Spirity Sol (2023)

ABSTRACT

The World Health Organisation (2021) states that both elective and emergency caesarean (CS) rates now account for 1 in 5 childbirths worldwide. Traditionally women are offered support from the NHS up to six weeks post-partum, however long-term care is not common practice. This study evaluates whether the Jing Method™ of Advanced Clinical Massage can help women with a CS scar who present with lumbopelvic pain (LPP), using both in-person and online interventions.

Four participants completed the study. Each participant had a CS scar with a minimum 4-month post-surgical intervention and were experiencing LPP. Participants completed the Oswestry Disability Index (ODI) questionnaire to ascertain and track their pain levels for 12 weeks, with a follow up questionnaire completed at 16 weeks. During the intervention phase (weeks 7-12) participants received a combination of in-person and online treatments, including self-care exercises to do in their own time.

This study shows that the Jing Method™ of Advanced Clinical Massage can have a positive effect on women with CS scars and LPP. Data and levels of engagement fluctuated due to the participants being mothers, who were time poor and had other constraints, however overall the average ODI scores improved. Furthermore, it demonstrates that there is a chance for this to be recognized as a treatment strategy for this demographic, although more research with a larger sample size is required.

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ABBREVIATIONS

BPS – Biopsychosocial

CS – Caesarean Section

CLBP – Chronic Lower Back Pain

HFMAST – Heat, Fascia, Muscle, Acupressure, Stretching, Teach Self Care

LBP – Lower Back Pain

LPP – Lumbo Pelvic Pain

MFR Myofascial Release

MSK – Musculoskeletal

ODI – Oswestry Disability Index

PI – Pain Intensity

PGP – Pelvic Girdle Pain

PPD – Post Natal Depression

ROM – Range of Motion

LITERATURE REVIEW

Since 1985, Caesarean Section (CS) rates have been set between 10-15% internationally (Wang *et al.*, 2020). A CS is a lifesaving procedure, with both elective and emergency rates increasing globally and now accounting for more than 1 in 5 (21%) childbirths worldwide (World Health Organisation, 2021). A CS is a major abdominal surgery which involves 'a transverse incision cut through skin, subcutaneous tissue, fascia, muscle, and uterus to deliver the foetus' (Gokal, Armstrong and Fashong, 2020). Surgical interventions can have an impact on a person's immediate and long-term quality of life, creating trauma and pain within the body (Daniszewska-Jarząb and Jarząb, 2021). Kainu et al (2010) found in their study that persistent pain one year after delivery was more common after a CS than a vaginal birth. Despite this, there is still limited treatment available for women post CS to support them with their long-term recovery. This study aims to evaluate the effectiveness of Jing Method™ of Advanced Clinical Massage in helping to improve pain levels in women with LPP and CS scars.

Adhesions, fascia and pain

According to Abd-Elsayed et al (2022, p) 'The visible external scar is just the proverbial tip of the iceberg, as scar tissue extends below the skin and crosses tissue planes.' Adhesions can attach to organs and other structures causing chronic pelvic pain and other complications (Brüggmann *et al.*, 2010). Intra-abdominal adhesions can occur in 46%-83% in women who have had a CS (Sönmez et al., 2023) leading to many symptoms (see Table 1).

Table 1 – List of symptoms attributed to Intra-abdominal Adhesions.

(Gokal, Armstrong and Fashong, 2020)

The effects of Intra-abdominal Adhesions
Irregular bowel movements
Chronic abdominal pain
Scar endometriosis
Digestive Disorders
Intestinal obstruction
Blocked circulation
Stagnate energy flows
Decreased fertility
Lowered libido
Future infant mortality

Scars can impair the fascial network which may explain why some women experience pain locally and distally from the CS scar. In their study, Fan et al., (2010, p.8) conclude that the formation of scar tissue is an important factor in 'developing muscle deficit, and asymmetries and altering sliding within the fascial plane,' causing pain around the scar, abdomen, lower back and pelvis. It is therefore important to consider 'a whole-body fascial linkage' in relation to scars (Fan et al., 2010, p.8) leading to musculoskeletal (MSK) pain resulting from abdominal surgery.

Fascia comprises of multi-dimensional connective tissue made up of collagen and elastin fibres found within a ground substance of hydrated proteoglycans (Avison *et al.*, 2020). Fascia explains how our whole body is interconnected, allowing our body to move fluidly.

Surgical procedures, among other traumas, can cause fascial restrictions along myofascial lines, causing pain and limiting Range of Motion (ROM) (Kodama *et al.*, 2023).

Lumbopelvic Pain (LPP)

LPP is very common throughout pregnancy affecting 50-90% of pregnant women. It can however, occur into the post-partum period with 33% experiencing pain beyond 3 months and 12 months after delivery (Gutke *et al.*, 2011), and can have long term negative implications in terms of a reduction in quality of life and day to day activities (Goossens *et al.*, 2021). LPP can be split into more specific areas of lower back pain (LBP) and pelvic girdle pain (PGP) (See table 2).

Table 2 – Comparison of LBP and PGP. (Vleeming *et al.*, 2008).

Lower Back Pain (LBP)	**Pelvic Girdle Pain (PGP)**	**Lumbo Pelvic Pain (LPP)**
Pain between the 12th rib and gluteal fold	Pain between the posterior iliac crest and gluteal fold.	When both LBP and PGP are present, the term LPP can be used.

According to Gutke et al., (2011) biomechanical and hormonal changes can be why some women experience LPP during pregnancy, and why symptoms can reverse 3 months postpartum. Noren et al., (2002) in their study found that LBP, posterior pelvic pain, or both may still be present in some women 3 years after pregnancy, and they explain that this could be due to muscular insufficiency. This however, could also be attributed to other factors such as psychosocial, lack of activity post-delivery or kinesiophobia (fear of movement) (Gutke *et al.*, 2011).

The Biopsychosocial Model of Pain

The psychosocial aspect of pain is vital for postpartum recovery (Meints and Edwards, 2018). Seventeen percent of new mothers have reported to suffer with Post Partum Depression (PPD) including feelings of depression, anxiety, and exhaustion negatively impacting recovery, relationships, and the health and wellbeing of their child (Grisbrook *et al.*, 2022).

Access to support systems can improve quality of life (Reblin and Uchino, 2008). Considering a woman's support network is an important for their recovery. Many women live far from family, balance both home and work commitments and may not have access to essential resources to support them. Strong relationships can be linked to quicker recovery (Lett *et al.*, 2007), increased wellbeing (Lamu and Olsen, 2016) and decreased risk of developing chronic pain (Froud *et al.*, 2014). In contrast those living with chronic pain with limited support systems, can be associated with higher pain levels and disability (Allen *et al.*, 2020).

Women are more likely to experience chronic pain (Johannes *et al.*, 2010). Primary care givers who are experiencing pain, can be negatively linked to lower psychosocial performance which can impact both family and social life (Ashton-James *et al.*, 2022).

Women who have undergone an emergency CS, may present with negative feelings towards the birth, compared with someone who had a vaginal or an elective CS (Grisbrook *et al.*, 2022) and may have an adverse psychosocial impact including symptoms such as grief, humiliation, depression, violation and helplessness (Gokal, Armstrong and Fashong, 2020). The whole person approach is therefore essential for recovery, taking into consideration the psychological impact of having a CS as well as understanding the history of the scar and its individual story.

People who have long term LBP are more prone to experiencing anxiety and depression (Kamper *et al.*, 2015), which can have an impact on a person's quality of life (Otero-Ketterer *et al.*, 2022). Linton (2000) in their systematic review explains that stress and anxiety are factors in the development of LBP. Women who experienced LPP during pregnancy were more likely to catastrophise, consequently restricting their movement, doubling their risk of developing LPP in the post-partum period (Olsson, Nilsson-Wikmar and Grooten, 2012).

Current Treatment

After giving birth, women are offered support by NHS midwives and health visitors. Between 6-8 weeks they can attend a postnatal check with their GP. This is an opportunity for a doctor to check the health and wellbeing of mum and baby, and if applicable, to check wound healing. After this point women are not offered any further help with their CS scar recovery.

Scar massage is becoming increasingly popular treatment. It involves the use of superficial techniques working on and around the scar to encourage 'flexibility, adhesions, pruritis and pain' (Dehez, 2022). In a small scale study by Wasserman et al., (2018) soft tissue mobilisation of scars has been shown to be successful at reducing chronic pain however, Click or tap here to enter text.a larger sample size is needed to determine its effectiveness.

Manual therapy, which includes physiotherapy and massage are additional treatments used to treat scars and LPP. Teymuri et al (2018) in their study found that the use of stabilisation exercises can help to decrease pain, improve quality of life and pelvic floor function. Due to the broad nature of each therapy, it is difficult to determine individual efficacy. A multi-disciplined approach appears to be the most successful (Chen *et al.*, 2021).

The Jing Method™

The Jing Method™ of Advanced Clinical Massage is an outcome-based multidisciplined therapy designed to address chronic MSK pain. It uses a six-week treatment plan, where practitioner and patient work together to help increase mobility, joint range of motion (ROM), decrease pain and improve quality of life. The treatment follows the HFMAST model which involves using Heat, Fascial techniques, treating Muscles with trigger points, Acupressure points, Stretching and Teaching self-care (Fairweather and Mari, 2015, p.6). Wigmore (2023) assessed the effect of the HFMAST approach in treating LPP on post-natal runners. She found that a multi modal hands-on approach using the Jing Method™ helped to reduce pain. The study did not consider the effects of CS scar on LPP, therefore more research is required in this area.

Heat

Freiwald et al (2021) explain that by applying heat it can help to activate thermoreceptors, blocking pain signals in the lumbar dorsal fascia and spinal cord. Heat can also help to increase circulation and relax muscles, which can help to reduce muscle spasms, increase muscle flexibility and provide an analgesic effect (Malanga, Yan and Stark, 2015). In general there is limited amount of scientific evidence to support the use of heat.

Myofascial release (MFR)

Ozog, Weber-Rajek and Radziminska (2023) suggest in their systematic review that using a series of isolated MFR techniques had a significant impact at reducing pain levels in people with chronic lower back pain (CLBP), improving ROM of the spine, and reducing disability. Black (2017) found in her Jing study into abdominal scarring and LBP, that MFR helped to improve overall pain intensity by 63.6%. This was a small-scale study and there is still

unsubstantial research around the effectiveness of MFR, therefore more research needs to be done in this area to support the efficacy of this therapy.

Trigger point therapy (TRP)

Releasing trigger points may help to reduce pain and down regulate the nervous system (Xu, Ge and Arendt-Nielsen, 2010). Overall research supports the use of TRP to reduce MSK pain and improve function (Bron *et al.*, 2011) however, this research is limited due to small sample size and lacks sufficient evidence to support its effectiveness.

Acupressure

Acupressure has been used for thousands of years to help promote relaxation and treat pain. Working along the meridians in our body, the practitioner will place pressure on specific acupoints along these channels. Systemic reviews on acupressure support its use with chronic conditions, although more clinical research is needed (Murphy *et al.*, 2019).

Stretching

Stretching is a common technique used to improve ROM before activity and in rehabilitation (Bryant *et al.*, 2023). Whilst there is consensus that unilateral stretching creates 'instantaneous and long-lasting changes in maximal joint ROM,' there are also views that stretching can affect contralateral limbs and distal parts of the body (Stecco *et al.*, 2021). Behm et al., (2016) identified in their study that stretching the lower limbs increased ROM in the distant upper limbs and vice versa. This can be explained by the role of fascia in connecting muscles across myofascial lines. (Wilke *et al.*, 2016).

Self-care

Providing self-care techniques allows the client to be in control of their own recovery. Breathwork has been reported to have small to moderate effects on non-clinical stress anxiety and depression compared to those who did not participate in breathwork (Fincham *et al.*, 2023). Furthermore, teaching people to 'better care for themselves can improve their physical and mental wellbeing' (Silva and Health Foundation (Great Britain), 2011). Research is limited and further analysis is required to understand its therapeutic benefit.

The purpose of this study is to assess the effectiveness of the Jing Method™ of Advanced Clinical Massage as a treatment for women with LPP and CS scars.

METHOD

Ethical approval for this research study was approved by Jing Institute of Massage and Complementary Medicine in April 2024 (see appendix 1). The study evaluates the effects of the Jing Method™ of Advanced Clinical Massage on women with a CS scar and LPP.

A literature review was undertaken into research around CS scars and LPP and this was used to design and inform the study. It utilised a variety of publications including journals, books, articles and websites which were sourced via Google Scholar and Mendeley.

Five participants were recruited using a variety of methods including social media and practitioner referrals. All participants had either single or multiple caesareans and were presenting with LPP pain which affected their daily activities. One participant subsequently had a medical diagnosis which meant she had to be excluded and her data was removed from the study (see appendix 2). Therefore there were 4 participants in the study.

Participants had to meet certain criteria to take part in the study (Table 3).

Table 3 – Inclusion and exclusion criteria for the research study.

Inclusion Criteria	**Exclusion criteria**
Female	Participants will not be under the age of 18 years old.
CS scar with a minimum 4-month post-surgical intervention.	Less than 4 months since caesarean section.
LPP which has occurred before and after having a caesarean section.	Any ongoing medical issue/medication which may affect well-being; for example, cancer treatments such as chemotherapy/radiotherapy or have a stoma.
Experiencing persistent LB, or PP (pelvic pain) affecting daily activities.	Anyone who is pregnant.

The project utilised a within subjects-design, with all participants receiving the same treatment, online intervention and home exercises.

Table 4 – Benefits of using a within subjects-design (Adapted from Bhandari, 2025).

More suitable to use with smaller sample groups which can help to keep costs to a minimum.
Gives researchers a high degree of control over the experimental conditions.
Statistically stronger as individual variation is removed.

The initial stages involved each participant attending an individual phone meeting to explain the nature of the research project. The participant was given the opportunity to explain their medical history, including their personal journey from pregnancy, post-partum recovery and into motherhood. This information helped the researcher to understand if they met the inclusion criteria. Following this, the participant was asked to complete a consent form to take part in the study (see appendix 3).

The control phase took place during the first six weeks. Participants were sent the Oswestry Disability Index (ODI) questionnaire (Fairbank and Pynsent, 2000) (see appendix 4) via Google forms every Friday for 12 weeks, to better understand their current pain levels. In week 16, participants were sent the ODI to assess the outcome and long-term benefit of their treatment. The ODI is used to measure LBP in individuals, and is considered a valid tool to assess disability, and measure the effects of treatment (Vianin, 2008). Overall there were 10 multiple choice questions to choose from. Each answer was allocated a score between 0-5 and the mean average was calculated weekly to ascertain improvements to pain during the intervention phase and 4 weeks after.

The intervention phase took place from weeks 7-12 of the study and involved a combination of alternating in-person and pre-recorded online rehabilitation sessions. The in-person treatments took place on weeks 7, 9 and 11 and all followed the Jing Method™ low back and hip and pelvis protocol (see appendix 5).

Online sessions took place on weeks 8, 10, and 12 and involved heat, grounding, breathwork, education around the scars, abdominal massage, myofascial ball work and the exercises given at the previous in-person session (see appendix 6). Videos were uploaded to a private YouTube and made accessible to all participants. The video could be completed in their own time and count as one of the exercise sessions in the week.

Participants had the opportunity to attend an online group Live Q&A via google meet in weeks 8,10 and 12 to ask any questions about the content of the pre-recorded videos issued during these weeks.

Participants were given a home exercise plan to complete at each in-person session in weeks 7, 9 and 11 (see appendix 7). At week 8, 10 and 12, this was supplemented by the online sessions. Participants were expected to complete exercises three times a week for two weeks until their next in-person session, confirming with the researcher how many times they completed them each week.

RESULTS

Overall, the ODI scores showed that all participants presented within the mild disability level. During the intervention phase participants remained in this level however, they were at the lower end of the spectrum.

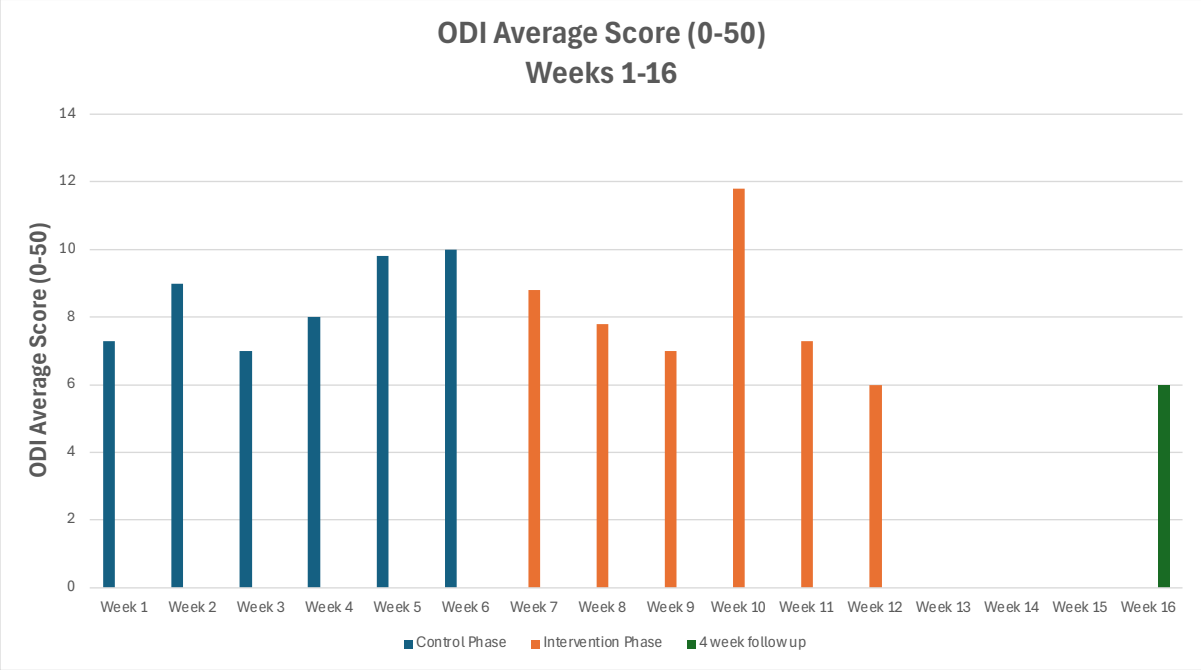

Figure 1 - Average ODI Score Weeks 1-16.

At week 10 there was an average increase in ODI score, but this was due to a participant's scores increasing substantially due to family illness. However, there was a decrease in the average ODI scores from week 11 which identified an overall 49% reduction in pain for all participants by the end of the intervention phase and continuing onto week 16 (Figure 1).

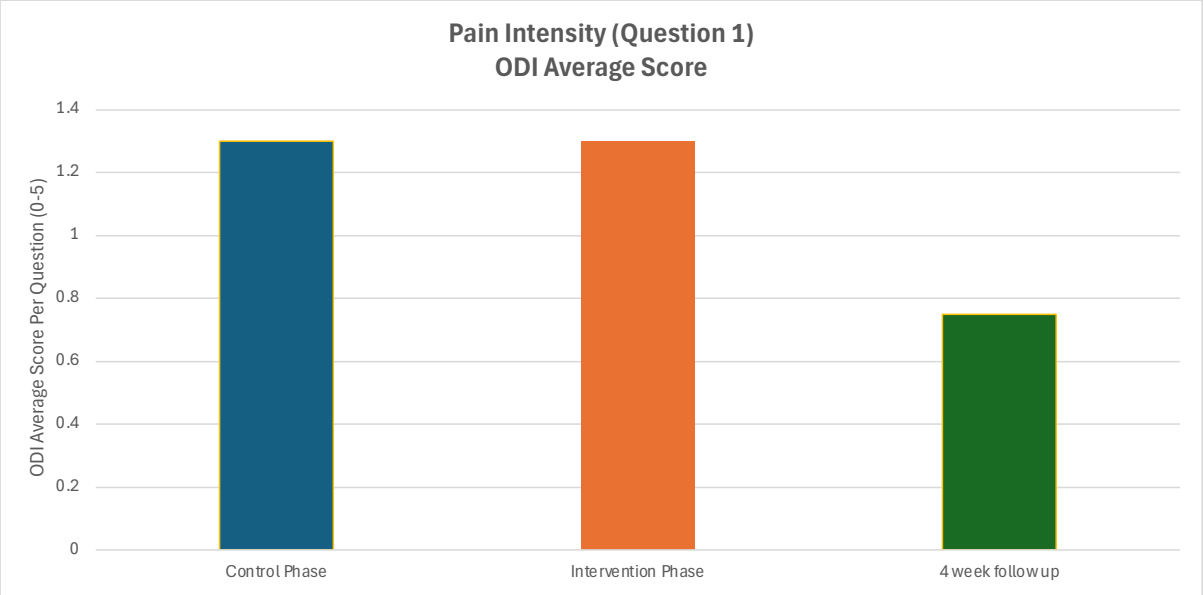

Figure 2 – ODI Average Score (Question 1 - Pain Intensity).

Question 1 of the ODI focuses on Pain Intensity (PI). PI remained at the same level throughout both the control and intervention phase with an average of 1.3 however, by the 4 week follow up this had reduced to an average of 0.75, an improvement of 43% (Figure 2).

DISCUSSION

This study provides some limited evidence that clinical massage can help to support women with CS scars experiencing LPP. This adds to the growing body of research to further support that the Jing Method™ of Advanced Clinical Massage can reduce pain levels in women with LPP and/or abdominal scarring (Black, 2017; Wigmore, 2023).

Jing Method

Participants received identical protocols at each treatment. Similarities were identified and techniques were modified. For example, participants all presented with right sided abdominal pain and LBP, therefore more focus was directed towards working trigger points, MFR and stretches of the Quadratus Lumborum, Rectus Abdominas, Psoas and Iliacus (see appendix 5). While standardizing the intervention allows for better isolation of each subject and for the results to be more scientifically credible (Patterson *et al.*, 2008) it was difficult to deliver a truly identical session; a more prescriptive protocol may have helped to improve results for each individual.

Following a CS, adhesions can develop and attach to organs and surrounding structures leading to chronic pelvic pain (Brüggmann *et al.*, 2010). Adhesions can impact the fascial network, restricting movement and causing pain and discomfort proximal and distal from the scar (Fan *et al.*, 2020), which could help to explain why participants were experiencing abdominal pain and LBP. Participants pain levels decreased by the end of this study further supporting Black's (2017) study which found MFR techniques helped to improve overall pain intensity by 63.6%.

At each in-person session (weeks 7, 9 and 11), participants were given self-care exercises to complete 3 times a week. Riegel et al., (2021) explains that creating a self-care routine can help recovery, and providing access to support can further improve a person's wellbeing (Reblin and Uchino, 2008). Additionally, even when someone has created a positive, healthy

behaviour such as exercise, maintaining these behaviours can still pose a challenge, (Kwasnicka *et al.*, 2016) as evidenced by some participants in this study (during weeks 9, 10 and 11) who were unable to commit to consistent self-care due to individual family pressures. (see appendix 7).

A key component of the Jing Method™ is education and empowering people to put themselves in the driving seat to manage their own pain. During the online sessions, participants were provided with information about their scars and why they may be experiencing pain, supporting Silva and Health Foundation (2011) that by educating people to look after themselves can help to improve both physical and psychological wellbeing.

Furthermore, data shows positive results at the four week follow up, evidencing the importance of teaching the self-care element of the HFMAST model; equipping individuals with the tools to take control of their own pain management. Demonstrating that post-natal women are motivated to manage their own recovery, thus highlighting the potential for collaboration with other women's health professionals or organizations to offer long-term postpartum support and rehabilitation courses.

Biopsychosocial

The incidence of fluctuating scores could be attributed to external factors, such as illness and life stresses. Psychosocial factors caused a significant increase in one participant's data in week 10 across all areas with an average of 2.8, which explains the increase in scores. This supports the idea that the brain is able to increase pain levels depending on how we are feeling (Fairweather and Mari, p,35). Wigmore's (2023) study had more consistent results, despite working with the same demographic. This could have been due to the fact that the research focused on post-natal runners, with exercise helping participants to manage their mental health. Furthermore, research indicates that undergoing a C-section can negatively

affect a woman's mental health (Grisbrook *et al.*, 2022). While Wigmore's study shows that clinical massage can benefit postpartum mothers, it did not involve participants who had undergone a CS. If it had, the results might have differed due to the potential negative impact a CS can have on a woman's well-being.

Section 10, Employment/homemaking had considerably higher scores during the intervention phase, with little improvement overall. This could help to explain how stress (Linton, 2000) and a lack of support at work and at home (Allen *et al.*, 2020) can have a significant effect on pain levels especially in mothers who are juggling the demands of both (Evans et al., 2005).

Committing to a 6-week programme provided participants with an opportunity to help themselves. Many women were not given support after they had children, often being dismissed by the medical community and told to live with their pain. Additionally, they were never educated about their pain or given advice to help with post-natal rehabilitation. According to Louw et al., (2017) educating individuals can help them to gain a deeper understanding of their pain, fostering healthier and more positive attitudes and beliefs towards managing their chronic pain, thus positively impacting recovery. During this study, data from the follow-up questionnaire at the 4-week mark indicate that pain levels decreased by 43% (Figure 2). This may suggest that the information and tools provided during the intervention phase of the study equipped participants with valuable resources to effectively manage their own pain. Furthermore, feedback obtained following the study indicated that participants felt empowered and supported with their recovery (see appendix 9). This reinforces the findings from Sheppard's (2018) research study which demonstrated that TA is also an important factor in treating clients with CLBP.

Women who are the main care givers in their households, can be negatively associated with poorer psychosocial performance. At each session participants took part in grounding and

breathwork, supporting Probyn et al., (2017) in their study that including these elements can help to calm the central nervous system thus improving pain levels. Evans et al., (2005) explains that psychological factors can potentially influence our perception of pain, so downregulating the nervous systems during the sessions could have helped to contribute to the positive results in the study.

Blended Study

This was a blended study incorporating elements of both in-person treatment and pre-recorded online videos. Harte (2023) utilised a dual modality of the Jing Method in their study. Results indicated a reduction in pain and disability from 4.76 to 3.62, with mean disability scores reducing from 2.70 to 2.16. She concluded however, that participants engaged more with the in-person sessions, with 3 people not attending the online sessions.

Wigmore (2023) in her Jing study found that hands on massage therapy helped to improve pain levels by 57% in postnatal runners with LPP, although the study lacked a follow up questionnaire to determine the long-term effects of the study. In contrast, Bennet (2021) conducted a 5-week online Jing study aimed at helping post-natal women with PGP. Results showed this protocol to be effective at reducing pain and improving range of motion, although the study took place during the end of covid lockdown, so it is difficult to determine whether the increase in activity helped to decrease pain. Positive results could also be attributed to the online sessions being live and guided by the researcher.

During this study into CS scars and LPP, participants were given pre-recorded videos on weeks 8,10 and 12 and were not individually coached. Exercises were demonstrated to the participants with the researcher present at the in-person sessions and participants were given the opportunity to attend Live Google Meets in the same weeks to answer any further questions about the exercises. The Google Meets were poorly attended, which could

demonstrate that participants felt well informed and did not require further support or clarification about the exercises.

Banbury et al., (2018) in their study, found that online sessions were suitable for those who do not have the time to attend weekly sessions, which is especially important for the participants in this group who, as mums may not always have access to childcare. Additionally, participants were comfortable in their own environments, and did not have to endure the stress of commuting to a clinic and could relax at home. Data from this study shows that after each online session, there was a reduction in average pain levels over the following weeks, further supporting the idea that the online videos not only educated participants about their pain but also provided them with tools to manage it, leading to a positive impact on their pain levels.

Overall, research suggests that both in-person treatments and online interventions can help to reduce pain levels, however these were all small-scale studies, and further research is required with a larger group to determine efficacy.

Limitations

Using a small-scale study with a limited sample size, can impact the data and restrict scope. While this type of research has its benefits, larger studies are more likely to produce more credible results. Results should therefore be interpreted with caution and future studies would benefit from using a larger group of participants (Biau et al., 2008).

BPS factors influenced this study, due to the emotional strain and time limitations of parenthood. Some women during the intervention phase were unable to consistently commit to a maximum of 3 home self-care exercises each week (see appendix 10). This was especially evident with the participants who had younger children and a lack of support system. This corroborates the review by Reblin and Uchino (2008), who describe how our

health can be adversely affected by a lack of social and emotional support. Future studies may benefit from capturing data around psychosocial factors using either a different questionnaire or by having the researcher use a scale of 1 to 10 to ask participants about their stress levels during in-person sessions.

None of the participants reported initially with acute pain, with the highest score of 4 used in terms of pain intensity. Darnall (2023) explained that including higher pain levels within the inclusion criteria may help to provide more meaningful results. Better screening with the inclusion and exclusion criteria may have helped to find participants who had a higher level of disability.

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CONCLUSION

This research study provides limited evidence that the Jing Method™ of Advanced Clinical Massage, utilising both in-person and online interventions, can positively influence both pain and wellbeing in women with CS scars experiencing LPP. Results fluctuated due to BPS factors, however, overall there was a decrease in pain levels.

Engagement with both the online and home exercises was strong, with pain levels decreasing after each online intervention and at the 4-week follow-up. This indicates that participants were dedicated to managing their own pain and highlights the importance of pain education and providing necessary tools for recovery. Given the lack of resources and support for new mothers, future studies could benefit from adopting an online approach or collaborating with other practitioners to develop post-partum rehabilitation programmes.

It is important to recognize, however, that there are various psychosocial factors within this demographic, and while engagement was generally high, external factors occasionally prevented some participants from participating in the online interventions and home exercises. Future research could consider using an alternative questionnaire to gather data on psychosocial factors, aiming to gain a deeper understanding of how these factors influence participants' pain levels.

Due to the sample size of this study being very small, it is difficult to determine whether the results are truly representative. However, it does demonstrate that clinical massage can be an effective treatment of CS scars and provides a framework for any future studies.

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APPENDICES

Appendix 1 - Ethics Approval

	CHECKLIST OF INSTRUCTIONS FOR STUDENTS	✓
1	Complete Section 1 to Section 13	
2	Electronically sign and date	
3	Participation information form (see separate form)	
4	Participation consent form (see separate form)	

Jing BTEC Research Ethics Form

BTEC Level 6: Professional diploma in Advanced Clinical and Sports Massage

Section 1: to be completed by student

Student's name:	Catherine Leavett
Student number:	NG68818
BTEC Year-group:	2023-2025
Date of application:	07.04.2024
Student e-mail address:	catherine_leavett@yahoo.co.uk
Title of research project:	Evaluating the effects of the Jing Method™ of Clinical Massage on Lumbopelvic pain in women with Caesarean Scars.

Section 2: Does your project involve any primary research using human subjects?
Please indicate 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?		X
Are you planning to use deception?		X
Are you collecting sensitive personal data such as sexuality, mental health data, etc.?		X
Does your study involve paying participants or an alternative incentive to participate		X
Could the study put you or someone else at risk of injury?		X
Does your project make use of a validated questionnaire?	X	
If yes, please specify the name of the validated questionnaire you are using and attach a copy here. Oswestry Disability Index Questionnaire		

Section 3: Research premises

Where is your research being undertaken? My research project will take place in person and online. In person sessions will take place at my clinic in Horsham. Total Therapy Studios, Horsham, RH12 1EE. **Online sessions** will take place online and will be pre-recorded and uploaded to a private YouTube account. Participants will be in their own environment and be able to each complete session in their own time during that week.	
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 (see attached document in Dropbox)

Section 4: Recruitment

How will you recruit subjects for this research study?

1. Social Media posts using my business account and my clinics social media pages.
2. Local Facebook Groups – Horsham Parents, Horsham Parents Network, Highwood Village and Wickhurst Green Facebook pages, Horsham Natters, and Broadbridge Heath Voice.
3. Email approaches to local businesses who specialise in helping mums e.g. Alice Duke Pilates, Busy Lizzy, Bump Birth and Beyond, Fit Mummy and Complete Core Control.
4. Emails to local charities who support cancer survivors such as Olive Tree and Macmillan Cancer Support.
5. Emails to current and past client base.
6. Referrals from practitioners within my current clinics.

Section 5 Outline your project procedure
This is effectively a draft of your method, include information on when questionnaires will be used, what your intervention will involve, any stimuli used, etc.

My research study aims to evaluate of the Jing Method™ of Clinical Massage on women with caesarean scars and Lumbopelvic pain.

It will use a within subject's study design with participants being recruited using a variety of methods including social media, referrals from other practitioners, emails to local businesses, charities as well as my current client base.

Initially, I will conduct an online consultation using zoom/phone call with potential participants individually to explain my research study, ensure they meet the inclusion criteria and obtain their consent to take part in the study.

The Control Period will take place during weeks 1-6 of the study (from Monday 5th August to Monday 9th September) and will provide the baseline of the client's pain levels. During the 6 weeks, each participant will be sent the Oswestry Disability Index Questionnaire to complete once a week. No intervention will take place during this period.

The Intervention Period will take place during weeks 7-12 of the study (from Saturday 14th September to Saturday 19th October) and will involve a combination of in person and online interventions.

In-person individual sessions will take place at Total Therapy Studios. Session 7 will be 90 minutes and will involve consultation, range of motion assessment and 45 minutes hands-on-treatment. Sessions 9 and 11 will be an hour long with 45 minutes dedicated towards hands-on-treatment. Each session will follow the Jing Method™ Lower Back and Hip and Pelvis Protocol and include MFR, trigger point therapy, acupressure, stretching and rehab exercises/self-care. Participants will receive new rehab exercises at every in-person session which they will be asked to complete 3 times a week. Background music will be played throughout the treatment.

Online sessions which will take place on weeks 8,10 and 12, will be a pre-recorded 40-minute session and based on the Jing Method™. Each session will include a short introduction followed by heat, myofascial techniques, trigger points, acupressure and stretching. The content of each online session will change weekly (e.g. to reflect the new rehab exercises given in the previous in-person session), will be uploaded onto a private YouTube account on the Monday and participants are expected to complete in their own time during that week.

Participants will have the opportunity to attend a group **Zoom/Facebook Live Q&A** in weeks 8,10 and 12 to ask any questions about content of the pre-recorded videos.

The details of each weekly treatment and rehab exercises will be added as an appendix to the study.

Six days after in-person/online treatment participants will be sent the Oswestry Disability

Index Questionnaire to complete and return before their next treatment. They will also need to clarify whether they did the rehab exercises 3 times a week.

4 weeks post-treatment
Week 16: Participants will be sent the Oswestry Disability Index Questionnaire to assess the outcome of the treatments.

Section 6: Describe what your participants need to do

In the initial stages of the study, each potential participant will be required to individually attend an online/phone meeting with the researcher to:

- To explain the nature of the research project, what it involves and how it will be conducted.
- Discuss whether they meet the inclusion criteria.
- Obtain their consent to take part in the study.
- Collect information required for the consultation process.

If any of the participants are receiving any manual therapy, taking medication, or receiving any form of treatment throughout the duration of the study they will need to inform the researcher.

Weeks 1-6 – participants will be required to complete the Oswestry Disability Index Questionnaire once a week for the first 6 weeks. This will need to be returned to the researcher within 24 hours of receiving the questionnaire.
Weeks 7-12 – participants will be expected to attend 3 individual in person sessions and take part in 3 pre-recorded group online sessions.
Each session will involve the use of the Jing Method Protocol. Both in-person and online sessions will follow the Jing Method Lower Back and Hip Protocol, and they will include MFR, trigger point therapy, acupressure, stretching and rehab exercises/self-care. Participants will continue to complete the Oswestry Disability Questionnaire during weeks 7-12, six days after treatment and return to researcher within 24 hours.

Each participant will be given new exercises and self-care in weeks 7,9 and 11 and the researcher will go through these with the participant in clinic. They will be expected to do these exercises three times a week (including once during online session). These sessions will then be used as part of the online sessions in weeks 8, 10 and 12. Participants will be expected to inform the researcher six days after treatment how many times they were able to perform their rehab exercises and self-care routines. Participants will have the opportunity to attend a group **Zoom/Facebook Live Q&A** in weeks 8,10 and 12 to ask any questions about content of the pre-recorded videos.

Week 16 - participants will be expected to complete Oswestry Disability Index Questionnaire.

Section 7: Respecting confidentiality and ethical issues for participants

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

- Each participant record will contain basic data such as name, age, employment, address, basic health, and lifestyle information.
- Privacy Policy: copies given on request.
- GDPR & Confidentiality Agreement: All data will be held in accordance with General Data Protection Regulation.
- Security: Hard Copy files: these will be stored in a lockable cupboard. Soft Copy Files: to be filed in a password protected document such as Microsoft word or excel or will be within my clinic notes which is password protected.
- Anonymity: Each participant will be assigned a number.
- All data stored will be deleted or destroyed as soon as the study is complete.
- By using a pre-recorded video, participants will not be able to see who else is part of the study, thus maintaining their anonymity.
- If anyone is struggling with any mental health issues, I will endeavour to refer them to talking therapies within my local community and/or online.
- Zoom/Facebook groups Q&A – participants will not be allowed to record the sessions and will be allowed to change their name to maintain anonymity.
- Participants will be asked to bring a heat bag or hot water bottle to the online sessions. The researcher will explain to the participants about the appropriate temperature so as not to incur any injuries.
- Participants will be advised not to overwork on and/or around their scar as they this may irritate the area.

Section 8: Inclusion and exclusion criteria

What sort of people will the subjects be?
Inclusion Criteria:

- Women with caesarean scars, with a minimum 4 months post-surgical intervention.
- Able to commit to 16-week study and travel to clinic in Horsham town centre and have access to a computer/zoom/internet for online sessions. This may however limit the study to a certain socio-economic group as they may not have access to transport or technology.
- Experiencing lumbopelvic pain which has occurred since having a caesarean.
- Experiencing persistent lower back, or pelvic pain affecting daily activities. The WHO explains that lower back pain can be pain experienced between the lower edges of the ribs and the buttock, lasting a short or over a long period of time.
  The NHS states that pelvic pain can be felt around the lower part of the abdomen. Symptoms and levels of pain may vary and range from sudden and severe (acute pelvic pain) or lasting longer than 6 months (chronic pelvic pain).
- Any participant who has medical issues or is taking medicine will need to be assessed for their suitability for the study.

- If participants start a new medication, therapy, or develop a medical condition during the study, they will need to communicate this with the researcher as it may impact the study.

Exclusion Criteria:

- Participants will not be under the age of 18 years old.
- Less than 4 month since surgical intervention.
- Any ongoing medical issue/medication which may affect well-being; for example, cancer treatments such as chemotherapy/radiotherapy or have a stoma.
- Anyone who is pregnant.

Section 9: Student declaration:

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	

Student's handwritten signature:

_____

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

Print Name: Date:

ONCE YOU HAVE COMPLETED THE ABOVE ETHICS DETAILS, THEN YOU CAN PROCEED TO
PARTICIPANT INFORMATION AND CONSENT FORMS, SO READ BELOW AS IT IS IMPORTANT TO BE CLEAR ABOUT WHAT YOUR PARTICIPANTS NEED TO DO.

Informed consent must be obtained for all participants before they take part in your project. The Consent Form 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 should not involve participants under 18 without express permission from your supervisor. 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.
Jing's assessment (to be signed by Jing after ethics and participant information details completed)

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.

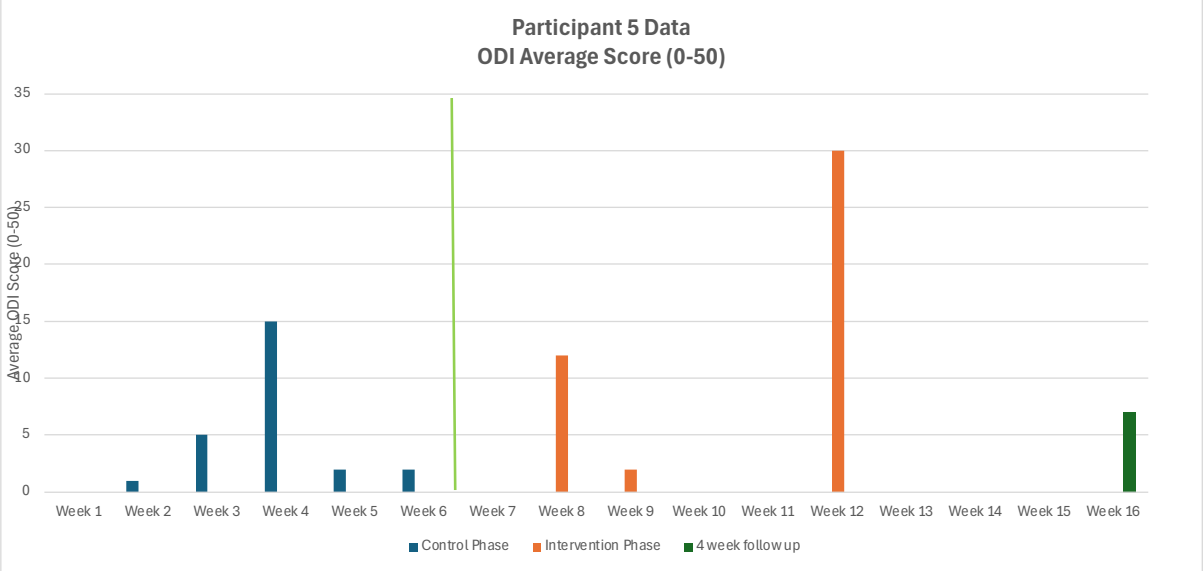
Signature: ..... date: .....

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 2 – Participant 5 Data

Data from participant 5 which was removed from the study because of medical reasons that would have excluded her from the study if it had been confirmed at start.



Appendix 3 – Participant Consent Form

PARTICIPANT CONSENT FORM

Title of study: Evaluating the effects of The Jing Method™ on women with caesarean scars and lumbopelvic pain

Name of student: Catherine Leavett

	Yes	No
I have read the information letter 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 is once all anonymised data has been merged) • 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 anonymous form, but I am able to opt out of this if I so wish, by ticking 'No' here.		
I understand that online sessions may not be recorded by participants		
I understand the Q and A sessions might involve other participants and I will respect the confidentiality of the group and not share information with others		
I agree to take part in this study		
Signature (participant) **Date:**		

Name: (BLOCK LETTERS)
BTEC students contact details (including telephone number and e-mail address): **Catherine Leavett** **Tel no: 07920194241** **Email: Catherine_leavett@yahoo.co.uk**

Appendix 4 - Oswestry Disability Low Back Disability Index

OSWESTRY LOW BACK DISABILITY QUESTIONNAIRE

Instructions: this questionnaire has been designed to give us information as to how your back pain has affected your ability to manage everyday life. Please answer every section and mark in each section only the ONE box which applies to you at this time. We realize you may consider 2 of the statements in any section may relate to you, but please mark the box which most closely describes your current condition.

1. PAIN INTENSITY

- † I can tolerate the pain I have without having to use pain killers
- † The pain is bad, but I manage without taking pain killers
- † Pain killers give complete relief from pain
- † Pain killers give moderate relief from pain
- † Pain killers give very little relief from pain
- † Pain killers have no effect on the pain, and I do not use them.

2. PERSONAL CARE (e.g. Washing, Dressing)

- † I can look after myself normally without causing extra pain
- † I can look after myself normally, but it causes extra pain
- † It is painful to look after myself and I am slow and careful
- † I need some help but manage most of my personal care
- † I need help every day in most aspects of self-care.
- † I don't get dressed, I was with difficulty and stay in bed.

3. LIFTING

- † I can lift heavy weights without extra pain
- † I can lift heavy weights, but it gives extra pain
- † Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently positioned, i.e. on a table
- † Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned
- † I can lift very light weights
- † I cannot lift or carry anything at all.

4. WALKING

- † Pain does not prevent me walking any distance
- † Pain prevents me walking more than one mile
- † Pain prevents me walking more than ½ mile
- † Pain prevents me walking more than ¼ mile
- † I can only walk using a stick or crutches
- † I am in bed most of the time and have to crawl to the toilet.

5. SITTING

- † I can sit in any chair as long as I like
- † I can only sit in my favourite chair as long as I like
- † Pain prevents me from sitting more than one hour
- † Pain prevents me from sitting more than ½ hour
- † Pain prevents me from sitting more than 10 minutes
- † Pain prevents me from sitting at all

6. STANDING

- † I can stand as long as I want without extra pain
- † I can stand as long as I want but it gives me extra pain
- † Pain prevents me from standing for more than one hour
- † Pain prevents me from standing for more than 30 minutes
- † Pain prevents me from standing for more than 10 minutes
- † Pain prevents me from standing at all

7. SLEEPING

- † Pain does not prevent me from sleeping well
- † I can sleep well only by using medication
- † Even when I take medication, I have less than 6 hrs sleep
- † Even when I take medication, I have less than 4 hrs sleep
- † Even when I take medication, I have less than 2 hrs sleep
- † Pain prevents me from sleeping at all

8. SOCIAL LIFE

- † My social life is normal and gives me no extra pain
- † My social life is normal but increases the degree of pain
- † Pain has no significant effect on my social life apart from limiting my more energetic interests, i.e. dancing, etc.
- † Pain has restricted my social life, and I do not go out as often
- † Pain has restricted my social life to my home
- † I have no social life because of pain

9. TRAVELLING

- † I can travel anywhere without extra pain
- † I can travel anywhere but it gives me extra pain
- † Pain is bad, but I manage journeys over 2 hours
- † Pain restricts me to journeys of less than 1 hour
- † Pain restricts me to short necessary journeys under 30 minutes
- † Pain prevents me from traveling except to the doctor or hospital

10. EMPLOYMENT/ HOMEMAKING

- † My normal homemaking/ job activities do not cause pain.
- † My normal homemaking/ job activities increase my pain, but I can still perform all that is required of me.
- † I can perform most of my homemaking/ job duties, but pain prevents me from performing more physically stressful activities (e.g. lifting, vacuuming)
- † Pain prevents me from doing anything but light duties.
- † Pain prevents me from doing even light duties.
- † Pain prevents me from performing any job or homemaking chores.

Scoring the Oswestry Disability Index

The Oswestry Disability Index (aka the Oswestry Low Back Pain Disability Questionnaire) is an extremely important tool that researchers and disability evaluators use to measure a patient's permanent functional disability. The test has been around since 1980 and is considered the 'gold standard' of low back pain functional outcome tools.

INSTRUCTIONS: SCORE DISABILITY LEVEL

0 - 4 No disability

For each question, there is a possible

5 points; 0 for the first answer, 1 for 5 - 14 Mild disability the second answer, etc. Add up the

15 - 24 Moderate disability

total for the 10 questions and rate

them on the scale at right. 25 - 34 Severe disability

35 - 50 Completely disabled

No disability

The patient can cope with most living activities. Usually no treatment is indicated apart from advice on lifting, sitting and exercise.

Mild disability

The patient experiences more pain and difficulty with sitting, lifting and standing. Travel and social life are more difficult, and they may be disabled from work. Personal care, sexual activity and sleeping are not grossly affected, and the patient can usually be managed by conservative means.

Moderate disability

Pain remains the main problem in this group, but activities of daily living are affected. These patients require a detailed investigation.

Severe disability

Back pain impinges on all aspects of the patient's life. Positive intervention is required.

Completely disabled

These patients are either bed-bound or are exaggerating their symptoms.

REFERENCES:

Fairbank JC, Pynsent PB. “The Oswestry Disability Index.” *Spine* 2000: 25(22):2940-2952

Fairbank JCT, Couper J, Davies JB. “The Oswestry Low Back Pain Questionnaire.” *Physiotherapy* 1980; 66:271-27.

Appendix 5 - Treatment Protocols

The study used a combination of the Jing Method Lower Back and Hip Protocol.

Treatment 1 - Saturday 14th & 15th September

Prone (20 minutes)

1. Grounding/Breathwork
2. Amma over whole body.
3. Cross handed stretch on the lower back and sacrum.
4. Fascial Finger work across the sacrum.
5. Skin rolling over lumbar spine and glutes.
6. Direct fascial work down the Erectors x 3.
7. Trigger Point work in the Quadratus Lumborum.
8. Indirect fascial work over the glutes asking the client to tilt pelvis anteriorly/posteriorly.
9. Broad strokes down the erectors.
10. Broad strokes over lateral side of the glutes.
11. Trigger point work into glutes.
12. Pulling the pint of glutes and lateral rotators.
13. Acupressure point: Gall bladder 30 (GB 30).

Side lying (10 minutes)

1. MFR along lateral line.
2. Cleaning the Iliac Crest.
3. Skin rolling over lateral line.
4. Fascial work over the Intercostals.

5. Indirect fascial work over the glutes asking client to tilt pelvis anteriorly/posteriorly.
6. STR/MFR to TFL, Gluteus Medias and Gluteus Minimis.
7. Fascial work over the ITB band asking client to tilt pelvis anteriorly/posteriorly.

Supine (15 minutes)

1. Transverse fascial hold over the sacrum and abdomen.
2. Work the abdomen with wave like motion.
3. Fascial work over the intercostals.
4. Skin rolling over RA.
5. Diaphragm release.
6. Trigger points to the Iliopsoas.
7. Hip mobilisations.
8. Glute stretches.
9. Hamstring stretch.
10. Leg pulls.
11. Acupressure Point – Kidney 1.

Treatment 2 - Saturday 28th & 29th September

Prone (20 minutes)

14. Grounding/Breathwork
15. Amma over whole body.
16. Cross handed stretch on the lower back and sacrum.
17. Fascial Finger work across the sacrum.
18. Skin rolling over lumbar spine and glutes.
19. Direct fascial work down the Erectors x 3.
20. Trigger Point work in the Quadratus Lumborum.
21. Indirect fascial work over the glutes asking the client to tilt pelvis anteriorly/posteriorly.
22. Broad strokes down the erectors.
23. Broad strokes over lateral side of the glutes.
24. Trigger point work into glutes
25. Pulling the pint of glutes and lateral rotators, with PNF.
26. Acupressure point: Gall bladder 30 (GB 30)

Side lying (10 minutes)

8. MFR along lateral line
9. Cleaning the Iliac crest
10. Skin rolling over lateral line
11. Fascial work over the intercostals
12. Indirect fascial work over the glutes asking client to tilt pelvis anteriorly/posteriorly.
13. STR/MFR to TFL, Gluteus Medias and Gluteus Minimis.

14. Fascial work over the ITB band asking client to tilt pelvis anteriorly/posteriorly.
15. QL/TFL stretch off the side of the bed.

Supine (15 minutes)

12. Transverse fascial hold over the sacrum and abdomen.
13. Work the abdomen with wave like motion.
14. Fascial work over the intercostals.
15. Skin rolling over RA.
16. Skin rolling over scar.
17. Diaphragm release.
18. Trigger points to the Iliopsoas and PSOAS.
19. PSOAS Stretch.
20. Hip mobilisations.
21. Glute stretches.
22. Hamstring stretch.
23. Leg pulls.
24. Acupressure Point – Kidney 1.

Treatment 3 - Saturday 12th October

Prone (20 minutes)

27. Grounding/Breathwork
28. Amma over whole body.
29. Cross handed stretch on the lower back and sacrum.
30. Fascial Finger work across the sacrum.
31. Skin rolling over lumbar spine and glutes.

32. Direct fascial work down the Erectors x 3.
33. Trigger Point work in the Quadratus Lumborum.
34. Indirect fascial work over the glutes asking the client to tilt pelvis anteriorly/posteriorly.
35. Broad strokes down the erectors.
36. Broad strokes over lateral side of the glutes.
37. Trigger point work into glutes
38. Pulling the pint of glutes and lateral rotators, with PNF.
39. Acupressure point: Gall bladder 30 (GB 30)

Side lying (10 minutes)

16. MFR along lateral line
17. Cleaning the Iliac crest
18. Skin rolling over lateral line
19. Fascial work over the intercostals
20. Indirect fascial work over the glutes asking client to tilt pelvis anteriorly/posteriorly.
21. STR/MFR to TFL, Gluteus Medias and Gluteus Minimis.
22. Fascial work over the ITB band asking client to tilt pelvis anteriorly/posteriorly.
23. PSOAS AIS Stretch.
24. QL/TFL stretch off the side of the bed.

Supine (15 minutes)

25. Transverse fascial hold over the sacrum and abdomen.
26. Work the abdomen with wave like motion.
27. Fascial work over the intercostals.
28. Skin rolling over RA.
29. Skin rolling over scar.
30. Diaphragm release.
31. Trigger points to the Iliopsoas and PSOAS.
32. PSOAS Stretch.
33. Hip mobilisations.
34. Glute stretch with PNF.
35. Hamstring stretch.
36. Leg pulls.
37. Acupressure Point – Kidney 1.

Appendix 6 – Online content

Online content 1 – week 8

Short introduction

Heat onto abdomen with breathwork.

Scar Massage, including overview of scars, scar tissue and scar massage.

Knuckles across the abdomen (30 seconds)

Small circles superior to scar without lubrication (1 min)

Myofascial techniques/trigger point work

Lying prone with a Pilates ball under abdomen. Lie onto ball for 3 breaths and wait for fascia to release.

Stretches

Mobilisation: Leg Swings 30 seconds each leg.

Stretching: Pelvic Tilts in Supine 10 reps, 2 Sets.

Strengthening: Clam Shell 10 reps, 2 Sets.

Proprioception: Standing on one leg 30 seconds each leg.

Finish with a poem, self-acupressure point (Large Intestine 4) and breathwork (5 mins)

NB: Participants were asked to bring hot water bottle/heat bad, tennis ball, cushion/wobble board/rolled up exercise mat.

Online content 2 – week 10

Short introduction.

Heat onto abdomen with breathwork.

Scar Massage.

Knuckles across the abdomen (30 seconds)

Abdominal/Scar Massage with small ball (gentle circles around the area without lubrication). 1 minute.

Myofascial techniques/trigger point work

Lying prone with a Pilates ball under abdomen. Lie onto ball for 3 breaths and wait for fascia to release.

Stretches

Mobilisation: Cat Cow 10/2.

Stretching: Hip Flexor/Psoas Stretch Hold for 30 seconds -1-minute repeat 2 times.

Strengthening: Glute Bridge 10 reps, 2 Sets.

Proprioception: Standing on one leg 30 seconds each (standing on a cushion/wobble board/rolled up exercise mat).

Finish with a poem, self-acupressure point (Large Intestine 4) and breathwork (5 mins)

NB: Participants were asked to bring hot water bottle/heat bad, tennis ball, cushion/wobble board/rolled up exercise mat.

Online content 3 – week 12

Short introduction.

Heat onto abdomen with breathwork.

Scar Massage.

Knuckles across the abdomen (30 seconds)

Abdominal/Scar Massage with small ball (gentle circles around the area without lubrication). 2 minutes.

Myofascial techniques/trigger point work

Lying prone with a Pilates ball under abdomen. Lie onto ball for 3 breaths and wait for fascia to release.

Stretches

Mobilisation: Trunk rotations lying on the floor/ knee rolling. Hold for 30 seconds-1 minute, repeat 2 times.

Stretching: Thread the Needle 10 reps, 2 Sets.

Strengthening: Bird Dog Hold for 5 seconds, repeat 10 times.

Proprioception: Standing on one leg 30 seconds each (standing on a cushion/wobble board/rolled up exercise mat & closing eyes).

Finish with a poem, self-acupressure point (Large Intestine 4) and breathwork (5 mins)

NB: Participants were asked to bring hot water bottle/heat bad, tennis ball, cushion/wobble board/rolled up exercise mat.

Appendix 7 - Self-care routines.

Participants were given new rehab exercises/self-care at the first, third and fifth in person sessions. They expected to complete three times a week.

Session 1 Rehab Exercises:

Abdominal/Scar Massage (gentle circles around the area without lubrication). 1 minute.

Mobilisation: Leg Swings 30 seconds each leg.

Stretching: Pelvic Tilts in Supine 10 reps, 2 Sets.

Strengthening: Clam Shell 10 reps, 2 Sets.

Proprioception: Standing on one leg 30 seconds each leg.

Session 3 Rehab Exercises:

Abdominal/Scar Massage with small ball (gentle circles around the area without lubrication). 1 minute.

Mobilisation: Cat Cow 10/2.

Stretching: Hip Flexor/Psoas Stretch Hold for 30 seconds -1-minute repeat 2 times.

Strengthening: Glute Bridge 10 reps, 2 Sets.

Proprioception: Standing on one leg 30 seconds each (standing on a cushion/wobble board/rolled up exercise mat)

.

Session 5 Rehab Exercises:

Abdominal/Scar Massage with small ball (gentle circles around the area without lubrication). 2 minutes.

Mobilisation: Trunk rotations lying on the floor/ knee rolling. Hold for 30 seconds-1 minute, repeat 2 times.

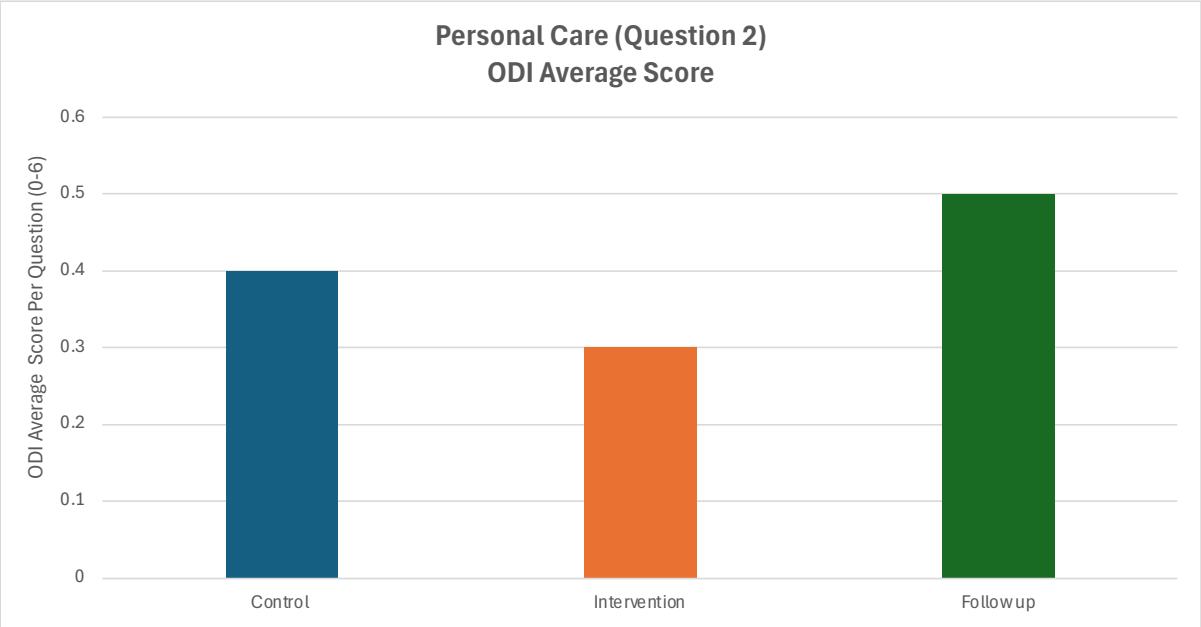
Stretching: Thread the Needle 10 reps, 2 Sets.

Strengthening: Bird Dog Hold for 5 seconds, repeat 10 times.

Proprioception: Standing on one leg 30 seconds each (standing on a cushion/wobble board/rolled up exercise mat & closing eyes)

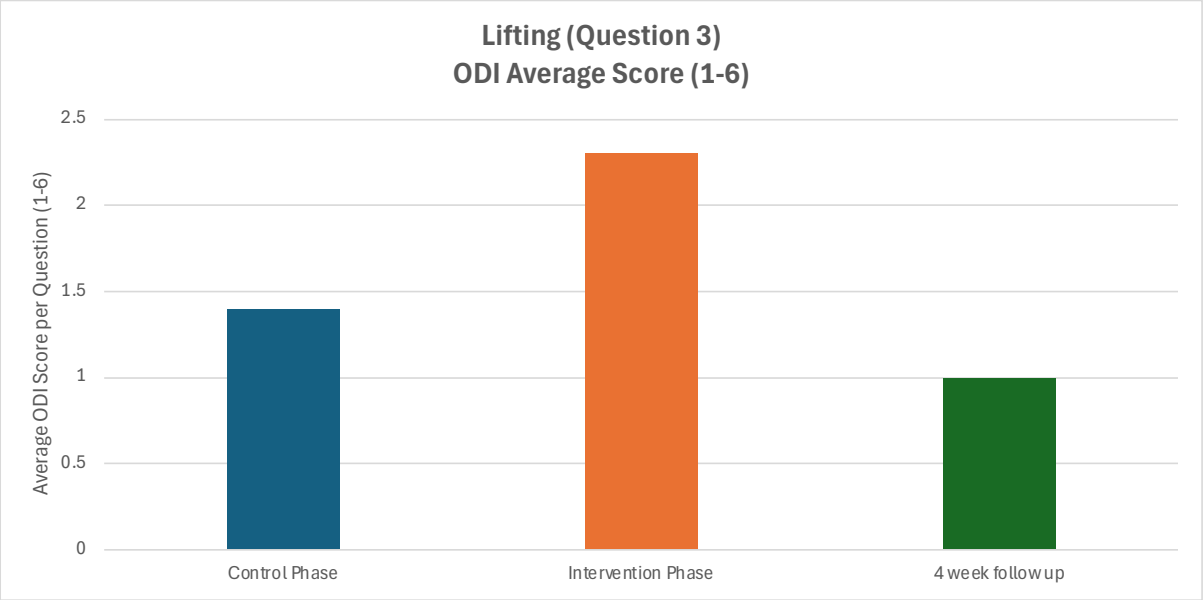
Appendix 8 – Additional results by questions.

Figure 3 ODI Average Score, Question 2 - Personal Care.



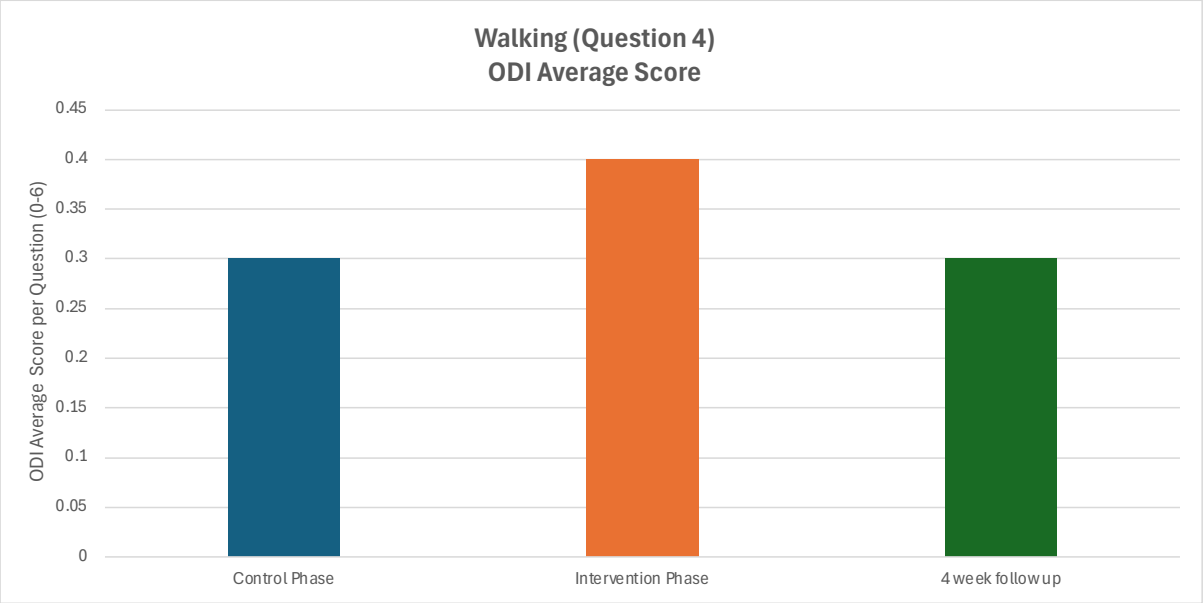
Question 2 of the ODI focuses on Personal Care. The ODI average pain score over the control phase was 0.4 and by the end of the intervention phase this had decreased to 0.3. However, by week 16 pain levels had increased to 0.5 by week 1, an increase of 25% (Figure 3).

Figure 4 - ODI Average Score (Question 3 - Lifting).



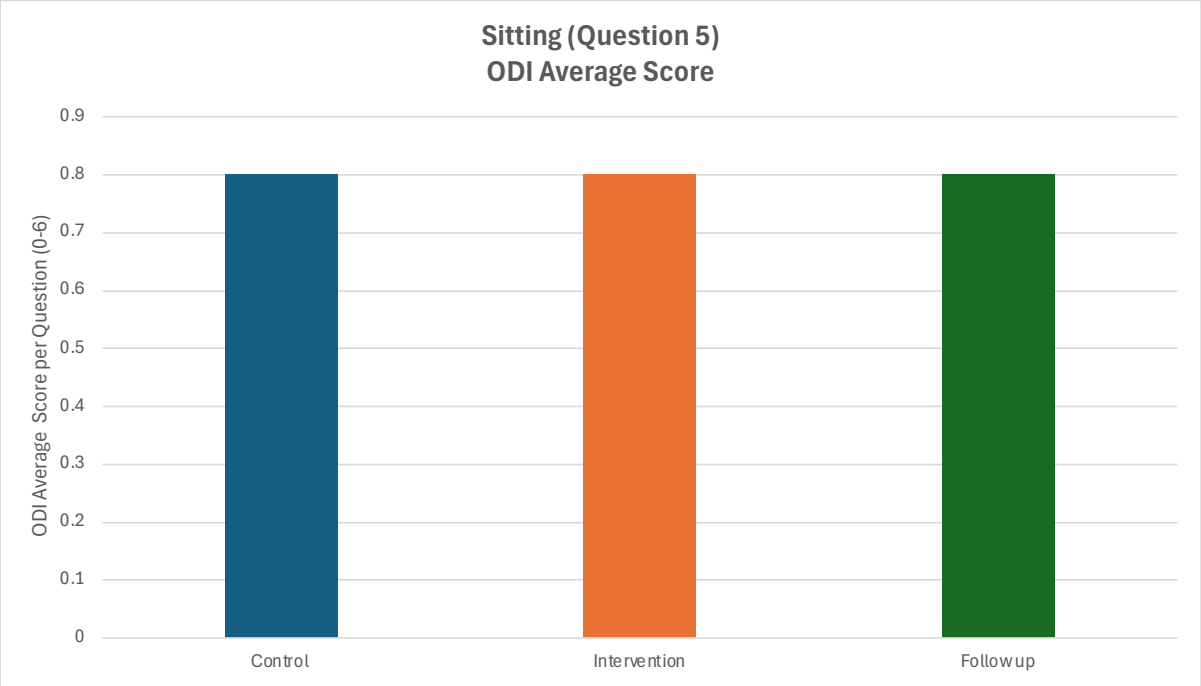
Question 3 of the ODI focuses on Lifting. The ODI average pain score over the control phase was 1.4. By the end of the intervention phase this had reduced to 1.3, decreasing further at week 16 to 1, an improvement of 64% (Figure 4).

Figure 5 -ODI Average Score, Question 4 - Walking.



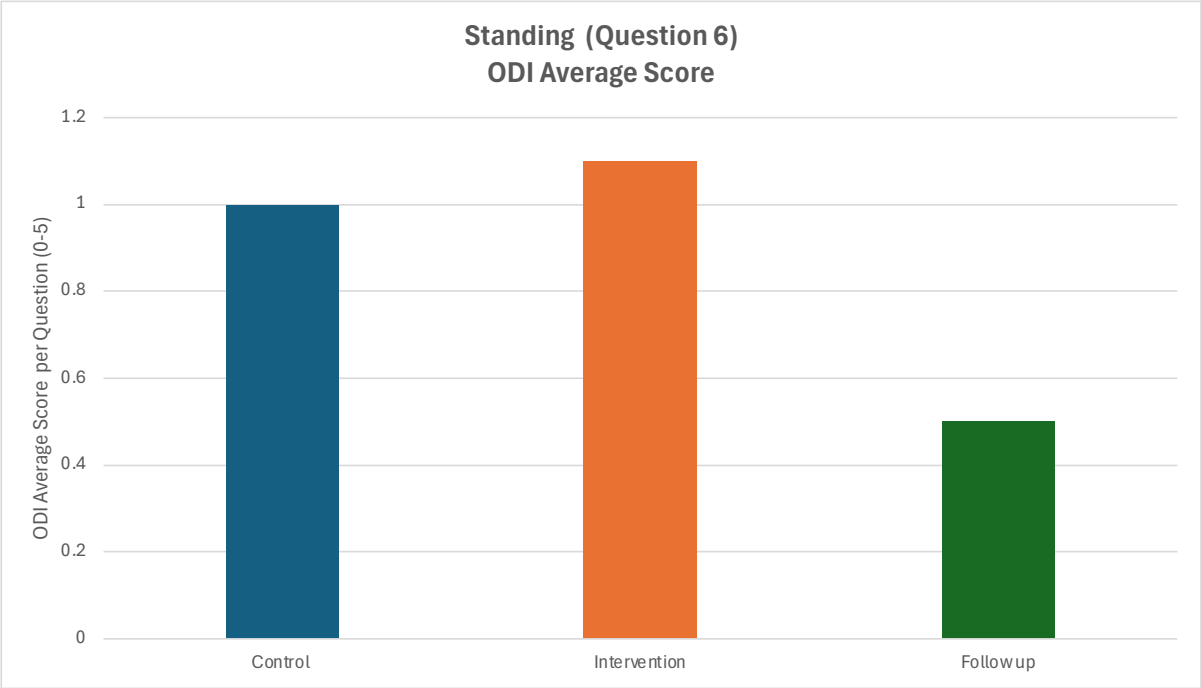
Question 4 of the ODI focuses on Walking. The ODI average pain score over the control phase was 0.3 and by the end of the intervention phase this had increased 0.4. However, by week 16 pain levels had decreased to 0.3 by week 1 (Figure 5).

Figure 6 - ODI Average Score, Question 5 – Sitting.



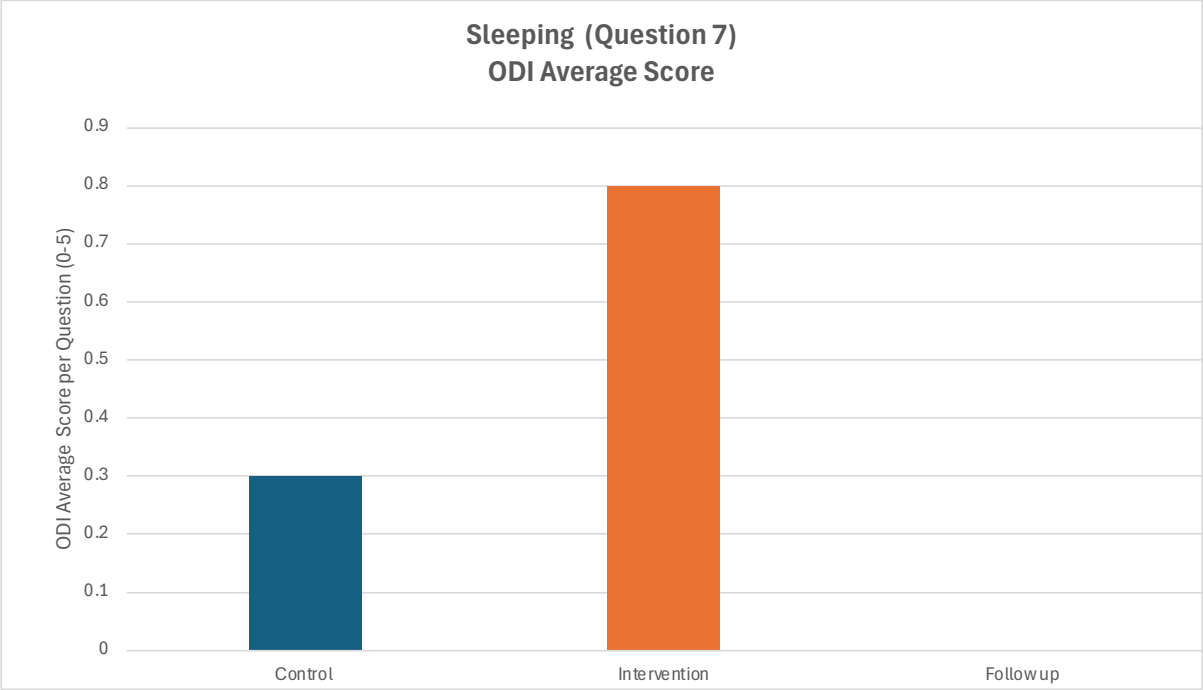
Question 5 of the ODI focuses on Sitting. The ODI average pain score over the control phase was 0.8 and by the end of the intervention phase and at the week 16 this had remained unchanged (Figure 6).

Figure 7 - ODI Average Score (Question 6 - Standing).



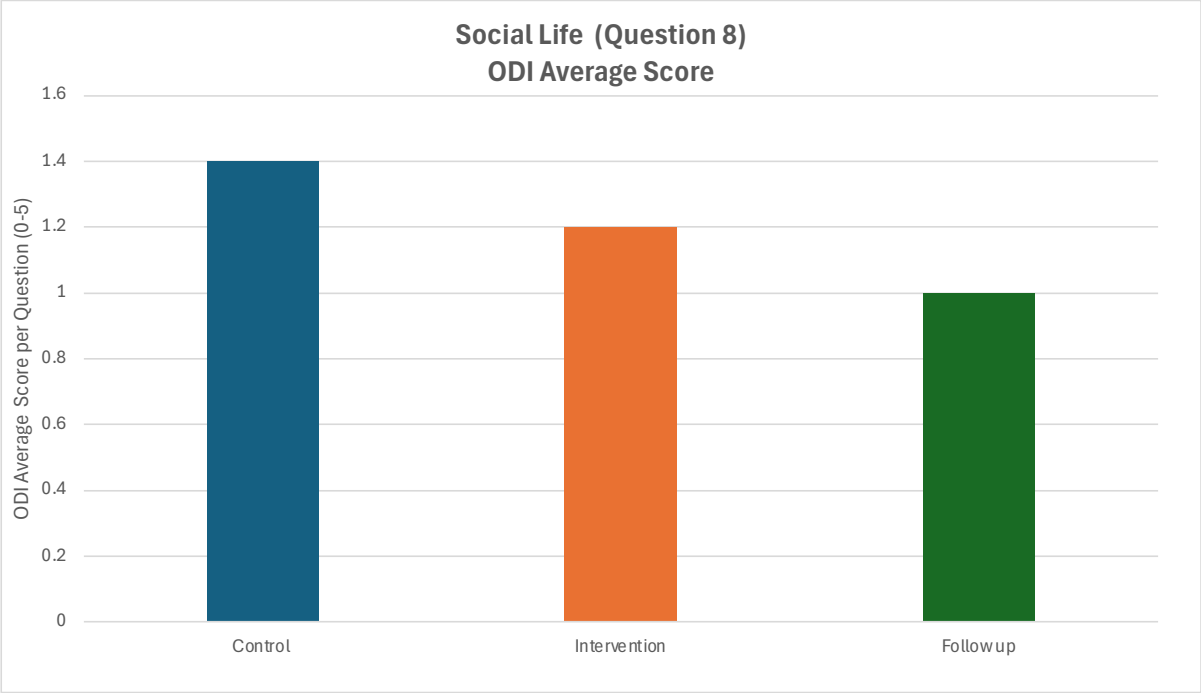
Question 6 of the ODI focuses on Standing. The ODI average pain score over the control phase was 1.00. By the end of the intervention phase this had reduced to 1.1, decreasing further at week 16 to 0.5, an improvement of 50% (Figure 7).

Figure 8 - ODI Average Score (Question 7 - Sleeping).



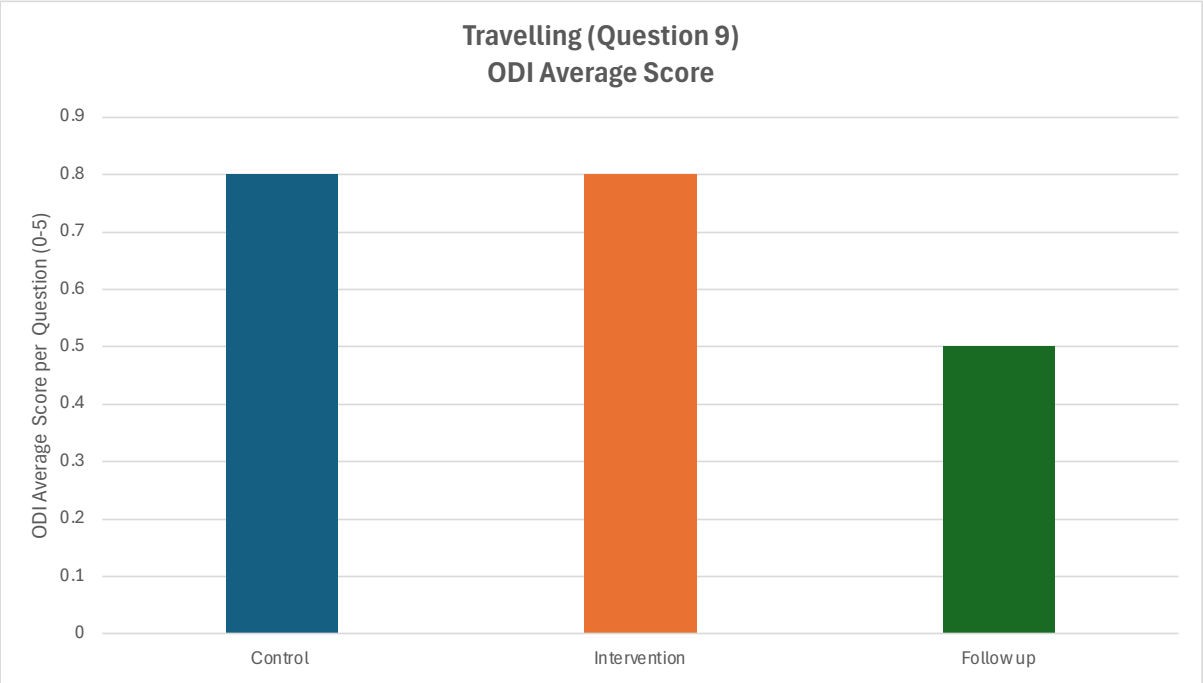
Question 7 of the ODI focuses on Sleeping. The ODI average pain score over the control phase was 0.3. By the end of the intervention phase this had reduced to 0.8, decreasing further at week 16 to 0, an improvement of 100% (Figure 8).

Figure 9 - ODI Average Score (Question 8 - Social Life).



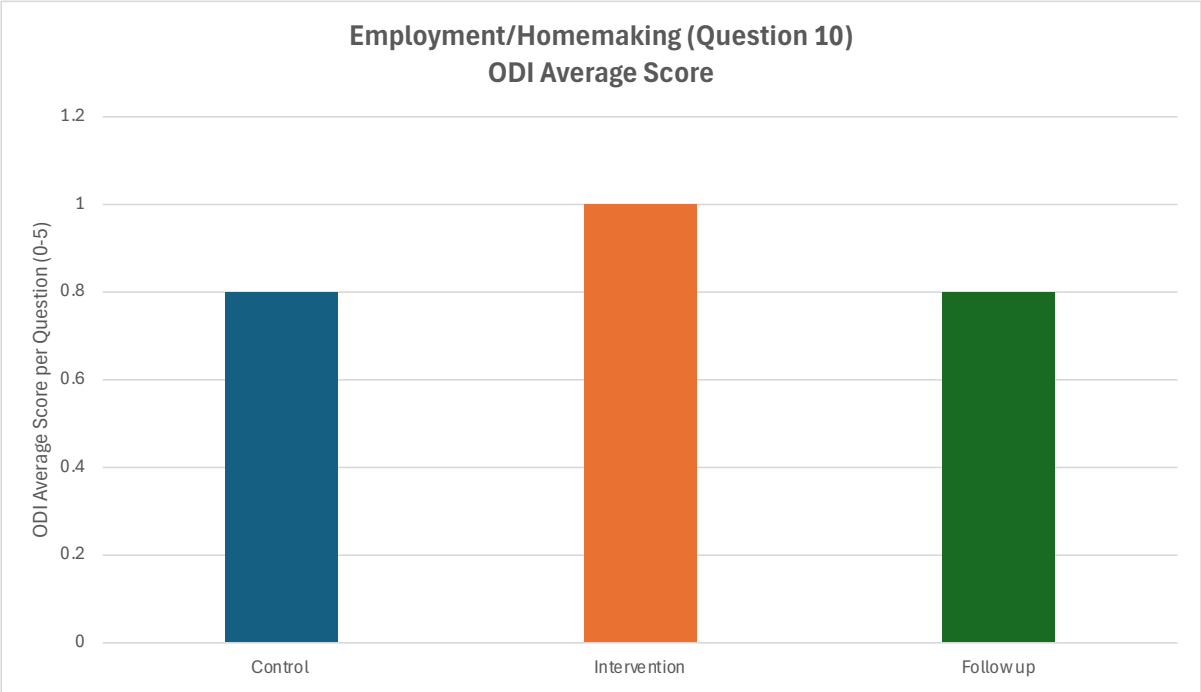
Question 8 of the ODI focuses on Social Life. The average pain score over the control phase was 1.4. By the end of the intervention phase this had reduced to 1.2, decreasing further at week 16 to 1, an improvement of 29% (Figure 9).

Figure 10 - ODI Average Score (Question 9 - Travelling).



Question 9 of the ODI focuses on Travelling. The ODI average pain score over the control phase was 0.8. By the end of the intervention phase this remained at 0.8, decreasing at week 16 to 0.5, an improvement of 38% (Figure 10).

Figure 11 - ODI Average Score (Question 10 - Employment/Homemaking).



Question 10 of the ODI focuses on Employment/Homemaking. The ODI average pain score over the control phase was 0.8. By the end of the intervention phase this had increased to 1, however it decreased by week 16 to 0.8 (Figure 11), therefore no improvement was made overall.

Appendix 9 - Research Study Feedback Form.

Evaluating the effects of The Jing Method™ on women with Caesarean Scars and lumbopelvic pain - Feedback from the Research Study

Thank you for taking part in the research study. I really hope you enjoyed participating, and you were able to learn more about your Caesarean scar and pain. I would be grateful if you could take 5 minutes to complete this feedback form. This will help to shape any future scar treatment or programmes I offer to patients.

* Indicates required question

1. Name *

2. Overall, how satisfied were you with the Research Study? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

3. Did you feel supported throughout the study? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

4. How satisfied were you with the structure of the study? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

5. Do you think the in-person treatments were appropriate for you? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

6. Do you think the exercises were appropriate for you? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

7. Do you think the online content were appropriate for you? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

8. How much of the content & learnings do you think you will continue to implement into your daily life moving * forward?

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Loads of it

9. How relevant and helpful do you think the whole study was for your personal situation? *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very Much

10. Do you feel more empowered about understanding and managing your pain moving forward *

Mark only one oval.

1 2 3 4 5

Not ◯ ◯ ◯ ◯ ◯ Very Much

11. What did you like the most about study?

12. Do you have any suggestions for improving the research process in the future?

13. How likely are you to recommend clinical massage to other mothers with caesarean scars? *

Mark only one oval.

1 2 3 4 5

Not ◯ ◯ ◯ ◯ ◯ Very Much

Appendix 10 – Self Care Engagement.

Participants were asked to do a self-care routine 3 times a week. The table below shows how many times they did the exercises.

Participant Number	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
1	3	3	0	2	3	2
2	3	2	3	3	1	2
3	3	3	3	3	2	3
4	3	3	3	3	3	3