The Effect of Online Rehabilitation on Non Specific Shoulder Pain in Women Aged 40-60

A dissertation submitted in partial fulfilment of the requirements of the Jing Advanced Massage Training Institute, 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 the Jing Advanced Massage Training Institute. 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."

Abstract -

Aim:

The purpose of the study is to assess the effectiveness of rehabilitation exercises inspired by elements of Jing Method on women between 40-60 with shoulder pain.

Method:

The participants recorded their pain and disability levels using the Shoulder Pain and Disability Index Questionnaire for a 6 week control period to establish their baseline. Following this, a 6 week intervention phase involving participants executing a rehabilitation programme delivered over Zoom designed for shoulder pain.

Results:

The study has shown at the end of the intervention period there was a 32.6% average decrease in pain and 23.4% average decrease in disability compared to baseline. At end of Week 15, data showed a further improvement on baseline figures, 69.8% in pain and 72.7% in disability compared to baseline.

Conclusion:

After analysis of the findings, the study suggests rehabilitation to be a effective and helpful treatment option for individuals with non specific shoulder pain. However, more research needs to be carried out with a larger number of participants to gain a more substantial result.

Contents:

Introduction:

The Problem:

Up to 26% of the general population are experiencing shoulder pain (Murphy and Carr, 2010). In 2010, 1% of adults over 45 years old in the UK visited their GP with new shoulder pain symptoms (Murphy and Carr, 2010). These statistics indicate the current national crisis of shoulder pain within the UK. This study aims to focus on combating shoulder pain, implementing a rehabilitation protocol to improve pain and function. The researcher is investigating what treatment is currently being offered and if there is a space for complimentary therapy, specifically rehabilitation as an appropriate intervention option.

Demographic Most Effected:

Studies by Khosravi et al. (2019) and Wright, Patel & Hettrich (2022) show that women are having more difficulty dealing with/recovering from shoulder problems in comparison to men. Khosravi et al. (2019) recruited 500 middle aged women for their study. “The point and lifetime prevalence of shoulder pain were calculated. Linear and logistic regressions were used to determine the possible associations between the risk factors and present shoulder pain”. Findings revealed “the point and lifetime prevalence of shoulder pain were 18.6% and 27.6%, respectively”. Recent research has highlighted the growing prevalence of shoulder pain in women (Khosravi et al. 2019), (Wright et al. 2022). There is an increasingly strong relationship forming between women and shoulder pain. Zhang et al (2021) findings “suggest that when men and women express the same amount of pain, women's pain is considered less intense based on gender stereotypes”. Participants were asked to watch various videos of female and male patients performing range of motion exercises using their injured and non-injured shoulders. Participants were asked to rate, in their opinion, how intense the patients pain was from 1-10 while performing those movements. Their conclusion highlighted significant gender differences, the female patients’ pain was viewed as less intense and were signposted to psychotherapy as a replacement of medication. The majority of studies carried out are not gender focused, therefore this study is focusing on rehabilitation of shoulder pain in women.

The Current Research:

In the last 5 years there has been a moderate amount of research executed around shoulder pain however, Lucas et al (2023) tells us more research needs to be done on the topic. Pieters et al. (2020) supports exercise therapy for the treatment of sub-acromial shoulder pain. Additionally, Santello et al. (2020) finds home based exercise programmes effective in improving shoulder pain and function. Liu et al. (2022) discovered similar findings but needs more research to firm up their conclusions. A study by Castro et al. (2021) concludes more evidence needs to be gathered in order to support conservative therapies for tendinopathy based shoulder pain. Given the above, this study is designed to address the problem of shoulder pain using elements of the Jing Method. Rehabilitation will be the intervention used and the research above has highlighted that exercise therapy improves shoulder pain and function.

Soft tissue massage is another treatment option for shoulder pain but there seems to be very little research. In 2010, Adam et al. (2010) discovered significant reduction in pain levels having chosen massage as their intervention. Posadzki et al. (2019) found massage therapy to have a positive impact on shoulder pain. On the other hand, a study by Trofa et al. (2020) highlights the need for more high quality research to evaluate the effect of massage therapy on musculoskeletal conditions. There has been a substantial amount of research carried out around pain and soft tissue therapy/ massage therapy. Liu et al. (2022) finds “MT is effective in reducing postoperative pain in both short and long terms”. M for massage, being the 3rd letter in the HFMAST (Heat, Fascia, Muscles, Acupressure Points, Stretching, Teaching) acronym, this is a prime example of an element of the Jing Method at its best.

The Conventional Approach:

When seeking help for pain today, Google is a popular port of call for information and guidance however so often it leads to self diagnosis and mistreating of conditions. This is also a very common problem massage therapists come across in clinic, individuals attempting to treat their problem without knowing what the problem is and how best to treat it.

The official NHS website (https://www.nhs.uk/conditions/shoulder-pain) instructs individuals with shoulder pain to take analgesics and perform shoulder exercises for 6-8 weeks to prevent pain. It addresses the topic of posture and how important it is when recovering from an injury or suffering with a particular condition. This web page guides readers to avoid activities that exacerbate the pain advising that the shoulder needs to stay active i.e. do not stop using the arm. There are videos available on the website of different exercises that could help individuals with their recovery.

The National Institute for Health and Care Excellence have set out a treatment pathway for individuals with shoulder pain. After taking a full medical history and performing examinations, readers are being advised to take anti inflammatory pain relief for the discomfort, educating them on their suspected diagnosis and addressing possible break from work, lifestyle chances etc. Corticosteroid injections and physiotherapy are also potential options depending on the person's presentation and severity of pain/symptoms. The NHS suggest them to reduce shoulder pain. Studies by Buchbinder et al. (2003) and Hopewell et al. (2021) show corticosteroid injections can be effective but only in the short term and more research is needed to investigate the efficacy. With this study, the aim is to utilise an alternative and non invasive treatment option for shoulder pain and gain a positive result using a protocol of exercises inspired by the Jing Method.

The Jing Method:

The Jing Method is based on the framework 'HFMAST' which stands for Heat, Fascia, Muscles, Acupressure points, Stretching and Teaching Self Care. The 5th letter of the HFMAST acronym is S for Stretching. Stretching is defined either as "be made or be capable of being made longer or wider without tearing or breaking" or "to straighten or extend one's body or a part of one's body to its full length, typically so as to tighten one's muscles or in order to reach something". This globally employed technique is suggested to many individuals suffering from chronic pain, as the definition says it allows muscles to 'become longer and wider relieving that feeling of tightness and restriction'. Among the plethora of research surrounding this topic, these 4 studies by Pragassame et al. (2019), Hatefi et al. (2021), Amoudi et al. (2021) and Mansoori et al. (2021) found stretching to be a useful and positive intervention for helping people with chronic and acute pain. Therefore, this element was the focus of this study's design when treating shoulder pain in women.
The Jing Method has helped many people in pain by following protocols, advice and guidance given in person by an experienced therapist Murdoch (2023), Wigmore (2023) and Quayle (2023).

Hot and Cold therapy would be suggested instead of analgesics/anti inflammatories. Exercises can definitely be part of the individuals recovery. To avoid injury and ensure the individual is clear/ happy executing the exercises, a one to one between client and therapist would be arranged to discuss, demonstrate and perform the exercises. An essential part of the Jing Method is therapeutic alliance, supporting your client through their recovery journey allowing them to feel safe and comfortable in their care. This can become more difficult if the in-person interaction is replaced with a computer screen. (https://www.jingmassage.com/)

The Therapeutic Appliance:

Therapeutic alliance (TA) is another golden nugget that is integrated into the Jing Method. This professional relationship between patient and practitioner allows the therapist to treat an individual knowing 'the full picture'. Establishing a strong therapeutic alliance will allow the therapist to extract important information tactfully in order to devise the best course of treatment for that patient. The individual needs to feel safe and trust the therapist in order to comfortably divulge or disclose the information. Fuentes et al. (2014) found an "enhanced TA" led to "clinically meaningful improvements" in the treatment of chronic low back pain. More recent studies by Myers C et al. (2022) and Gillingham (2017) shows a link between therapeutic alliance and reduction in pain intensity. The biopyschosocial model is another important factor that needs to be considered when working with musculoskeletal conditions. Kinney et al. (2020) suggests that "a strong therapeutic alliance may improve pain outcomes" and by using the biopyschosocial model we would be able to "understand factors that positively and negatively influence the relationship".

Tele-Rehab:

Accordingly to the World Health Organisation (WHO), "rehabilitation is an essential part of universal health coverage along with promotion of good health, prevention of disease, treatment and palliative care". There is substantial positive consensus advocating online rehabilitation of various conditions and issues. Meyer et al (2009) found web-based intervention effective in reducing symptoms of depression and improving social functioning. Similar, in March (2022) Correia et al discovered that home based rehabilitation had "similar, if not superior short and long term" effects for post arthroscopic rotator cuff repair. A randomised controlled trial was carried out in (2013) by Rooke et al on the effectiveness of self-guided web-based cannabis treatment program. Results

showed web based programmes may be an effective means of treating uncomplicated cannabis use. This study aims to target shoulder pain in women using online rehabilitation, adding to the growing body of research around rehabilitation delivered through online channels.

Method:

First of all, ethics was approved and cleared by Jing Advanced Massage Training. The next step was recruitment. Advertisement flyers were distributed across various social media channels such as Instagram and Facebook as well as Nextdoor Community Forum. Word of the study was also spread through the researchers existing client base.

Research was obtained through many channels such as Mendeley, Google Scholar, PubMed and the Jing Syllabus.

The Shoulder Pain and Disability Index questionnaire was the tool chosen to collect and monitor the participants' pain. This specific tool was the best option as it focuses around non specific shoulder pain and dysfunction.

Once participants had shown interest and agreed to take part, consent was obtained. Each participant attended an initial consultation and ROM (Range of Motion) assessment to establish their start point as well as introducing the questionnaire. Gain information on medical history, when the pains started, any trauma or injury etc. 3 participants were originally recruited, one dropped out during the control phase as pain ceased. So 2 remained.

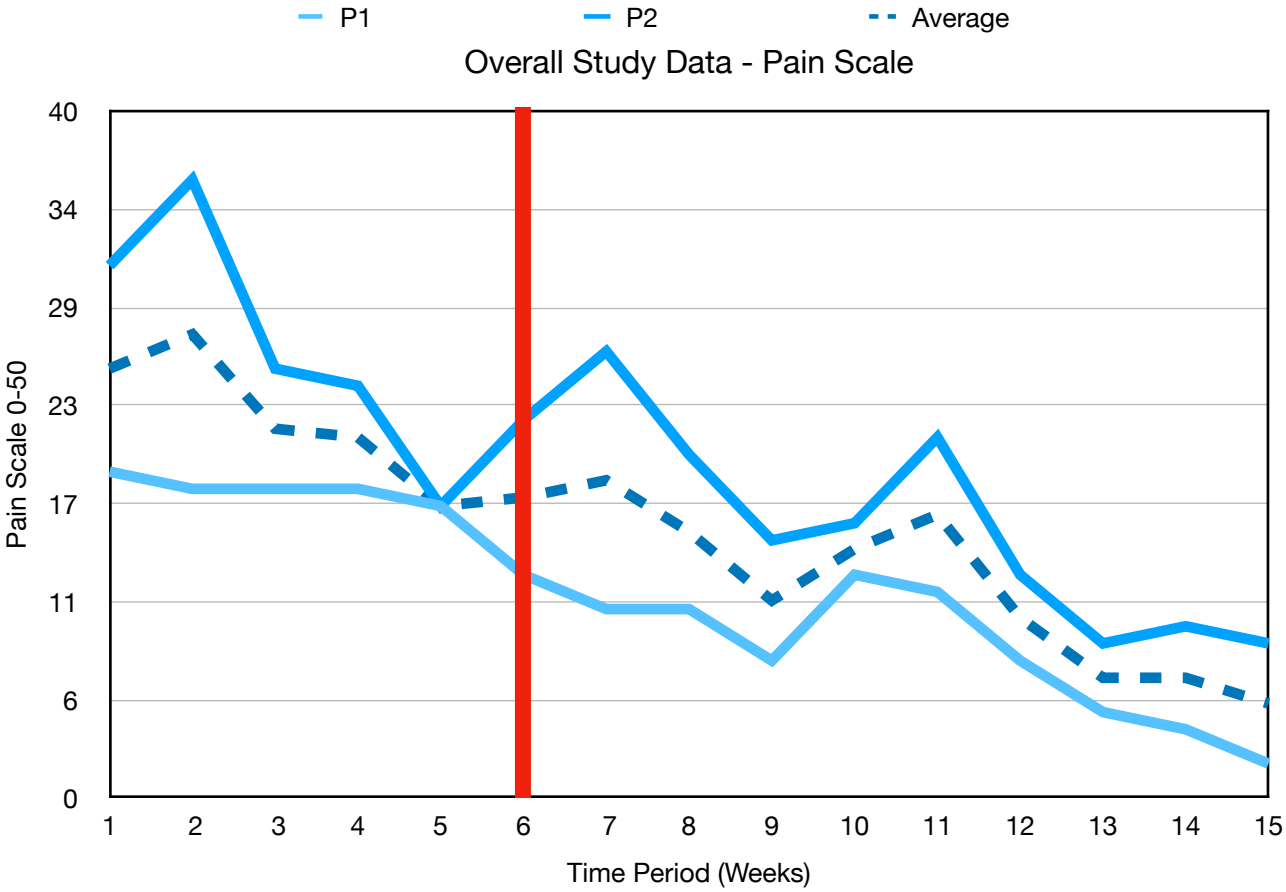
Inclusion criteria were women between 40-60 with non specific shoulder, undiagnosed and preferably untreated. Struggling to perform daily tasks such as reaching for something on the top shelf or undoing the bra strap. Exclusion criteria included pregnancy, surgery or invasive treatment to the effected shoulder, osteoarthritis as well as short term pain and subluxation. Two participants were excluded due to these criteria and two participants dropped out, leaving 3 women between 40-60 meeting all the relevant criteria. All of them have been experiencing pain for longer than 3 months.

The first 6 weeks of the study is the Control Phase where participants completed the SPADI questionnaire weekly with no intervention. No new treatment to be started during this time as this would hinder the results.

The second 6 weeks of the study is the Intervention Phase. While participants continued to complete the SPADI questionnaire weekly, they would also be attending weekly Zoom sessions

with the researcher where they would be given rehabilitation exercises to do each day. The participants received reminders through the phases regarding questionnaires and exercises. Participants were advised to fill out the last questionnaire 7 days after the final Zoom to assess full result of intervention. At end of week of 15, participants were also asked to fill out the SPADI, allowing the researcher to evaluate the longevity/effectiveness of the intervention over a period of time.

Results: Figures 1 and 2 - **Red Vertical Lines on all graphs are marking Week 6 (end of control phase).**



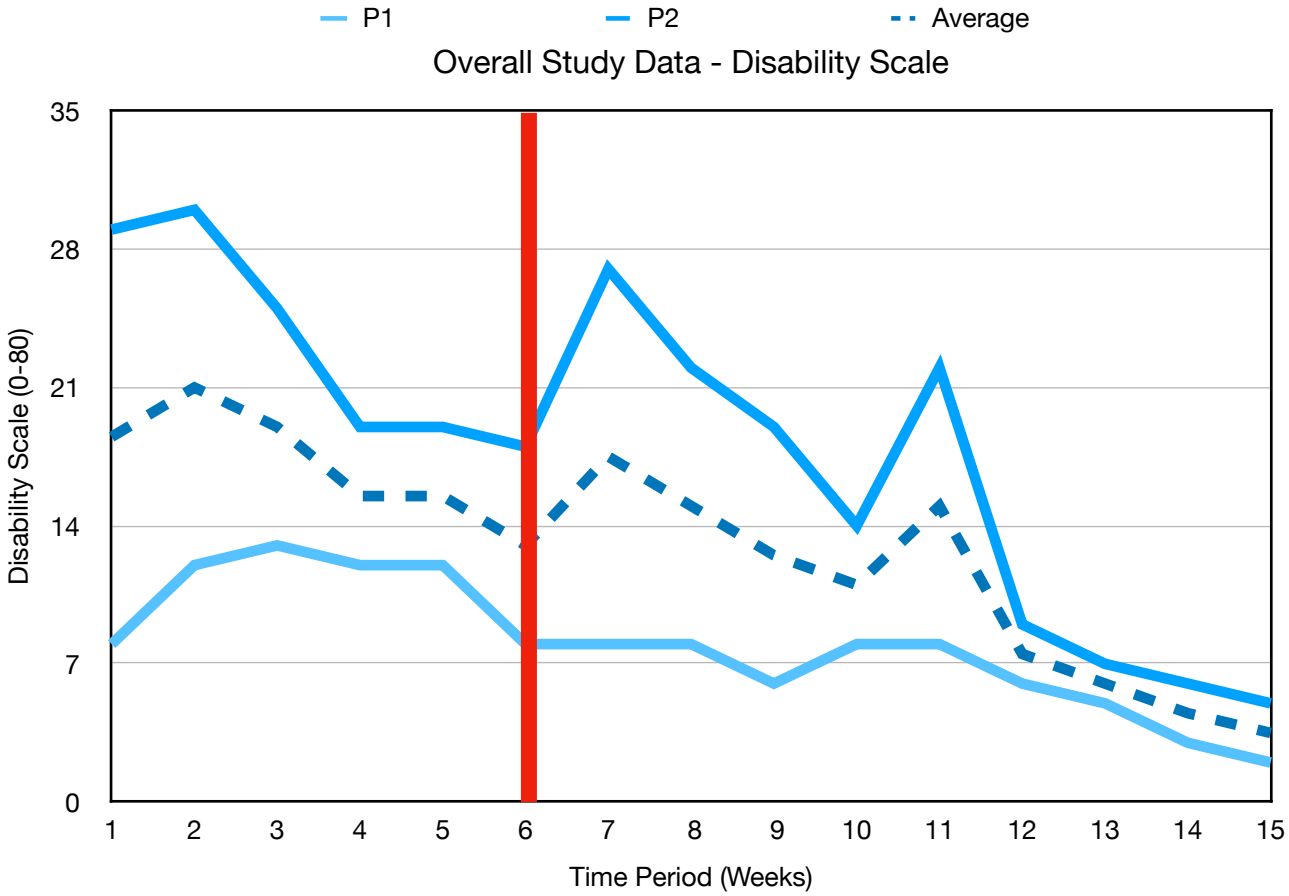


Figure 3 and 4 -

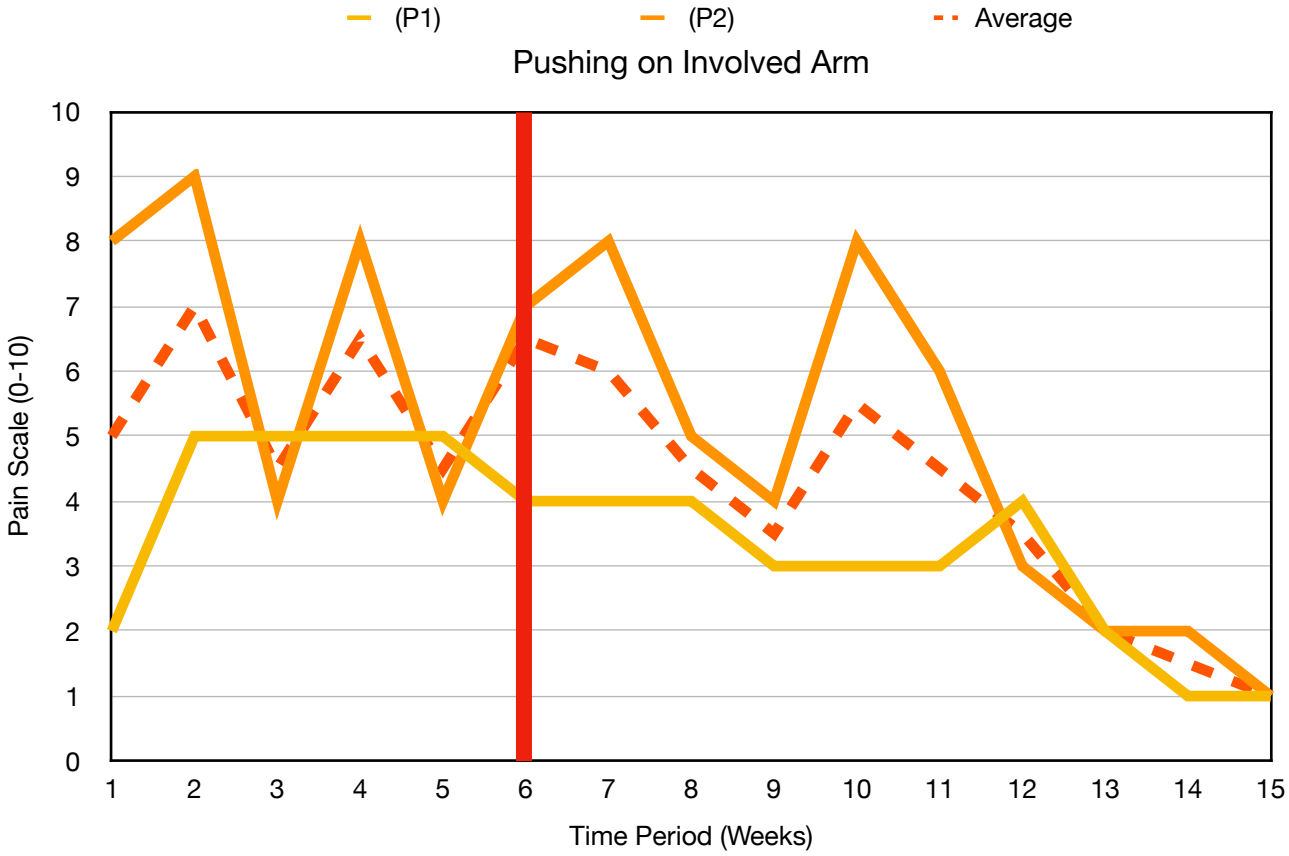
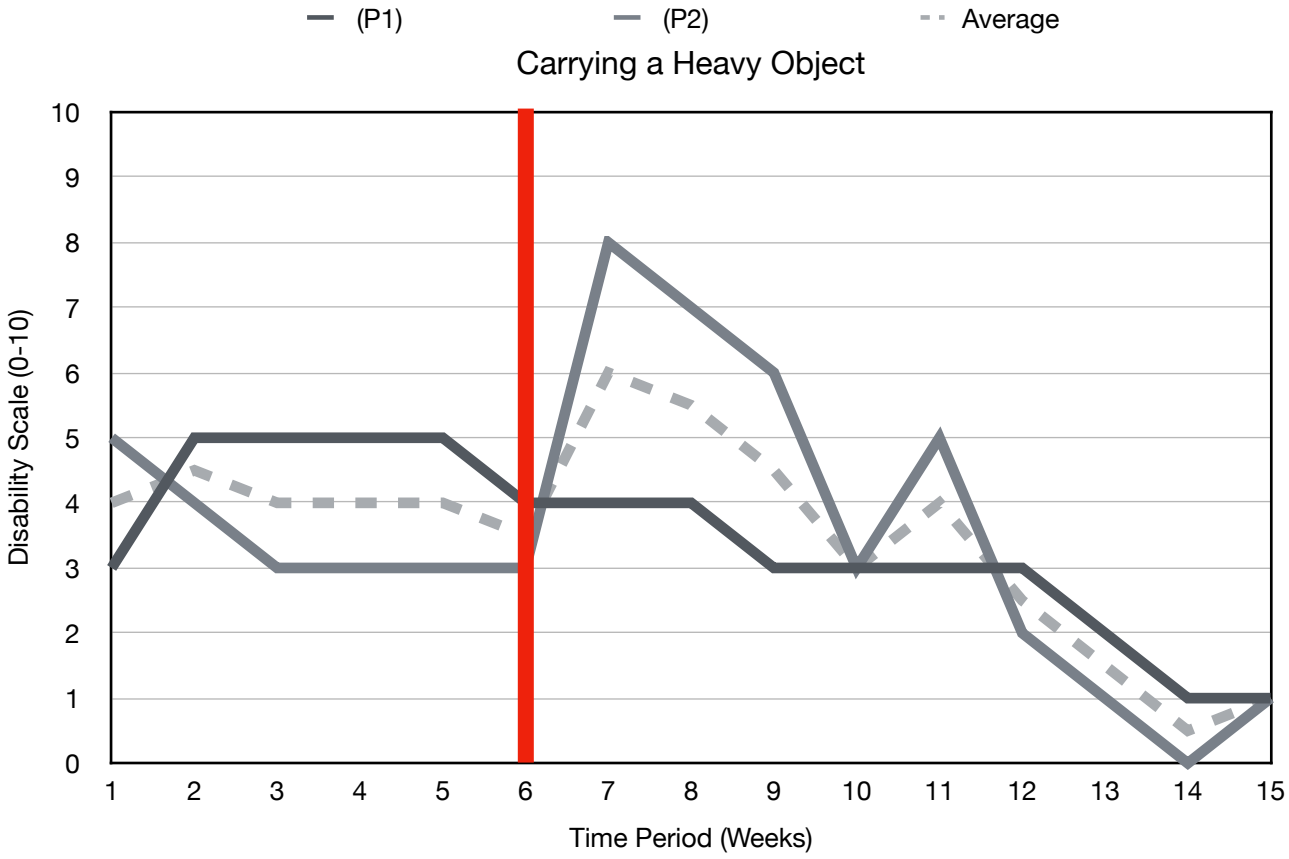


Figure 5 -


(P1)
(P2)
Average
Carrying a Heavy Object
Disability Scale (0-10)
0
1
2
3
4
5
6
7
8
9
10
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Time Period (Weeks)

Discussion:

This study shows a steady improvement in pain and function for women with non specific shoulder pain. As well as offering an alternative and effective treatment option, this research would also be adding to the growing body of research for shoulder pain rehabilitation. This study recruited female participants. Although only two were recruited, it mirrors the conclusions of studies by Kim et al (2020) who recruited 72 women and Andersen et al (2011) who recruited 174 women.

Various studies have produced similar conclusions such as Sharma et al (2021), Park et al (2016) and Liu, Sai-chuen, Hui, Yang et al (2022). The overall pain scale data (Figure 1) showed a reduction in pain levels with an average SPADI score of 18.5 (Week 1), 17.5 (Week 6), 10.5 (Week 12) and 5.5 (end of Week 15). The study results for the disability scale (Figure 2) produced a similar/positive decline with an average SPADI score of 18.5 (Week 1), 13 (Week 6), 7.5 (Week 12) and 3.5 (end of Week 15). These scores highlight the drop in SPADI scores at the end of the Intervention stage (Week 12). The study has also delivered a further drop in average SPADI scores, 5.5 (Pain Scale) and 3.5 (Disability Scale) at the end of Week 15. Proving that the rehabilitation programme used remained successful and effective 3 weeks post intervention.

What does this research add to our knowledge of Advanced Clinical Massage (ACMT)?

Advanced Clinical Massage is a hugely under researched topic. The primary goal of this study is to improve shoulder pain and function for participants. However the secondary goal is to build on this small pool of current research increasing awareness and knowledge of alternative therapies such as Advanced Clinical Massage Therapy. Rehabilitation is one of many elements involved in Advanced Clinical Massage Therapy. The study findings support the use of manual exercise and rehabilitation when treating shoulder pain. Building on our knowledge of ACMT but also adding validity to current research such as Ohno et al. (2022) and Yoma et al (2022).

Previous research on musculoskeletal pain and mental health has shown that the Jing method is effective. It can assist people with shoulder pain using HFMAST. Murdoch (2023) carried out a study on chronic shoulder pain. The intervention involved the Jing Shoulder Girdle protocol, heat,

myofascial release, trigger point therapy, acupressure and stretches. The Total SPADI score changed marginally during the control phase however there was a 54% overall improvement rate after each week of the intervention phase. The pain SPADI score had little change during the control phase, with minimal improvement after first treatment but positive change after each week of treatment resulting in 47% improvement overall. The Disability SPADI score highlights the ultimate effect of the Jing Method, resulting with a 60% overall improvement after the 6 weeks intervention period. Findings show that the Jing method may be beneficial in treating individuals with chronic shoulder pain.

Morris (2021) assessed the effect of the Jing Method on NSLBP (Non Specific Low Back Pain) in Community Midwives. Delivering a very successful result with a significant improvement in mental wellbeing and reduction in pain levels.

The Jing Method can also be used to improve mental health independently. Quayle (2023) and Martinez-Perez (2023) executed studies centred around men and depression/mental well-being. Both studies used methods inspired by the Jing Method and the aim of the research was to improve mood levels. Quayle (2023) results showed depression dropping from 23.1 to 16.7, anxiety from 11 to 4 and stress from 23 to 15. 17 participants were used for this study. Martinez-Perez (2023) recruited 9 participants and the study resulted in lowering levels of stress/anxiety/depression, meaning an overall improvement in wellbeing.

Trigger point therapy, being a highly efficient and beneficial technique, is a great tool to utilise when treating chronic pain. Sohns et al. (2016) shows us trigger point therapy is an effective treatment option for chronic shoulder pain. Another study by Brown et al. (2011) echoes a similar conclusion, the use of trigger point therapy improves pain and function for individuals with chronic shoulder pain. Heat is another core element used within the Jing Method and is integrated into this study's intervention protocol. In the European Journal of Midwifery (2022), Goswami et al. (2022) found heat therapy decreases labor pain intensity and can be used for management of labor pain. Wang et al. (2021) also supported the application of heat for treating delayed Onset Muscle Soreness.

Rehabilitation and strengthening work is one of the key elements involved in The Jing Method and Advanced Clinical Massage Therapy. The study method chosen encompassed Heat, Stretching and Rehabilitation exercises which resulted in a reduction of pain and increase in function. However, the results displayed a consistent spike at Week 7 in the majority of data, this suggests the first week

of rehabilitation exercises may have aggravated or irritated the shoulder. A possible change to the first week of exercises may of potentially eliminated the spike and resulted in a gradual improvement.

Reflection on Method and Validated Questionnaire:

Rehabilitation and physical therapy has been suggested by medical and alternative therapists for decades. Around 180 BC, the Romans utilised a form of exercise called gymnastics. A century later, a physician called Galen taught the principle of performing exercises to improve strength. Using exercise to improve muscle strength is a centuries old ideology and a concept/intervention that has a huge impact on chronic pain and function. There is a large amount of research around rehabilitation and pain. In 2022, Ohno et al. (2022), Kim (2022) and Yamaguchi et al. (2022) all found rehabilitation to have a positive effect on individuals in pain. Park (2016) and Lack (2015) have also resulted in a similar conclusions. All the evidence referenced above support rehabilitation being the chosen intervention method for this study. Shoulder rehabilitation has been proven to be effective in improving pain and function. Santello et al (2020), Pieters et al (2020), Sharma et al (2021) and Andersen et al (2011) all resulted in a similar conclusion to this study's, rehabilitation/ exercise therapy was effective in improving pain and function.

The Shoulder Pain and Disability Index questionnaire (SPADI) was the instrument that was used throughout the study. This research tool was developed by Roach et al. in (1991). 'Clinical Examination of the Shoulder' was published in 2004, Chapter 15 refers to 2 studies by Williams et al (1995) and Heald et al. (1997) researching the validity of the instrument and findings suggests the SPADI is a "valuable tool that can be used clinically during the examination and treatment of patients with shoulder pathology". Studies by Munir et al. (2023) and Sharma et al. (2021) support the use of this instrument when researching exercise therapy and shoulder pain. Based on the positive research findings laid out above, this tool would be a useful and effective way of establishing participants pain and disability. This tool was helpful in collating and analysing the data. However, feedback indicated there were certain movements or actions that were painful but were not stated on the questionnaire. With hindsight, the study may have produced a clearer result had the Disability of the Arm, Shoulder and Hand questionnaire (DASH) been used as there is a larger number of questions.

Online Based Research:

All of the study material has been delivered online through Zoom. Throughout the study, the participants had access to pre recorded videos of the weekly exercises demonstrating how to execute the exercises correctly and safely. The researcher was also be on hand to answer any questions during our weekly Zoom meetings. These research results suggest that with a structured rehabilitation programme and support from a medical practitioner, the participants can improve their shoulder pain and function. (https://www.nhs.uk/conditions/shoulder-pain). In contrast, on the official NHS website readers with shoulder pain are advised how to self treat their shoulder pain at home with DO's and DONT's. For example, suggesting individuals do 'shoulder exercises for 6-8 weeks to prevent shoulder pain returning'. First, the readers wouldn't know what exercises would be right for them. Secondly, they would not have the guidance or advice from a professional medical practitioner. The design of this research study is essential: online material delivered by a live professional medical practitioner able to answer questions, give advice and guidance to participants throughout the study. Online based research is limited and has boomed since the Covid pandemic, this study could potentially add weight supporting this style of research.

Limitations:

The number of participants has restricted the results of the study due to the small number recruited. If a larger number of participants had been recruited, the study would have produced more data for analysis delivering a more supported and substantial result. Inclusion and exclusion criteria was also a limiting factor, the researcher received many enquiries but the majority were ruled out due to eligibility. One participant withdrew from the study halfway through the control phase which effected the study as it reduced the amount of data obtained. Compliance has to be considered as a limiting factor, the researcher can't be certain the exercises have been executed (as instructed) consistently without more monitoring.

Conclusion:

To conclude, the aim of this research was to assess the effect of online rehabilitation on non specific shoulder pain in women aged 40-60. The study consisted of 12 weeks, 6 weeks control phase and 6 weeks intervention phase. The results showed a positive improvement in pain and function, however this study recruited a small number of participants. For future research, it would be beneficial to recruit a larger number of participants, to gain more substantial data.

Appendix 1: SPADI Questionnaire

Shoulder Pain and Disability Index (SPADI)

Source: Roach KE, Budiman-Mak E, Songsiridej N, Lertratanakul Y. Development of a shoulder pain and disability index. *Arthritis Care Res*. 1991 Dec;4(4):143-9.

The Shoulder Pain and Disability Index (SPADI) is a self-administered questionnaire that consists of two dimensions, one for pain and the other for functional activities. The pain dimension consists of five questions regarding the severity of an individual's pain. Functional activities are assessed with eight questions designed to measure the degree of difficulty an individual has with various activities of daily living that require upper-extremity use. The SPADI takes 5 to 10 minutes for a patient to complete and is the only reliable and valid region-specific measure for the shoulder.

Scoring instructions

To answer the questions, patients place a mark on a 10cm visual analogue scale for each question. Verbal anchors for the pain dimension are 'no pain at all' and 'worst pain imaginable', and those for the functional activities are 'no difficulty' and 'so difficult it required help'. The scores from both dimensions are averaged to derive a total score.

Interpretation of scores

Total pain score: _____/ 50 x 100 = %

(Note: If a person does not answer all questions divide by the total possible score, eg. if 1 question missed divide by 40)

Total disability score: _____/ 80 x 100 = %

(Note: If a person does not answer all questions divide by the total possible score, eg. if 1 question missed divide by 70)

Total Spadi score: _____/ 130 x 100 = %

(Note: If a person does not answer all questions divide by the total possible score, eg. if 1 question missed divide by 120)

The means of the two subscales are averaged to produce a total score ranging from 0 (best) to 100 (worst).

Minimum Detectable Change (90% confidence) = 13 points

(Change less than this may be attributable to measurement error)

Shoulder Pain and Disability Index (SPADI)

Please place a mark on the line that best represents your experience during the last week attributable to your shoulder problem.

Pain scale

How severe is your pain?

Circle the number that best describes your pain where: 0 = no pain and 10 = the worst pain imaginable.

At its worst?	0	1	2	3	4	5	6	7	8	9	10
When lying on the involved side?	0	1	2	3	4	5	6	7	8	9	10
Reaching for something on a high shelf?	0	1	2	3	4	5	6	7	8	9	10
Touching the back of your neck?	0	1	2	3	4	5	6	7	8	9	10
Pushing with the involved arm?	0	1	2	3	4	5	6	7	8	9	10

Disability scale

How much difficulty do you have?

Circle the number that best describes your experience where: 0 = no difficulty and 10 = so difficult it requires help.

Washing your hair?	0	1	2	3	4	5	6	7	8	9	10
Washing your back?	0	1	2	3	4	5	6	7	8	9	10
Putting on an undershirt or jumper?	0	1	2	3	4	5	6	7	8	9	10
Putting on a shirt that buttons down the front?	0	1	2	3	4	5	6	7	8	9	10
Putting on your pants?	0	1	2	3	4	5	6	7	8	9	10
Placing an object on a high shelf?	0	1	2	3	4	5	6	7	8	9	10
Carrying a heavy object of 10 pounds (4.5 kilograms)	0	1	2	3	4	5	6	7	8	9	10
Removing something from your back pocket?	0	1	2	3	4	5	6	7	8	9	10

Appendix 2: Participant Consent Form

PARTICIPANT CONSENT FORM

Title of study: Using online rehabilitation to reduce non specific shoulder pain in women aged 40-60.

Name of student: Ella Scott

- 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 will not record the Zoom sessions to the respect the confidentiality of the group.
- 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 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): **07396 605305** ejbodyfit@outlook.com	

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: ……..

PROJECT TITLE: Using online rehabilitation to reduce non specific shoulder pain in women aged 40-60.
STUDENT NAME: Ella Scott
STUDY LOCATION: Your home.
Tel: 07396 605305
Email: ejbodyfit@outlook.com

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?

Participants will be expected to fill in a SPADI questionnaire for the first 6 weeks weekly without intervention.

For the next 6 weeks, weeks 7-12, every Monday you will fill in the questionnaire weekly as well as attending a Zoom session where you will be given your exercises that need to be performed daily for the rest of the week. A pre-recorded video of the exercises will be sent to you the next day. Participants are requested not to record the Zoom sessions to respect the confidentiality of the group.

You will complete the SPADI prior to each Zoom session and 7 days after the final week 12 session. You will also inform the researcher how many times you were able to actually perform the exercises each week.

What does the initial consultation and research study involve? Together we will run through you medical history, ROM and any current concerns. Explain the study in detail and answer any questions you might have before beginning the study.

Are there any risks involved? The rehabilitation programme may not be beneficial to you as an individual.

What are the potential benefits to you; the participants? The research study may have a great effect ad your pain and movement has improved.

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 **Ella Scott**. 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 **Ella Scott.**
If you have any further questions, please contact **me** on the telephone number or email address above.

Thank You.

Appendix 3: Intervention Method

Week 1 and Week 2 - First apply heat to the shoulder twice daily morning and evening. Pendulum swings performed morning and evening 10 revolutions, 2 sets both clockwise and anti clockwise.

Week 3 - Weighted pendulum swings (same prescription as week 1 and 2 except a weight is held in the hand i.e. tin of beans or full water bottle) and walk walking 1 minute twice a day on effected shoulder, put a sticker on the walk to monitor the progress.

Week 4 - Scapula press ups on the wall, 10 repetitions 2 sets twice a day and banded medial and lateral rotation with a light resistance band 10 reps 2 sets twice a day.

Week 5 - Active flexion and abduction movements 10 repetitions 1 set. Add light resistance for the 2nd set. Continue with the banded medial and lateral rotation prescription from Week 4.

Week 6 - Scapula press ups on the floor 10 repetitions 2 sets and tennis ball throws against the wall and catch for 1 minute.

Appendix 4: Ethics Form

	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:	Ella Scott
BTEC Year-group:	2022-2024
Date of application:	April 2023
Student email address:	ejbodyfit@outlook.com
Title of research project:	The effect of online rehabilitation on non specific shoulder pain in women aged 40-60.

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?	Y	
If yes, does it involve children under 16?		N
If yes, does it involve children under 18?		N
Other vulnerable populations (i.e. mental illness, aged subjects)?		N

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.*		N
Are you planning to use deception?		N
Are you collecting sensitive personal data such as sexuality, mental health data, etc?		N
Does your project make use of a validated questionnaire? Shoulder Pain and Disability Index	Y	
Does your project make use of a new/adapted questionnaire or semi-structured interview checklist?		N

Section 3:

Where is your research being undertaken? Aside from the initial virtual or in person meeting, the research will be undertaken at my own premises and the participants will carry out the exercise programme independently in their homes.		
If your research is being undertaken outside of your own premises, do you have written confirmation from the establishment involved? If yes, please		N/A

Section 4:

How will you recruit subjects for this research study?

Using social media channels, neighbourhood forums and word of mouth through existing clients.

Section 5:

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

Collect the information, store it securely out of sight and dispose of the information safely once the research is complete. Store all information with accordance with General Data Protection Regulation 2016. All participants will be told that their information will not be shared with any third parties. NO surnames will be used and all data will stay anonymised. Data will be collected and stored on my computer which is password and fingerprint protected. Participants will be asked not to record the Zooms, to ensure the content is not circulated for purposes other than the study.

1. Outline your project procedure - **Section 6 Part 1**

Recruit 20 participants to carry out my study.Women between 40-60 with non specific shoulder pain. Eligibility/inclusion/exclusion criteria will have been checked prior. The researcher will meet with each of the participants virtually or in person a week before the study begins to ensure suitability for the study and obtain consent. The consultation and active range of motion testing will be included in this meeting.

To begin with there will be a 6 week control phase where each participant will fill in the SPADI questionnaire weekly through the 6 week control phase. The questionnaire will be filled in on a Monday (same day each week). There will be no intervention throughout the control phase.

The second stage of the research study would be the intervention phase, weeks 7-12. The participants will be instructed to fill in the questionnaire weekly every Monday before attending a group Zoom session. The final questionnaire will be returned on the Monday 7 days after the last Zoom session. The Zoom will be every Monday to perform exercises that the researcher will deliver. All participants will be notified that the Zoom will run for an hour.

To ensure all the exercises are being executed correctly the researcher will demonstrate the exercise to the group and ask the participants to perform the same exercise themselves. A recording of the exercises will be sent to participants after each group session so they can follow it as self-care. The self-care exercises will take 5-15 minutes to do and be performed daily by participants. When participants return the weekly SPADI, they will be asked how many times they performed the self-care.

Data will be collated and analysed after the intervention phase has ended.

Rehabilitation draft programme to be carried out during the 6 week intervention period is attached.

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

The aim is to recruit 20 participants using social media, community

Section 7:

What sort of materials or stimuli will your participants be exposed to?		
	YES	**NO**
Questionnaires	Y	
Pictures (will you take a photo of par-		N
Sounds	Y	
Words	Y	
Other	Rehabilitation exercises and Zoom re-	

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

For 'Other' please elaborate: All rehabilitation exercises taken from the Rehab Module of the Jing syllabus. See attached appendix as an example.

Section 8:

What sort of people will the subjects be?

Inclusion criteria:

- Women 40-60 with non specific shoulder pain.
- The shoulder must be non specific, no diagnosis given.
- The pain experienced must be affecting their day to day life for example doing up their bra strap, brushing their hair or putting on their jacket.
- Participants must be female and within the 40-60 age bracket.
- Participants must also need to available for the full 12 week period.
- The individual should have been experiencing this pain for 3 months or more to qualify to take part in the study.

Exclusion criteria:

- Pregnancy.
- Individuals with Osteoarthritis.
- They can not commit to the full time period (12 weeks).
- Had any surgery to the affected shoulder.
- They are taking any medications or alternative remedies for their joints.
- Fracture, dislocation or pain conditions such as MS or Fibromyalgia.
- If they are under the care of any other medical professional ore complementary therapist during the 12 week period.

Section 9:

If your research study involves minors, how will you obtain participation permission and who is the responsible adult? The research will not involve minors.

Section 10:

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

In terms of the exercises, on Zoom throughout the intervention phase the exercises will be demonstrated by the researcher and the participants will perform the exercise themselves as well as receiving a recording of the researcher performing the exercises. This is to ensure the exercises are executed correctly. This Zoom will take place every Monday for Weeks 7-12. There will be time on each Zoom for questions and concerns, researcher can resolve any issues that arise.

The researcher will be aware of the participants emotional well being, signpost them to resources they can draw from if they wish. When performing the rehabilitation protocol if they pain worsens please contact the researcher for more advice and temporarily stop exercises. All participants will be made aware that I am a qualified and fully insured therapist, eligible and capable of carrying out this research study.

Section 11

What procedures will you follow in order to guarantee the confidentiality of your participants' data? In terms of confidentiality, their details and information will be stored securely for the duration of the study. Once the study is complete, the information will be disposed of safely. Ensure questionnaires are emailed to me and stored in a secure folder until the data can be analysed. Personal data will be stored separately to the research data. Each participant will be assigned a number. If the participant has a virtual meeting with myself, I will request that the zoom is not recorded. This applies to the group Zoom meetings as well. All data

Section 12

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

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 par-	**YES**	NO

Student's handwritten signature:

_____

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

Print Name: Ella Scott

Date: 30th May 2023

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 in-

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