IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"Effects Of Maitland Mobilization Technique And Spencer's Technique On Pain Relief, Improving Range Of Motion And Restoring Function Among Patients Of Frozen Shoulder"

Dr. Hiral Patel

Professor (I/C Principal), Merchant Physiotherapy College

Basna, Mehsana, India

Abstract: In the condition known as adhesive capsulitis, adhesions form and the glenohumeral joint's shoulder capsule becomes irritated and inflexible. Spencer's methods and Maitland mobilization are crucial managerial interventions. In the past, both Spencer's method and Maitland mobilization have been shown to be successful in treating adhesive capsulitis. However, common sense dictated that the effects of using Maitland mobilization of the shoulder joint, which is largely impacted in adhesive capsulitis, and then Spencer's method of the shoulder joint should be studied. In order to increase the extensibility of Maitland joint mobilization procedures in patients suffering from adhesive capsulitis, our study assessed the effectiveness of various therapy approaches. **AIM:** To find out the effectiveness of Maitland mobilization technique and Spencer's technique in the patients of Frozen shoulder. **STUDY DESIGN:** Comparative Study. **OUTCOME MEASURES:** VAS Scale, SPADI Scale, Goniometry. **RESULT:** In this study, there are comparison of two techniques like Maitland mobilization technique and Spencer's technique in the patients of Frozen shoulder. Both groups exhibited significant decreases in pain post-intervention. But this study found the Maitland Mobilization technique is more effective than the Spencer's technique. **CONCLUSION:** The findings of the study suggest that Maitland mobilization technique (Grade I & Grade II) may be more effective than Spencer's technique in adhesive capsulitis shoulder to reduce pain, improve the functional activity and improve ROM.

Index Terms **- Maitland** Mobilization, Spencer's technique, Frozen shoulder, VAS Scale, SPADI Scale.

I. INTRODUCTION

One of the rewarding and functional joints required for everyday tasks, work, performances, and leisure is the shoulder. Its function consists of the compatibility of mobility and stability. It serves as the foundation for all powerful and skillful upper limb exercises. [1] The joint that joins the upper arm bone to the shoulder blade is called a ball and socket joint. Adduction, abduction, flexion, extension, internal and external rotation, and 360° circumduction are all possible with this joint, which is also the most mobile in the body. Because it is the most mobile joint in the body, the shoulder joint is also the most unstable. Adhesive capsulitis, another name for frozen shoulder, is one of several conditions affecting the shoulder joint. It is a painful condition that restricts shoulder movement and causes stiffness. A frozen shoulder is one that has become immobile and stuck. Inflammation of the capsule, the tissue that surrounds the shoulder joint, is frequently the cause of frozen shoulder. Although the pathophysiology of this fibroproliferative tissue fibrosis has been better understood thanks to immunobiological advancements in other diseases, the molecular mechanisms underlying it are still not fully understood. [4] Shoulder capsulitis typically affects people between the ages of

40 and 65 and affects 2% to 3% of the general population. You may be more susceptible to frozen shoulder due to a few factors. Diabetes, thyroid conditions, cervical radiculopathy, shoulder surgery, post-operative immobilization, and a history of shoulder trauma are risk factors for frozen shoulder. [5] Restoring function, increasing range of motion, and reducing pain are the objectives of treatment for frozen shoulder. Stretching and strengthening exercises, electrotherapy modalities, and mobilization are all part of physiotherapy treatment, and they can be used in tandem.[6] Passive physiological joint mobilization, passive accessory joint mobilization, and mobilization with movement (MWM) are a few types of joint mobilization.[7] The study's objective was to evaluate the effects of Spencer's technique and Maitland mobilization on patients with frozen shoulder. [5]

II. AIM AND OBJECTIVE

AIM

- To find out the effectiveness of Maitland mobilization technique and Spencer's technique in the patients of Frozen shoulder.

OBJECTIVE

- To evaluate the effectiveness of Maitland mobilization techniques for reducing pain , improving ROM and decreasing functional impairment in patients with Frozen shoulder.
- To evaluate the effectiveness of for Spencer's technique for reducing pain, improving ROM and decreasing functional impairment in patients with Frozen shoulder.
- To compare the effectiveness of Maitland mobilization technique and Spencer's technique in reducing pain and improving functional activity and ROM in patients with Frozen shoulder.

III. REVIEW OF LITRATURE

[1] Xiarepa Abudula, Palida Maimaiti1, Ailiyaer Yasheng , Jiaojiao Shu , Asiguli Tuerxun , Halimire Abudujilili and Ruiqi Yang (2024) did a study on "Factors associated with frozen shoulder in adults: a retrospective study" This study aims to explore the risk factors associated with frozen shoulder patients and further analyze the relationship between gender and diabetes with frozen shoulder. They reviewed the data of 1205 frozen shoulder patients in China's Xinjiang region from 2018 to 2023. The collected information included patients' gender, occupation, place of origin, marital status, age, the season of disease onset, duration of illness, etiology, surgical history, hypertension, diabetes, respiratory diseases, knee joint disease, hyperlipidemia, cardiovascular diseases, cervical spondylosis, lumbar disc herniation, rheumatoid arthritis, hyperuricemia, sleep quality, smoking and alcohol consumption, and constipation. The results of this study suggest that gender and diabetes are independent risk factors for frozen shoulder. Additionally, poor sleep quality and constipation also can be correlated with the occurrence of a frozen shoulder. [9]

[2] Pratik Phansopkar , Moh'd Irshad Qureshi (2024)conducted a study on "An Integrated Physical Therapy Using Spencer's Technique in the Rehabilitation of a Patient With a Frozen Shoulder: A Case Report" The Spencer technique is a seven-step technique that is used to treat shoulder movement restrictions. In this case report, they present the case of a 57-year-old male shopkeeper by occupation with a right frozen shoulder with complaints of pain and stiffness around the shoulder region and reduced range of motion (ROM) for more than six weeks. They concluded that the Spencer technique utilized has a significant effect on improving the shoulder range of motion, decreasing pain, and further reducing the functional disability associated with a frozen shoulder, and the improvements were sustained post-treatment when evaluated at various timelines that are the second, third, and sixth months. [10]

[3] Anke van Bladel, Ann Cools1 Marc Michielsen, Kristine Oostra,Dirk Cambier(2022) had done a study on "Passive mobilisation of the shoulder in subacute stroke patients with persistent arm paresis: A randomised multiple treatment trial" A randomised multiple treatment trial was conducted to compare the effects of different mobilisation techniques on shoulder PROM. Eleven participants with upper limb paresis

in the subacute phase after stroke underwent three different mobilisation techniques (3 × 4 weeks):(1) combined soft-tissue mobilisation in the scapular plane, (2) scapular mobilisation without glenohumeral movement, (3) angular glenohumeral mobilisation in the frontal plane. These preliminary findings, suggest that combined soft-tissue mobilisation technique might improve the PROM for external shoulder rotation in subacute stroke patients with persistent arm paresis. [11]

IV. MATERIALS AND METHODOLOGY

- **TYPE OF RESEARCH** - Interventional study
- **STUDY DESIGN** - Comparative study.
- **SAMPLE DESIGN** - Convenient sampling.
- **STUDY POPULATION** – Frozen Shoulder Patients
- **SAMPLE SIZE** - 30 participants

[Group A -15 participants, Group B – 15 participants]
Group A -Maitland mobilization technique.
Group B – Spencer's technique.

- **STUDY SETTING –** Merchant Physiotherapy College
- **STUDY DURATION** – 6 months.
- **TREATMENT DURATION** - 4 weeks.
- **SAMPLING CRITERIA:**

Inclusion criteria:
(1) Pain in the affected shoulder joint, with significant limitations in movement (flexion < 90) and consistent degrees of active and passive movement limitations;
(2) No significant improvement in shoulder joint mobility after conservative treatment.
(3) Patients with frozen shoulder supported by imaging and laboratory data such as X-ray, CT, and MRI.

Exclusion criteria:
(1) Exclusion of patients with systemic lupus erythematosus or other specific medical conditions that could potentially interfere with the assessment or management of shoulder pain.
(2) Exclusion of patients with incomplete medical records, precluding a precise case definition.

- **OUTCOME MEASURES**
  Shoulder Pain and Disability Scale
  VAS Scale
- **SAMPLING PROCEDURE**

This research was accepted by the ethical committee of Merchant Physiotherapy College, Basna Mahesana. Participants were selected based on criteria (Inclusion & Exclusion criteria). The whole procedure was clearly explained to all the participants and their consent was taken and use a convenience sampling method divided the 30 participants into two groups.

V. RESULT

Table 6.3 : Pre test results of Frozen Shoulder Patients

Scale	Mean of Group A	Mean of Group B
VAS Scale	8	7.93
SPADI Scale	29.66	31.06
ROM of Abduction	155.53	151.53
ROM of External rotation	58.4	57.6

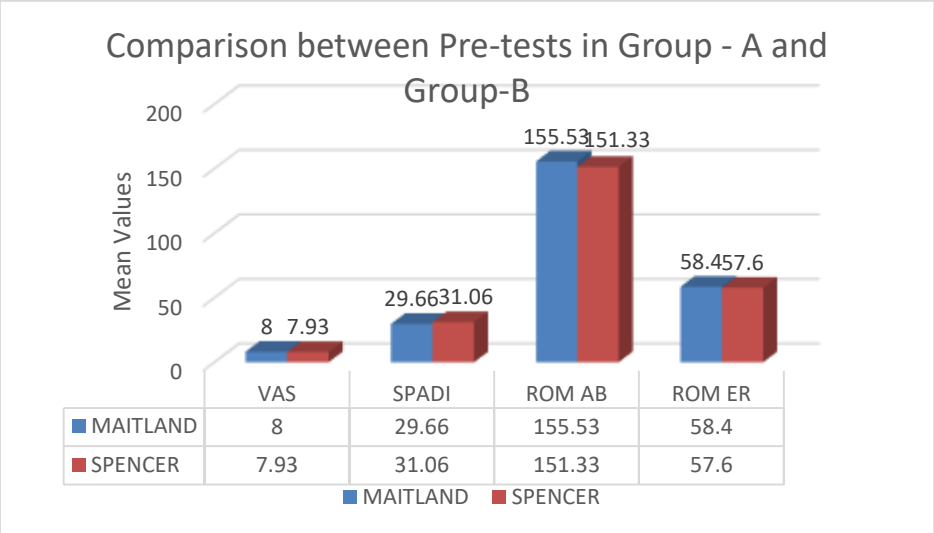
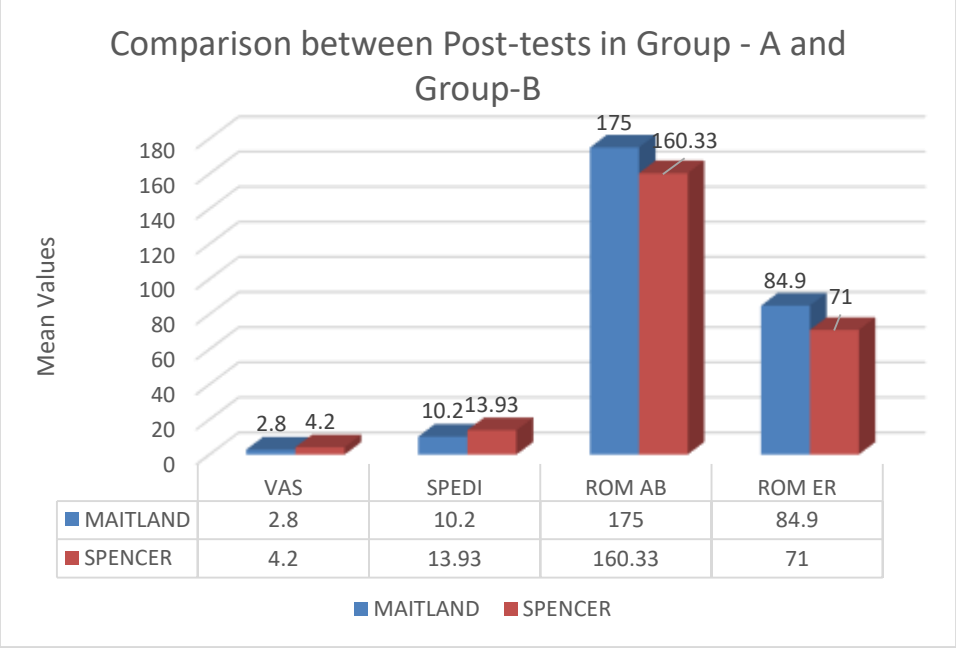


Table 6.4 : Post test results of Frozen Shoulder Patients

Scale	Mean Of Group A	Mean Of Group B
VAS Scale	2.8	4.2
SPADI Scale	10.2	13.93
ROM of Abduction	175	160.33
ROM of External rotation	84.9	71



VI. DISCUSSION

Comparing the efficacy of Spencer's and Maitland's mobilization techniques for adhesive capsulitis shoulder is the aim of this study. By reducing pain and increasing range of motion, the Maitland mobilization dramatically lessens the symptoms of adhesive capsulitis shoulder. The parallel treatment, which compares Spencer's methods, also demonstrates the importance of restoring functional activity that has been diminished due to pain. [1]

Spencer's approach reduces pain by altering the circulatory pain biomarkers, restores specific joint mobility, and enhances pain-free movement by stretching the shoulder capsule and constricted soft tissues. By using this technique, lymphatic flow away from the treated area is improved. This method resets neural reflexes and returns the joint to its normal range of motion. The pathomechanical changes in the joint are corrected, and arthrokinematic glide and roll motion are restored. As the osteokinematic glenohumeral rotation returns to normal biomechanics, increased accessory movement, like gliding, aids in the recovery of shoulder mobility. [5]

Numerous mechanisms, including neurophysiological effects brought on by the activation of type II mechanoreceptors and the inhibition of type IV nociceptors, contribute to the decrease in pain that follows joint mobilization. [5]

Even though two of the chosen physiotherapy techniques demonstrated equal value in reducing pain, the latter one (Group B subjects) did not significantly improve functional activity and range of motion. [1]

So based on these back ground it may be observed that the Maitland mobilization techniques (Grade I & Grade II), will be better than the Spencer's technique for adhesive capsulitis shoulder.

The results of the study shows that there is significant improvement in minimizing the pain of the group A when compare to the group B.

The result of the study shows that there is a significantly reduced symptom of adhesive capsulitis shoulder by improvement in the functional activity and ROM. following Maitland mobilization techniques in Group A.

The comparison of post Mean score of pain over the group shows difference in the effectiveness to relieve pain, which explained that the pain reduction more or less to be same through two of the these methods.

The Mean post test score of group A comparatively more than Group B shows that functional activity and ROM is improved more by Maitland mobilization technique comparing to Spencer's techniques.

Hence, the Group-A shows statistically better significant result than Group-B in reducing pain, improving ROM and functional activity in adhesive capsulitis shoulder.[1]

VII. CONCLUSION

The present study concluded that a 4 weeks treatment program on subjects with adhesive capsulitis shoulder demonstrated that both Maitland Mobilization and Spencer's techniques were effective in reducing pain, improve functional activities and ROM. Further it was observed that Maitland mobilization technique (Grade I &Grade II) was more effective in improving functional activities and equally, effective in reducing pain and improve ROM, compared with Spencer's technique in subjects with adhesive capsulitis shoulder. Hence the findings of the study suggest that Maitland mobilization technique (GradeI&Grade II) may be more effective than Spencer's technique in adhesive capsulitis shoulder to reduce pain ,improve the functional activity and improve ROM.

REFERENCE

[1] Jeyakumar S, Alagesan J, Jayashree PR. A comparative study on the effectiveness of myofascial trigger point release and maitland techniques in adhesive capsulitis of shoulder. International Journal of Medical and Health Research. 2016;2:1-7.

[2] Bakhsh W, Nicandri G. Anatomy and Physical Examination of the Shoulder. Sports Med Arthrosc Rev. 2018 Sep;26(3):e10-e22.

[3] Challoumas D, Biddle M, McLean M, Millar NL. Comparison of treatments for frozen shoulder: a systematic review and meta-analysis. JAMA network open. 2020 Dec 1;3(12):e2029581

[4] Sathe S, Khurana SK, Damke U, Agrawal PV. To compare the effects of maitland mobilization with conventional physiotherapy in adhesive capsulitis. International Journal of Current Research and Review. 2020 Jul

[5] Almureef SS, Ali WM, Shamsi S, Al Zahrani MB. Effectiveness of mobilization with conventional physiotherapy in frozen shoulder: a systematic review. International journal of recent innovations in medicine and clinical research. 2020;2(4):22-9.
[6] Wang S, Chapple CM, Quinn D, Tumilty S, Ribeiro DC. Dosage of joint mobilisation for the management of rotator cuff-related shoulder pain: protocol for a scoping review. BMJ open. 2022 Jun 1;12(6):e056771.
[7] Haveela B, Dowle P, Chandrasekhar P. Effectiveness of Mulligan's technique and Spencer's technique in adjunct to conventional therapy in frozen shoulder: a randomised controlled trial. International Journal for Advance Research and Development. 2018;3(1):253-60.
[8] Abudula X, Maimaiti P, Yasheng A, Shu J, Tuerxun A, Abudujilili H, Yang R. Factors associated with frozen shoulder in adults: a retrospective study. BMC musculoskeletal disorders. 2024 Jun 26;25(1):493.
[9] Phansopkar P. An integrated physical therapy using spencer's technique in the rehabilitation of a patient with a frozen shoulder: a case report. Cureus. 2023 Jun;15(6).
[10] Van Bladel A, Cools A, Michielsen M, Oostra K, Cambier D. Passive mobilisation of the shoulder in subacute stroke patients with persistent arm paresis: A randomised multiple treatment trial. South African Journal of Physiotherapy. 2022 Feb 21;78(1):1589.