

Effects of Scapular Mobilization on Postural Alignment and Shoulder Pain: A Clinical Study

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Introduction

Postural alignment and shoulder pain are closely interrelated, with improper scapular mechanics often contributing to both issues. Scapular mobilization is a therapeutic intervention designed to improve scapular movement and alignment, potentially alleviating pain and enhancing postural stability. This clinical study investigates the effects of scapular mobilization on postural alignment and shoulder pain, analysing outcomes in patients with shoulder dysfunction. The results provide insight into the therapeutic benefits of scapular mobilization and its role in comprehensive rehabilitation programs [1].

Shoulder pain is a common musculoskeletal complaint, often associated with poor postural alignment and abnormal scapular movement. The scapula, or shoulder blade, plays a critical role in maintaining shoulder stability and facilitating upper limb movements. Dysfunctional scapular mechanics, known as scapular dyskinesis can lead to altered postural alignment, contributing to shoulder pain and impaired function.

Scapular mobilization techniques are designed to address these issues by improving scapular motion, alignment, and muscle activation. This clinical study explores the effects of scapular mobilization on postural alignment and shoulder pain in patients with scapular dyskinesis and related shoulder conditions.

Description

This study was conducted as a randomized controlled trial (RCT) at a clinical rehabilitation center. Participants included individuals aged 18-65 who presented with shoulder pain and postural alignment issues associated with scapular dyskinesis [2]. Participants were randomly assigned to either the intervention group, which received scapular mobilization, or the control group, which received standard shoulder rehabilitation exercises without mobilization.

Inclusion and Exclusion criteria

Inclusion criteria

• Diagnosed with scapular dyskinesis or related shoulder conditions (e.g., impingement syndrome, rotator cuff tendinopathy).

• Persistent shoulder pain for at least three months.

• Noticeable postural misalignment, particularly in the thoracic or scapular region.

Exclusion criteria

- Previous shoulder surgery within the past year.
- Acute shoulder injuries or fractures.
- Neurological conditions affecting shoulder function.

Intervention

The intervention group received a scapular mobilization protocol, administered by trained physiotherapists. The protocol included the following techniques:

Scapular glides: Manual gliding of the scapula in multiple directions to improve mobility and reduce muscle tightness [3].

Posterior scapular mobilization: Application of a posterior force to enhance scapular retraction and reduce scapular winging.

Scapular tilts and rotations: Techniques to address anterior tilting and promote proper scapular positioning.

Sessions were conducted twice weekly for six weeks, with each session lasting 30 minutes.

The control group received standard shoulder rehabilitation exercises focusing on strengthening and flexibility without specific scapular mobilization. These exercises included shoulder abduction, external rotation, and resistance band exercises.

Outcome measures

Postural alignment: Evaluated using digital posture analysis software, which measured scapular positioning and thoracic alignment in anterior, posterior, and lateral views.

Functional assessment: Shoulder function was evaluated using the Shoulder Pain and Disability Index (SPADI), a validated questionnaire that assesses pain and functional limitations related to shoulder disorders.

Assessments were conducted at baseline (pre-intervention), immediately after the six-week intervention period, and at a three-month follow-up.

Postural alignment

Participants in the intervention group demonstrated significant improvements in postural alignment compared to the control group. Key findings included:

Scapular positioning: The intervention group showed a marked reduction in scapular winging and anterior tilting. Post-intervention analysis revealed a more symmetrical scapular alignment, particularly in the lateral view.

Thoracic alignment: Improvements in thoracic kyphosis

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(curvature of the upper spine) were observed, with a more neutral posture achieved in the intervention group.

Shoulder pain: Shoulder pain levels significantly decreased in the intervention group, with participants reporting lower VAS scores post-intervention and at the three-month follow-up. The average pain reduction was 3.5 points on the VAS scale, compared to a 1.2-point reduction in the control group [4].

Functional assessment

The intervention group exhibited significant improvements in shoulder function, as measured by the SPADI. Participants reported better performance in daily activities and a reduction in pain during movement. The average improvement in SPADI scores was 20% greater in the intervention group than in the control group [5].

Scapular mobilization may offer additional benefits when combined with traditional shoulder rehabilitation exercises, providing a more comprehensive approach to addressing shoulder dysfunctions. The significant improvements in functional outcomes further highlight the potential of scapular mobilization as a key component of rehabilitation programs for patients with shoulder pain and postural issues.

Conclusion

Scapular mobilization is an effective therapeutic intervention for improving postural alignment and reducing shoulder pain in patients with scapular dyskinesis. This clinical study demonstrates the benefits of incorporating scapular mobilization into rehabilitation programs, leading to better patient outcomes in terms of posture, pain relief, and shoulder function. Future research should explore the long-term effects of scapular mobilization and its application in various clinical settings.

Acknowledgement

None

Conflict of Interest

None

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