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EFFECTIVENESS OF THERAPEUTIC ULTRASOUND COMBINED WITH KINESIO TAPING IN ROTATORCUFF INJURIES AMONG YOUNG SPORTS PLAYERS: A SINGLE-GROUP PILOT STUDY

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ABSTRACT

Background: Rotator cuff injuries are a common cause of shoulder pain among athletes engaged in repetitive overhead activities. Non-invasive physiotherapy interventions such as therapeutic ultrasound and Kinesio taping are widely used, but evidence in combined application remains limited.

Objective: To evaluate the effectiveness of ultrasound therapy combined with Kinesio taping in reducing pain among sports players with rotator cuff injuries.

Methods: A single-group pre–post interventional study was conducted on five sports players aged 21–34 years diagnosed with rotator cuff injury. Pain intensity was assessed using the Visual Analog Scale (VAS) before and after 4 weeks of intervention. The treatment protocol included pulsed ultrasound (1 MHz, 1.5 W/cm², 3–4 minutes/session) followed by Kinesio taping.

Results: All participants showed reduction in pain scores. The mean VAS score decreased from 7.6 ± 0.55 to 2.8 ± 0.84, with a mean difference of 4.8 points. Maximum improvement was observed in two participants (reduction of 6 points).

Conclusion: The combined application of ultrasound therapy and Kinesio taping appears to be effective in reducing pain in rotatorcuff injuries. Further studies with larger sample sizes and control groups are recommended.

Keywords: Rotato cuff injury, Ultrasound therapy, Kinesio taping, Shoulder pain, Physiotherapy, Sports injuries

1. INTRODUCTION

Rotator cuff injuries are among the most prevalent musculoskeletal disorders affecting athletes, particularly those involved in overhead activities. The lifetime prevalence of shoulder pain ranges between 7% and 36%. These injuries often result from repetitive stress, leading to tendon inflammation, degeneration, or tears.

Therapeutic ultrasound is commonly used to promote tissue healing and reduce pain through thermal and non-thermal effects. Kinesio taping, on the other hand, is believed to enhance proprioception, reduce inflammation, and support musculoskeletal structures without restricting movement.

Despite their widespread use, limited studies have evaluated the combined effectiveness of these interventions. This study aims to address this gap.

2. METHODS

2.1 Study Design

Single-group pre–post experimental (pilot) study.

2.2 Participants

Sample size: 5

Age: 21–34 years

Both genders included

Diagnosed with rotator cuff injury

2.3 Inclusion Criteria

Positive Empty Can Test or Drop Arm Test

Acute stage rotator cuff injury

2.4 Exclusion Criteria

1. Shoulder fracture
2. Dislocation/subluxation
3. Frozen shoulder
4. Cervical spondylosis
5. Neurological involvement

2.5 Outcome Measure

Pain: Visual Analog Scale (VAS)

2.6 Intervention Protocol

Ultrasound Therapy:

Frequency: 1 MHz

Mode: Pulsed

Intensity: 1.5 W/cm²

Duration: 3–4 minutes

Kinesio Taping:

Y-strip application over supraspinatus and deltoid

Applied after ultrasound

Maintained for 3 days per application

2.7 Duration

4 weeks

2.8 Data Analysis

Descriptive statistics

CASE	PRE-VAS	POST - VAS	DIFFERENCE
A	7	4	3
B	8	2	6
C	7	3	4
D	8	2	6
E	8	3	5

3.RESULT

Mean Pre-VAS: 7.6

Mean Post-VAS: 2.8

Mean Reduction: 4.8

4. DISCUSSION

The findings of this study demonstrate a consistent reduction in pain across all participants following combined ultrasound therapy and Kinesio taping.

Ultrasound likely contributed through:

Increased tissue healing

Reduction of inflammation

Kinesio taping may have enhanced:

Proprioception

Circulation

Mechanical support

The results align with previous studies indicating the effectiveness of both modalities individually. The combined approach may offer synergistic benefits.

5.LIMITATIONS

Small sample size

Lack of control group

Absence of long-term follow-up

6. CONCLUSION

The combined use of ultrasound therapy and Kinesio taping significantly reduced pain in young sports players with rotator cuff injuries. This approach may be considered an effective conservative treatment strategy.