

Pain, Kinesiophobia, Quality-of-Life, and Device-Measured Physical Activity among Individuals with Rotator Cuff Tears: A Correlational Analysis

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INTRODUCTION

- Rotator cuff (RC) tears often cause chronic shoulder pain and dysfunction. However, shoulder-related function can vary widely between patients and influence both physical and psychological well-being.
- Understanding associations between pain, kinesiophobia, device-measured physical activity (PA), and quality-of-life (QoL) may contribute to the design of holistic rehabilitation for individuals with RC tears.

PURPOSE

The aim of this study was to explore correlations between pain, kinesiophobia, device-measured PA levels, and QoL in individuals with RC tears planning to undergo RC repair.

METHODS

- 34 participants with RC tears prior to undergoing RC repair
- PA levels was assessed during waking hours for 7 consecutive days using ActiGraph accelerometer (Fig.1).
- Spearman's correlations (ρ) were used to examine cross-sectional associations between measures, with a significance level of $p < 0.05$.
- The strength of the associations were interpreted according to Cohen's criteria: $\rho = 0.10$ (small), 0.30 (moderate), and 0.50 (large).



Fig. 1: ActiGraph GT3X+)

PA Outcome Measures

Sedentary Behavior (SB)

Light PA (LPA)

Moderate to Vigorous PA (MVPA)

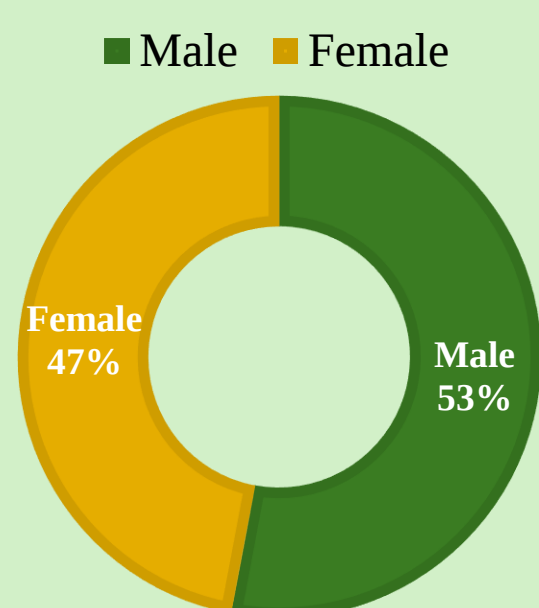
Psychological Outcome Measures

Pain
Pain and Disability Index (PDI)

Kinesiophobia
Tampa Scale for Kinesiophobia (TSK)

Quality of Life
Rotator Cuff Quality of Life (RC-QoL)

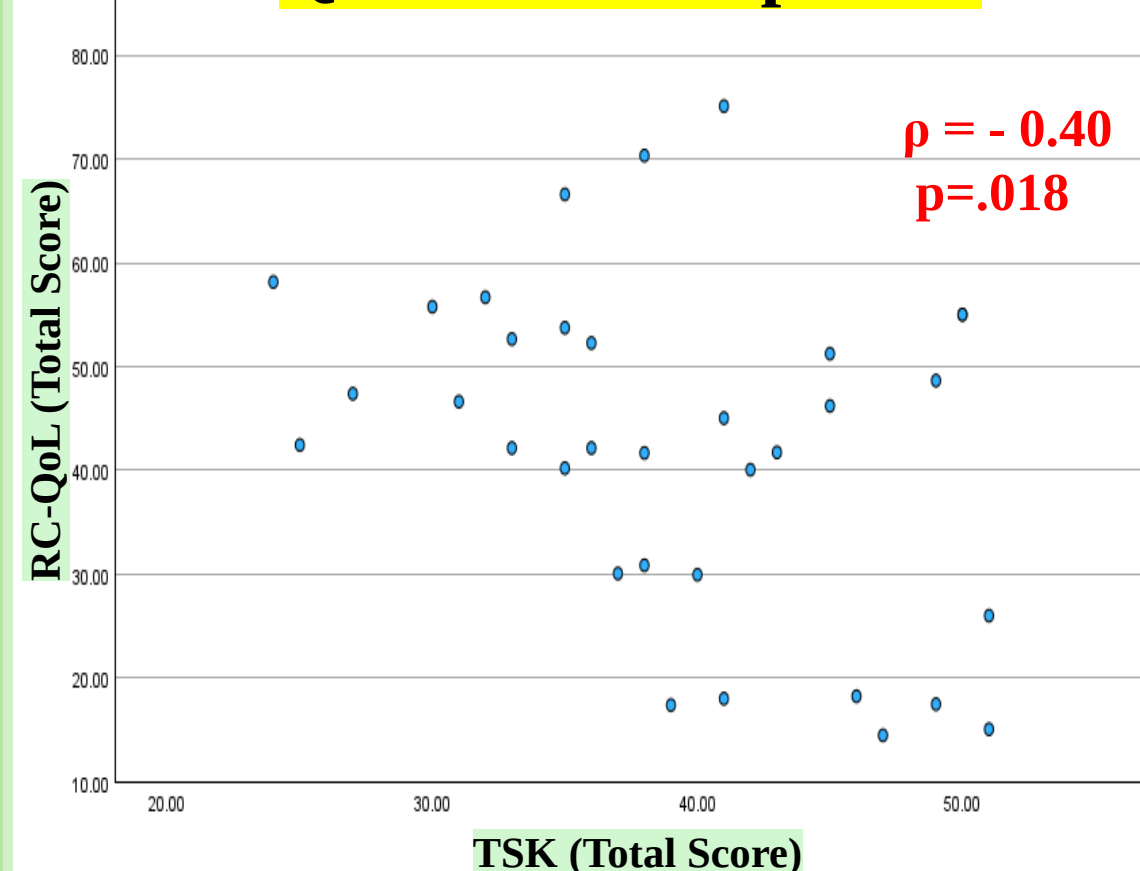
PARTICIPANTS



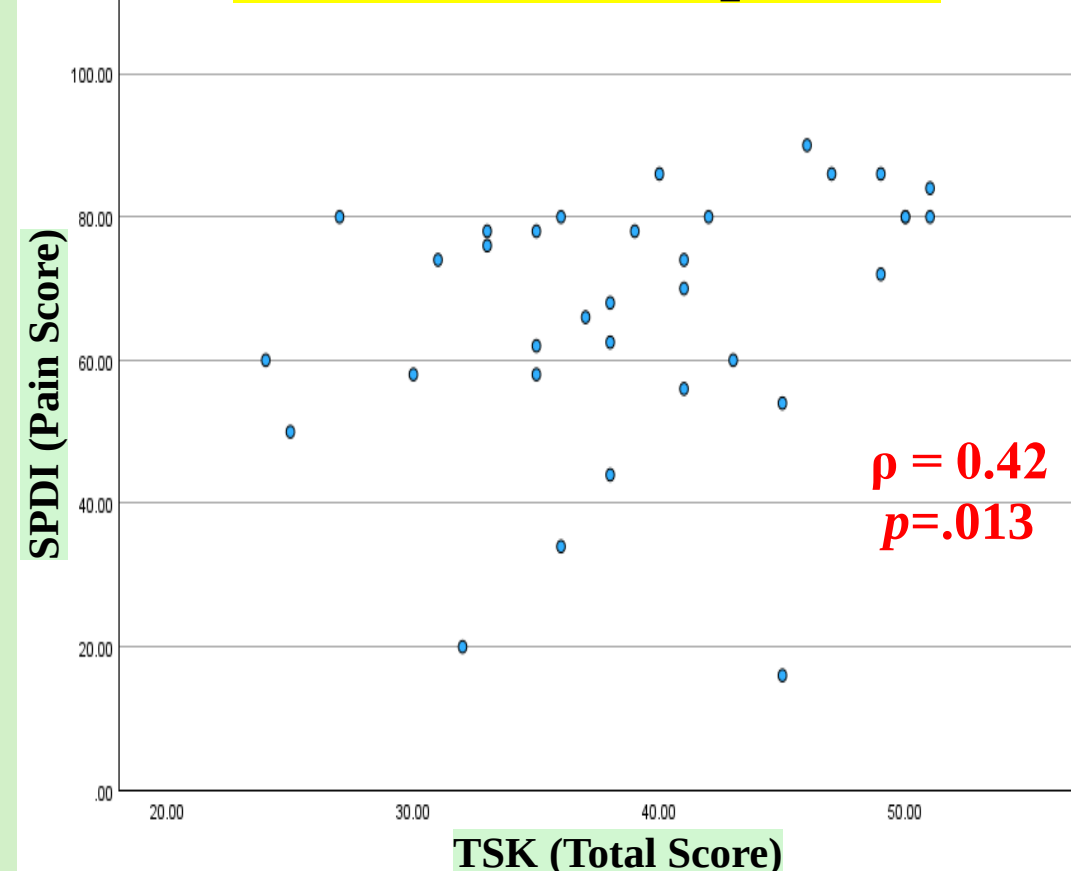
RESULTS

Mean age= 57 ± 11 years

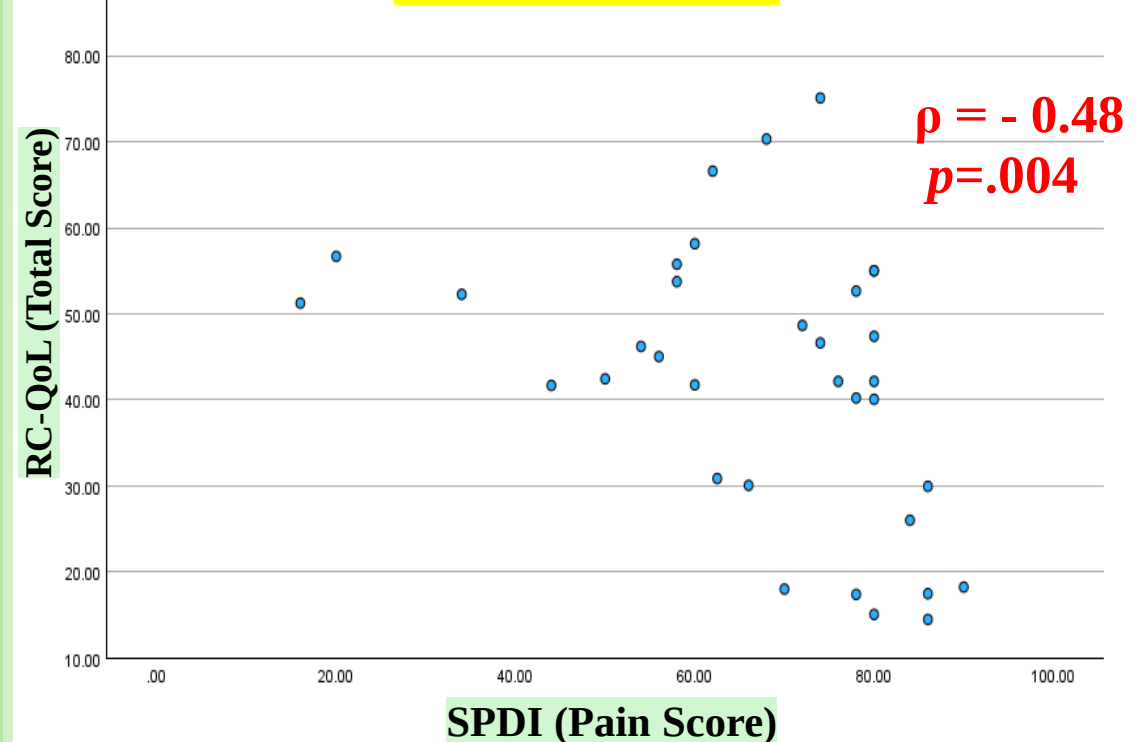
QoL & Kinesiophobia



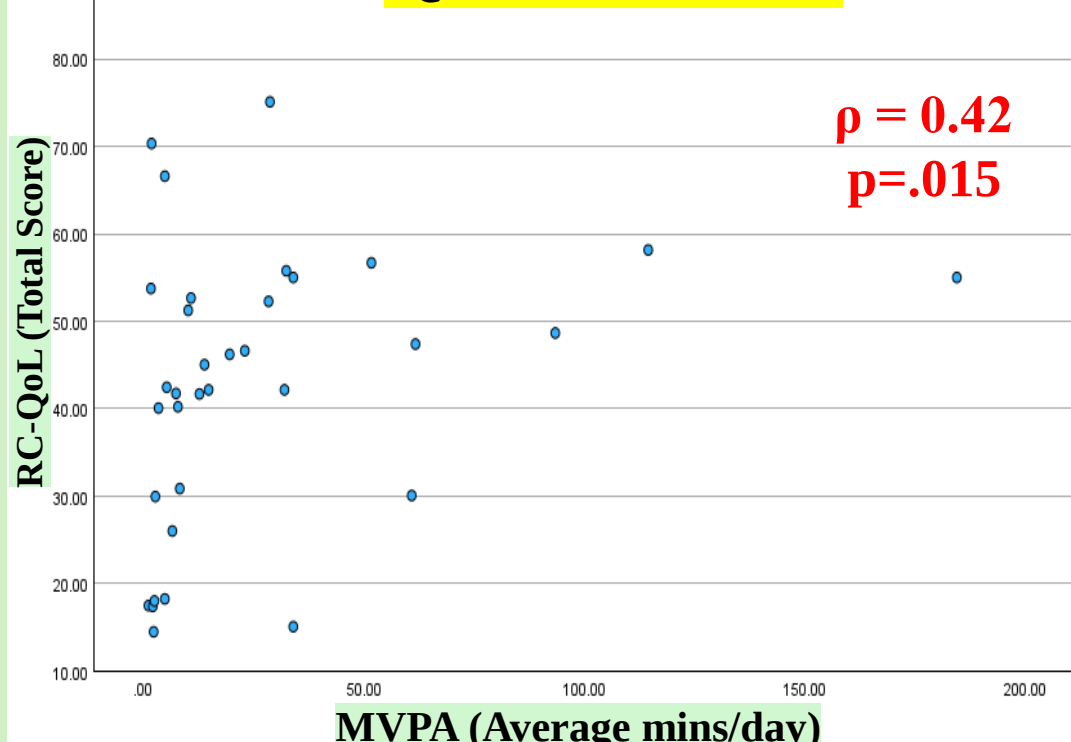
Pain & Kinesiophobia



QoL & Pain



QoL & MVPA



* LPA and SB were not significantly associated with quality of life, pain, or kinesiophobia (all $p > 0.05$)

DISCUSSION

- Both physical and psychological factors are meaningfully-related to QoL in individuals with RC tears prior to repair.
- Kinesiophobia and pain were moderately associated with poorer QoL, whereas higher daily amounts of MVPA were moderately associated with higher RC-related QoL, suggesting that more active individuals may perceive better overall shoulder-related well-being prior to repair.

Conclusion

This correlational analysis highlighted associations between lesser pain, higher QoL, lesser kinesiophobia, and greater MVPA in individuals with RC tears undergoing repair.

Recommendation

Future work with larger samples and examining the longitudinal effects of these measures on outcomes following RC repair is encouraged, to allow for a holistic evaluation of recovery in patients with RC tears before and after RC repair.

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