

ABSTRACT

The Effectiveness of Eccentric Quadriceps Muscle Training in Decreasing Tendon Pain and Improving Lower Extremity Function in Patients with Chronic Patellar Tendinitis

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Purpose

The purpose of this study was to determine whether eccentric quadriceps muscle training could decrease tendon pain that was related to activity and improve lower extremity function in patients with chronic patellar tendonitis.

Methodology

The research design for this study was a single subject A-B design that employed the collection of data on each variable at regular intervals in both the baseline and intervention phases. Measures included the horizontal visual analog scale (pain) and the balance and reach test or the lateral step-up test (lower extremity function).

Although the single subject research design is capable of generating meaningful findings for one subject, the researcher recruited a sample of three subjects, each one of which met the criterion of chronic patellar tendonitis, plus the other inclusion and exclusion criteria.

Analysis of the data for each hypothesis involved two steps: (1) organizing the data into scatter diagrams and inserting celebration lines using the split-middle technique, then (2) testing for statistical significance using the binomial test.

Findings

Although the pain levels for subjects A and B decreased during the intervention phase, these results only approached statistical significance; however the pain level for subject C showed a statistically significant decrease.

Subjects A and B showed statistically significant improvements in lower extremity function during the intervention phase. However, subject C showed improvement during the baseline phase, a trend that continued into the intervention phase, but not to a statistically significant degree.

Conclusions

While the statistically significant findings for each hypothesis are consistent with the findings of other research cited, individual differences between subjects are important to track, both during baseline and intervention. Recommendations for further research

focus on larger sample sizes, objective measurements to document subject outcomes, and long-term follow up to determine the extent to which improvements in these two variables are lasting.