

ABSTRACT

The Effectiveness of Concentric and Eccentric Strengthening into Hyper Ranges of Ballerinas' Hip Joints, in Decreasing Hip Joint Popping and Pain

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Purpose

The purpose of this study was to compare passive stretching and progressive concentric and eccentric strengthening in hyper ranges of the hip joint in dancers to determine which approach gave the most stability, coordination, and decreased pain.

Methodology

The research design employed in this study was a stratified experimental design with repeated measures. The repeated measures included resistance maximal, manual muscle testing, subjective reports of the subjects, Biodex Isokinetic testing, dance instructor evaluation of proper ballet technique, goniometric measurements, and subjective report on subjects' pain.

Subjects included in the study were teenage ballet dancers who met the criterion of hip popping with or without hip pain, and who were compatible with the other inclusion/exclusion criteria.

In order to determine if the stratification approach had actually created two groups of subjects that did not differ to a statistically significant extent, t-tests for independent groups were conducted on the pre-intervention data. In order to determine whether changes in pre-intervention and post-intervention data were statistically significant, a simple analysis of variance was computed.

Findings

Statistically significant differences that favored concentric and eccentric muscle testing were found between the two groups on the following variables: resistance maximal, hip popping, Biodex testing, and pain scores. No statistically significant differences were found for the other variables.

Conclusions

The findings in this study were generally in harmony with those reported by researchers whose studies were synopsized here. Recommendations for further research included replications with subjects of more diverse ages, replications focused on prevention rather than cure, and taking into account the possibility of the ceiling effect in manual muscle testing.