Alleviating musculoskeletal pain: the transformative power of exercise in children with sickle cell disease aged 6 to 12 years

Abstract

Objective: The aim of the study was to alleviate musculoskeletal pain through the transformative power of exercise in children aged 6 to 12 years with sickle cell disease.
Design: A randomized control study which examined the use of exercise in mitigating musculoskeletal pain among children with sickle cell disease.
Setting: The study was conducted in the four counties of Western Kenya
Subjects: Children with Sickle Cell Disease aged 6 to 12 years with musculoskeletal pain
Intervention: Exercise in accordance with World Health Organization guidelines on physical activity, sedentary behavior, and sleep for children under 5-14 years of age
Main outcome measures: Reduction in musculoskeletal pain in children in the intervention arm.
Results: There were no significant differences between control and intervention groups at baseline in terms of reported pain levels. During the Post-intervention period, the intervention group exhibited reduced self-reported pain levels across all categories, suggesting the effectiveness of the exercise intervention. The ANOVA results demonstrated a significant difference in pain levels between and within subjects ($p<.001$). The interaction effect showed that exercise varied over time between the groups, indicating greater improvements in the intervention group. Tukey's post-hoc tests confirmed findings, demonstrating a significant decrease in pain scores from pre- to post-intervention in the experimental group ($p<.001$), while the control group showed no significant change.
Conclusion: Exercise significantly reduces musculoskeletal pain in children with Sickle Cell Disease.
Recommendation: Exercise be part of care for children with Sickle Cell Disease to ameliorate musculoskeletal pain.

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