in pain. In functional tests, TUG improved by 18.7 % and 30STS showed a 64.6 % increase in repetitions. Increased strength was observed in hip abductor muscles (12.7 % in the unaffected lower limb) and adductors (11.9 % in the affected lower limb and 6.3 % in the unaffected). Conclusion: SMA allowed observation of significant difference and prediction of quality of life evolution over time, demonstrating the effectiveness of the NEMEX-TJR protocol for this outcome in this patient pattern. Additionally, there was a clinically relevant reduction in pain, improved functional performance, and increased strength of hip adductors and abductors. These findings reinforce the positive impact of neuromuscular training on hip osteoarthritis treatment. Studies with larger samples are needed to consolidate these findings and validate SMA use as a complementary tool in rehabilitation. Implications: SMA application in physical therapy can contribute to a more individualized approach, week by week, allowing adjustments based on treatment response prediction. This can positively impact clinical management of hip osteoarthritis, optimize decision-making, and improve quality of life, pain, and functional performance outcomes for patients.
Results: SMA analysis demonstrated a significant prediction of continuous improvement in quality of life with neuromuscular training, with an estimated reduction of 1.28 points on WOMAC per week. After neuromuscular training, there was a global improvement of 61.9 % in quality of life and 100 % reduction in pain. In functional tests, TUG improved by 18.7 % and 30STS showed a 64.6 % increase in repetitions. Increased strength was observed in hip abductor muscles (12.7 % in the unaffected lower limb) and adductors (11.9 % in the affected lower limb and 6.3 % in the unaffected).
Conclusion: SMA allowed observation of significant difference and prediction of quality of life evolution over time, demonstrating the effectiveness of the NEMEX-TJR protocol for this outcome in this patient pattern. Additionally, there was a clinically relevant reduction in pain, improved functional performance, and increased strength of hip adductors and abductors. These findings reinforce the positive impact of neuromuscular training on hip osteoarthritis treatment. Studies with larger samples are needed to consolidate these findings and validate SMA use as a complementary tool in rehabilitation.
Implications: SMA application in physical therapy can contribute to a more individualized approach, week by week, allowing adjustments based on treatment response prediction. This can positively impact clinical management of hip osteoarthritis, optimize decision-making, and improve quality of life, pain, and functional performance outcomes for patients.
Keywords: Hip osteoarthritis, case reports, quality of life

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DOES METABOLIC EXERCISES AFTER ACUTE ANKLE SPRAIN REDUCE PAIN? A RANDOMIZED CONTROLLED TRIAL

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Background: Ankle sprains are common injuries that can significantly impact daily activities. One of the most frequent complications is pain, which interferes with functional recovery. Edema is known to contribute to pain, potentially hindering treatment progress. Metabolic exercises are commonly used to manage edema, yet their effectiveness remains unclear, highlighting the need for a better understanding of their role in rehabilitation.
Objectives: To evaluate the effect of combining metabolic exercises with the usual care protocol on pain intensity in individuals with acute ankle sprains, compared to the usual care protocol alone.
Methods: The study was a randomized controlled trial. Participants were allocated into two groups. One group followed a metabolic exercise protocol (experimental group, EG) in addition to the usual care protocol, while the other group received only the usual care protocol (control group, CG). The usual care protocol consisted of cryotherapy applied three times daily for 20 minutes over five days, with the ankle elevated at an angle of 30 to 45 degrees of hip flexion, combined with elevation and compression using a bandage. The metabolic exercise protocol involved active mobilization exercises performed three times daily over five days. Participants were instructed to lie on their backs with their hips flexed at 30 to 45 degrees and perform the following exercises: (i) Continuous active plantar and dorsiflexion movements for five minutes; and (ii) Continuous active ankle circumduction movements in clockwise and counterclockwise directions for five minutes. Participants were advised to perform the exercises in a pain-free range of motion and to gradually increase movement speed over the course of the intervention. To assess the effect of metabolic exercises, pain intensity changes from baseline were compared between groups using an independent t-test.
Results: Four-nine participants were included (EG = 25, CG = 24), with 10 dropouts during the protocols (EG = 4, CG = 6). The mean age was 26 years, and randomization occurred, on average, 58 hours after the sprain. Regarding pain intensity, the EG reported a mean pain score of 3.3 points (±1.6) before the intervention and 2.1 points (±1.5) after. In the CG, pain intensity was 3.5 points (±1.8) before the intervention and 1.6 (±1.4) after. The between-group comparison showed a mean difference of -0.8 (95% confidence interval: -0.4 to 1.9), indicating that this difference was not statistically significant ($p = 0.18$). The effect size was 0.40, suggesting a small difference between groups.
Conclusion: The addition of metabolic exercises to usual care did not result in a statistically significant reduction in pain intensity in individuals with acute ankle sprains compared to usual care alone.
Implications: Metabolic exercises targeting pain reduction after acute ankle sprain does not appear to provide additional clinical benefits. However, as the intervention was not harmful and may be beneficial for other rehabilitation outcomes, clinicians may consider incorporating it based on patient preference.
Keywords: Ankle Injuries, Pain Perception, Treatment Outcome

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