

ORAL PRESENTATION OP22

Effect of Group-Based versus Individual-Based Exercise on Pain and Psychosocial Outcomes in Knee Osteoarthritis Following Previous Sports-Related Knee Injury: A Randomised Controlled Trial

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ABSTRACT

Background and Objectives: Knee osteoarthritis (KOA) secondary to sports injury often results in chronic pain and significant psychosocial distress. While exercise is a frontline treatment, the optimal delivery format remains debated. This study compared the effect of Group-Based Exercise (GBE) versus Individual-Based Exercise (IBE) on pain and psychological well-being in patients with post-traumatic KOA. **Method:** Forty-four subjects with post-traumatic KOA were recruited and randomized into two intervention groups: GBE (n=22) and IBE (n=22). Both groups participated in a 60-minute exercise program three times weekly for eight weeks. Pain intensity was assessed using the Visual Analogue Scale (VAS), and psychosocial outcomes (depression, anxiety, and stress) were measured via the Depression Anxiety Stress Scales (DASS-21). Data were analyzed using repeated-measure ANOVA. **Results:** Both interventions yielded significant longitudinal improvements in pain and psychosocial outcomes ($p < .001$). For pain intensity a significant main effect of time was observed ($F(1,42) = 420.00$, $p < .001$, $\eta^2 = .909$), with no significant time-by-group interaction. However, significant time-by-group interactions were found for depression and stress ($p < .05$), with the GBE group demonstrating superior reductions compared to IBE. While anxiety level improved significantly over time in both cohorts, no significant between-group differences were observed. **Conclusion:** Both GBE and IBE are effective in alleviating pain and improving psychological health in patients with KOA secondary to sports injury. However, GBE provides incremental benefits for depression and stress, likely due to therapeutic effects of social interaction and peer support. Integrating group-based modalities may optimize biopsychosocial recovery in this population.

Keywords: knee osteoarthritis, post-traumatic OA, group-based exercise, sports injury rehabilitation, psychosocial well-being, biopsychosocial recovery

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