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Study Protocol for a Single-blinded Randomised Controlled Trial Comparing the Impact of Neuromuscular Joint Facilitation and Conventional Physiotherapy on Pain, Balance, and Function in Patients with Knee Osteoarthritis

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ABSTRACT

Introduction: The increasing prevalence of osteoarthritis (OA), especially in the knee joint, highlights the need for effective rehabilitation strategies to manage symptoms and enhance functionality. Sensorimotor dysfunction plays a role in the progression of knee OA. However, evidence supporting the effectiveness of neuromuscular joint facilitation (NJF) that comprehensively targets sensorimotor components such as, balance, coordination, and proprioception remains limited. Therefore, this study aimed to evaluate the efficacy of NJF incorporating these elements on pain, functional outcomes, and balance in individuals with grade 2 and 3 knee OA.

Aim: To plan a study protocol for neuromuscular joint facilitation and conventional physiotherapy techniques in reducing pain, balance and function in Grade 2 and 3 knee osteoarthritis.

Methodology: An experimental study will be conducted on Grade II and III patients with knee OA. According to inclusion criteria, 60 individuals (30 in each group) between the ages of 40 to 70 will be selected for a single blinded randomized clinical trial. Participants will be randomly assigned into group 1 and group 2. Group 1 will receive neuromuscular joint facilitation technique and Group 2 will receive conventional treatment. Outcome measures like Numeric Pain Rating Scale (NPRS), Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), single leg stance test will be used to compare patient's pre-post intervention status.

Result: Data will be analyzed by using SPSS software version 20.To determine whether the data is normal, Kolmogorov-Smirnov tests will be used.

Conclusion: The study will explore which technique is more effective. Neuromuscular joint facilitation may or may not demonstrate superior effectiveness compare to conventional physiotherapy in reducing pain, improving balance and enhancing functional outcomes in patients with grade 2 and 3 knee osteoarthritis.

Keywords: Exercises, Function, Knee osteoarthritis, Neuromuscular joint facilitation, Pain