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ERGONOMIC ASSESSMENT AND PILATES-BASED PHYSIOTHERAPY FOR PREVENTION OF MUSCULOSKELETAL DISORDERS IN FARMERS.

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Background: Musculoskeletal disorders (MSDs) are highly prevalent among farmers due to prolonged bending, repetitive movements, heavy load handling, and poor ergonomic practices during agricultural activities. Farming tasks often involve awkward postures, sustained physical exertion, and exposure to uneven terrains, which place excessive stress on the musculoskeletal system. In addition, lack of mechanization in many rural settings further increases physical workload and risk of injury. Limited awareness regarding proper body mechanics, insufficient training on ergonomic techniques, and lack of access to preventive healthcare services further increase the risk of chronic pain, functional limitations, reduced work efficiency, and long-term disability in this population.

Purpose: To highlight the importance of ergonomic assessment and to evaluate the effectiveness of Pilates-based physiotherapy in preventing musculoskeletal disorders among farmers.

Methods and Materials: Ergonomic assessment was conducted by evaluating posture, work patterns, and biomechanical stress using observational methods and standardized outcome measures such as the Visual Analogue Scale (VAS) and functional disability indices. Based on assessment findings, targeted interventions were designed.
Pilates-based physiotherapy interventions included exercises focusing on core stabilization, postural alignment, controlled movements, and breathing techniques such as pelvic tilts, bridging, spine stretching, and core strengthening.

Results: The combined approach of ergonomic assessment and Pilates-based physiotherapy demonstrated improvement in posture, flexibility, muscular endurance, and body awareness. It also contributed to reduction in pain, prevention of injury, and enhancement of functional capacity among farmers.

Conclusion: Integrating ergonomic education with Pilates-based physiotherapy is an effective, low-cost strategy for preventing musculoskeletal disorders among farmers. This approach improves overall health, productivity, and quality of life, especially when implemented through community-based programs such as awareness campaigns and physiotherapy camps.

Keywords: Ergonomic assessment, Pilates-based physiotherapy, Farmers' health, Musculoskeletal disorders, Occupational health.