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The Effectiveness of Pilates on Flexibility and Performance in Individuals with Low Back Strain

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Abstract

Introduction: Player spends most of their time in training and competition, subjected to mechanical strain on the lower back and, thus, a high stress level on the musculoskeletal system. Studies focusing on physical activity and low back strain (LBS) indicate the relationship between activity level and LBS. Volleyball players have a higher physical activity grade and thus might have a higher risk of developing LBS. The strain on the back depends on the year's duration, frequency, and training periods.

Methods: A 24-year-old female volleyball athlete with LBS was evaluated using SAST and VJP to assess the degree of flexibility and performance. The exercise protocol was designed based on the results of SAST and VJP. The athlete underwent the exercise intervention for 4 weeks, 50 minutes each session, thrice a week. The degree of LPS, flexibility, and performance were measured pre-intervention and post-intervention.

Results: The individual mean value of the vertical jump test was 27 units before and after the Pilates intervention. The post-test vertical jump value increased in weeks 3 (24.5) and 4 (29.5). Likewise, the sit and reach test mean values increased from 38.86(units) to post-test values of 36.36 and 41.36.

Conclusion: The study's findings underscore the significant role of Pilates in enhancing flexibility and performance in individuals with low back strain, particularly in sports like volleyball.