Limited Joint Mobility Syndrome Among Patients with Diabetes and Its Association with Age and Gender in a Hospital-Based Population in Kandy District

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Limited Joint Mobility Syndrome (LJMS) is a musculoskeletal complication commonly seen in diabetic patients, marked by joint stiffness, skin changes, and functional limitations, particularly in the hands. Despite its known association with diabetes-related microvascular complications, LJMS remains understudied in Sri Lanka. This study aimed to evaluate the prevalence of LJMS and its association with age, gender, and duration of diabetes in a hospital-based diabetic population in Kandy District. A descriptive cross-sectional study was conducted at the diabetic clinics of National Hospital Kandy and Teaching Hospital Peradeniya from November 25 to December 8, 2024. A total of 267 diabetic patients aged ≥18 years were recruited using consecutive sampling. Exclusion criteria included congenital hand deformities, arthritis, hand trauma, and certain chronic conditions. Data were collected via an interviewer-administered questionnaire and clinical evaluation using the Prayer Sign and Table Top Sign tests. Statistical analysis involved descriptive methods and association testing via chi-square and Kruskal-Wallis tests. The study population had a mean age of 58.53 years (SD ± 13.47) with 73.4% females. LJMS-related features observed included skin changes (29.96%), painless stiffness (24.34%), and fixed flexion contractures in the proximal interphalangeal joints (12.73% mild, 0.75% significant). Functional impairments such as grip difficulty (16.85%) and impaired fine motor skills (10.49%) were also reported. Prayer Sign was positive in 20% of participants and Table Top Sign in 6%. Painless stiffness and skin changes were significantly associated with positive diagnostic test results ($p < 0.05$). A longer duration of diabetes showed a statistically significant association with both tests. Though females and those above 60 years showed higher prevalence of LJMS features, sex was not significantly associated with test positivity. This study highlights the prevalence of LJMS among diabetic patients in Kandy and underscores the importance of routine hand assessments. Incorporating simple clinical tests such as the Prayer Sign in diabetic care could enhance early detection, especially in high-risk groups, ultimately improving functional outcomes and quality of life.

Keywords: Limited joint mobility syndrome, diabetes mellitus, prayer Sign, table top sign, Kandy, Sri Lanka

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