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THE EFFECT OF DIABETES ON FUNCTIONAL OUTCOMES AMONG INDIVIDUALS WITH DISTAL RADIAL FRACTURES

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Purpose: This study investigated the effect of diabetes on pain, hand function, physical health status, grip strength, wrist and forearm ROM among patients with distal radial fractures (DRFs).

Material and Methods: A prospective cohort study assessed a total of 479 patients with DRFs. Patients were classified into patients with diabetes and patients without diabetes groups based on self-report. Pain and hand function were assessed using Patient Rated Wrist Evaluation (PRWE) questionnaire. The SF-12 questionnaire was used to assess physical health status. Both questionnaires examined DRFs recovery at baseline, 3-month (3m), and at 1-year (1y). Grip strength, wrist and forearm ROMs were measured using N-K computerized hand evaluation system at 3m and 1y.

Results: Results revealed a significant improvement in PRWE scores over time (69 ± 19 to 25 ± 22 ; 76 ± 15 to 20 ± 20 for patients with and without diabetes respectively, $p < 0.01$) with a significant interaction between time and diabetes ($p < 0.01$); indicating that diabetic patients recovered more slowly than the rest of the cohort. There was improvement over time on physical health status (36 ± 12 to 45 ± 12 ; 39 ± 9 to 50 ± 9 , $p < 0.01$), grip strength (16 ± 7 to 24 ± 10 ; 15 ± 9 to 24 ± 10 , $p < 0.01$), and ROMs (flexion (42 ± 14 to 49 ± 15 ; 43 ± 15 to 54 ± 14 , $p < 0.01$), extension (45 ± 11 to 52 ± 11 ; 46 ± 13 to 53 ± 12 , $p < 0.01$), pronation (73 ± 10 to 77 ± 9 ; 73 ± 11 to 78 ± 9 , $p < 0.01$), and supination (58 ± 17 to 65 ± 14 ; 61 ± 17 to 70 ± 12 , $p < 0.01$) for patients with and without diabetes, respectively. Despite the insignificant interaction between diabetes and time on these secondary outcomes; diabetic patients had poorer physical health status and less ROMs at 1-year time point.

Conclusion: Diabetes is associated with greater pain, hand disability, and poorer physical health status; and slower recovery after DRFs.

Biography

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