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### ABSTRACT

#### **Risk Factors Associated with the Reported Scores on Symptoms Severity and Functional Limitations Scales of the Boston Carpal Tunnel Questionnaire: A Cross-Sectional Study**

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**Introduction:** Carpal tunnel syndrome (CTS) is the most common entrapment neuropathy. It presents with numbness, paresthesias, and pain. Multiple risk factors are associated with CTS such as pregnancy, oral contraceptive use, rheumatoid arthritis, diabetes mellitus, among others. The Boston Carpal Tunnel Questionnaire (BCTQ) is a self-administered questionnaire for the assessment of the severity of symptoms and functional status of those who were previously diagnosed with CTS.

**Objective:** Our aim is to identify risk factors that are associated with higher scores of CTS symptoms severity and functional limitations on the BCTQ.

**Methods:** This cross-sectional study was conducted among 366 female participants. The data was mainly collected using the BCTQ. Demographics, and risk factors of CTS were added to the study's full questionnaire; Risk factors included: Rheumatoid Arthritis (RA), Diabetes Mellitus (DM), hypothyroidism, number of pregnancies, use of Oral Contraceptive Pills (OCPs), use of smartphones and keyboards. P-value of <0.05 was considered statistically significant.



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**Results:** The majority of participants were in their thirties (44%), female, and unemployed. RA, DM, hypothyroidism and pregnancy were associated with reporting symptoms and functional limitations on BCTQ. OCPs and smartphone use were associated with functional limitations only.

**Conclusion:** Different risk factors are associated with the reporting of symptoms and functional limitations of CTS on the BCTQ. RA, DM, hypothyroidism, pregnancy, OCPs and smartphone use have all been found statistically affecting the outcome of the BCTQ in this study. Clinical confirmation of CTS diagnosis is required in future studies to make sure that these symptoms and functional limitations are associated with CTS pathology itself rather than other risk factors pathologies for proper targeted treatment plans and outcomes.

**Keywords:** carpal tunnel syndrome, Boston carpal tunnel questionnaire, risk factors, rheumatoid arthritis, diabetes mellitus.