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Gebrye, Tadesse , Jeans, Edward, Yeowell, Gillian , Mbada, Chidozie  and Fatoye, Francis  (2023) Prevalence of carpal tunnel syndrome: systematic review and meta-analysis. In: World Physiotherapy Congress 2023, 02 June 2023 - 04 June 2023, Dubai World Trade Centre, United Arab Emirates.

Version: Accepted Version

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Additional Information: This is an abstract of a poster presentation shown at World Physiotherapy Congress 2023

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PREVALENCE OF CARPAL TUNNEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

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Preferred Presentation format: Platform presentation

Printed or ePoster presentation: Printed poster presentation

Primary topic: Musculoskeletal

2nd Topic: Rheumatology

Background: Carpal tunnel syndrome (CTS) remains one of the musculoskeletal disorders with significant socio-economic burden and productivity loss. An update on CTS current trends has important implications for health service planning.

Purpose: The aim of this review was to conduct a systematic review and meta-analysis of the prevalence of CTS.

Methods: According to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, a meta-analysis on prevalence estimates of CTS was carried out. Medline, CINAHL, AMED, Scopus, and Web of Science databases were searched for related studies over the past 10 years. Key search terms of prevalence, incidence, epidemiology, and carpal tunnel syndrome were used. Papers selected for full-text review were included in the systematic review if they provided prevalence of CTS. Data were extracted on sampling procedure, sample characteristics, locations, measures, and whether full or partial criteria were met. Pooled prevalence rates were calculated using a random effects model.

Results: The search yielded 548 published studies, of which 24 were deemed relevant and were included in this review. These estimates were drawn from 15 countries which include United States of America (n = 7), Brazil (n = 2), Saudi Arabia (n = 2), Iran (n = 2) and one study each from China, Ethiopia, France, Germany, India, Turkey, Kuwait, United Kingdom, Korea, Netherlands, and Sweden, respectively. A total of 80,772 patients were studied in the included studies of which the prevalence of CTS varied from 0.014 to 0.743. From the random-effects meta-analysis, we estimated the overall prevalence of 0.173 (95% confidence interval: 0.098 to 0.289, n = 22 studies).

Conclusion(s): The prevalence estimates of CTS appear to be high.

Implications: It is important that effective surgical management intervention strategies are developed and implemented to improve the health outcomes of individuals with CTS.

Keyword 1: Prevalence

Keyword 2: Carpal Tunnel Syndrome

Keyword 3: Musculoskeletal problem

Funding acknowledgements: No funding

Did this work require ethics approval?: Yes

Institution: N/A

Ethics committee: It is a systematic review

Ethical approval number: N/A

Has any of this material been/due to be published or presented at another national or international conference prior to the World Physiotherapy Congress 2023?: No

Consent: Yes

Consent: Yes