World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:12, No:05, 2018

Factors Associated with Hand Functional Disability in People with Rheumatoid Arthritis: A Systematic Review and Best-Evidence Synthesis

Authors : Hisham Arab Alkabeya, A. M. Hughes, J. Adams

Abstract : Background: People with Rheumatoid Arthritis (RA) continue to experience problems with hand function despite new drug advances and targeted medical treatment. Consequently, it is important to identify the factors that influence the impact of RA disease on hand function. This systematic review identified observational studies that reported factors that influenced the impact of RA on hand function. Methods: MEDLINE, EMBASE, CINAL, AMED, PsychINFO, and Web of Science database were searched from January 1990 up to March 2017. Full-text articles published in English that described factors related to hand functional disability in people with RA were selected following predetermined inclusion and exclusion criteria. Pertinent data were thoroughly extracted and documented using a pre-designed data extraction form by the lead author, and cross-checked by the review team for completion and accuracy. Factors related to hand function were classified under the domains of the International Classification of Functioning, Disability, and Health (ICF) framework and health-related factors. Three reviewers independently assessed the methodological quality of the included articles using the quality of cross-sectional studies (AXIS) tool. Factors related to hand function that was investigated in two or more studies were explored using a best-evidence synthesis. Results: Twenty articles form 19 studies met the inclusion criteria from 1,271 citations; all presented cross-sectional data (five high quality and 15 low quality studies), resulting in at best limited evidence in the best-evidence synthesis. For the factors classified under the ICF domains, the best-evidence synthesis indicates that there was a range of body structure and function factors that were related with hand functional disability. However, key factors were hand strength, disease activity, and pain intensity. Low functional status (physical, emotional and social) level was found to be related with limited hand function. For personal factors, there is limited evidence that gender is not related with hand function; whereas, conflicting evidence was found regarding the relationship between age and hand function. In the domain of environmental factors, there was limited evidence that work activity was not related with hand function. Regarding health-related factors, there was limited evidence that the level of the rheumatoid factor (RF) was not related to hand function. Finally, conflicting evidence was found regarding the relationship between hand function and disease duration and general health status. Conclusion: Studies focused on body structure and function factors, highlighting a lack of investigation into personal and environmental factors when considering the impact of RA on hand function. The level of evidence which exists was limited, but identified that modifiable factors such as grip or pinch strength, disease activity and pain are the most influential factors on hand function in people with RA. The review findings suggest that important personal and environmental factors that impact on hand function in people with RA are not yet considered or reported in clinical research. Well-designed longitudinal, preferably cohort, studies are now needed to better understand the causality between personal and environmental factors and hand functional disability in people with RA.

Keywords : factors, hand function, rheumatoid arthritis, systematic review
Conference Title : ICR 2018 : International Conference on Rheumatology
Conference Location : London, United Kingdom
Conference Dates : May 14-15, 2018