

Abstract

The effectiveness of different ergonomic approaches for computer related musculoskeletal disorders (MSDs) in the neck and arms: a systematic review.

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Background: In the last decade, the prevalence of upper extremity musculoskeletal disorders has significantly increased amongst computer users. Computer related injuries are causing MSDs with disabilities, absenteeism, and time/cost consuming to employers. The aetiology of musculoskeletal complaints of the arm, neck, and shoulder (CANS) is highly complex and has yet to be properly investigated.

Objective: To assess the quality of RCTs looking at the use of ergonomic interventions in the treatment of pain for CANS.

Method: A systematic search of English language literature was performed using six medical databases PubMed, EMBASE, EBSCO, DARE, Science Direct and Cochrane library and the reference lists of the retrieved articles, from 2000 to 2015. This review included all RCTs that have studied the effectiveness of ergonomic approaches on the neck and arm injuries linked to desktop computers, laptops and tablets aged 18 to 60 years, with pain as the primary outcome measure.

Results: From 1032 studies that were found during initial literature searches, only three RCTs met the eligibility criteria and were included in the final appraisal of this review. The reviewed literature indicates that computer related injuries in the neck and arms are linked to poor ergonomic designs of workplaces/ computer devices, the handling of too many repetitive tasks and static body postures.

Conclusion: The balance of high to moderate quality of evidence has examined different types of ergonomic approaches to find an alternative method for reducing incidences of computer-related CANS. Their recommendations include a thoughtful consideration of the most adequate ergonomic workstations, computer devices and ergonomic training to provide appropriate work settings and postures for prolonged period of times.

Keywords: work-related injuries, repetitive strain injury (RSI), computer users, neck pain, arm pain, ergonomic and RCT.