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Neck pain in women

Effect of tailored treatment and impact of work environment

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Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av filosofie/medicine doktorsexamen framläggs till offentligt försvar i Aulan, Vårdvetarhuset, fredag den 6 oktober, kl. 09.00.

Avhandlingen kommer att försvaras på svenska.

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Abstract

Introduction: Musculoskeletal pain is a common problem in the working population. In Sweden, 40% of women and 30% of men report suffering from neck and shoulder pain weekly. The underlying cause for neck pain is often not known and the treatment is commonly guided by the individual's symptoms. However, there is a lack of knowledge on how to receive the best effect based on the individual's symptoms and functional limitations, and therefore this has been scarcely evaluated in research. Furthermore, the impact of work exposure and stress on long-term treatment for persons with neck pain is not clear.

Aims: To develop (paper 1) and to evaluate a decision model for tailored treatment in women with neck pain (paper 2). Moreover, to determine if risk factors at work and stress influence intermediate and long-term treatment results (paper 3). Further, to investigate if changes in self-reported pain and disabilities are associated with changes of physical tests outcomes of the neck and shoulder region after treatment (paper 4).

Methods: In an RCT, 120 working women with non-specific neck pain were randomized to three different groups – tailored treatment (TT), non-tailored treatment (NTT) or treatment-as-usual (TAU) for an 11 weeks intervention with short-term, intermediate-term and long-term follow-ups. The TT group was guided by a decision model with cut-off levels to indicate impairments. The NTT group received two established treatment components randomly from those not indicated, and TAU group did not receive any treatment within the study. The RCT primary outcomes were self-reported neck pain and neck disability. A linear mixed model was used for analysing the effects. One week after the end of intervention work exposure and stress were assessed at a work-place visit and associations to treatment results were tested for, and mixed models were used to estimate longitudinal associations. Associations between self-reported neck problems and physical outcomes were estimated with univariate and multiple regressions analysis.

Results: No differences between TT and NTT were revealed for neck pain and disability. In comparison to TAU, the TT and NTT groups both showed improvements at short-term follow-up, but not at intermediate and long-term follow-up. High stress level and low self-estimated control at work were associated with more pain and disability at the intermediate and long-term follow-ups. After intervention and at the intermediate-term follow-up, reduced neck pain, disability and frequency of symptoms were associated with increased peak speed of head rotation and cervical range of motion.

Conclusion: Tailored treatment according to the decision model was not superior to the non-tailored treatment in women with non-specific neck pain. One explanation for this can be the weak relationships found between neck pain and disability and physical test outcomes. Further, perceived stress and psychosocial work exposure were associated with self-reported neck problems and should be taken into account to optimize the effects in neck pain rehabilitation.

Keywords

Neck-shoulder pain, non-specific neck pain, individualized treatment, rehabilitation, physiotherapy, cut-off, work productivity

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