

Workplace Interventions to Manage Chronic Musculoskeletal Conditions

A Systematic Review

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Introduction

A healthy work environment influences the physical, mental, and socioeconomic behaviours of its employees and can promote the well-being of their families and communities.

Chronic musculoskeletal disorders (MSDs) have an impact on people's lives as they are a source of long-term pain and increase the number of lost working days.

Worldwide, a variety of models and recommendations have been suggested to shift the need for healthcare and sick leave from the healthcare system to the employer but these models have not always been successful.

Purpose

The aim of this systematic review was to identify published workplace management strategies for individuals with existing chronic MSDs and to highlight whether these interventions are effective.

Eligibility Criteria

Inclusion criteria	Exclusion criteria
Working age male and female adults (18 to 68 years)	Specific pathological conditions (e.g. tumours, infections, and fractures), post-operative Conditions, pregnancy
All sectors and types of jobs	Cardiovascular diseases, severe disorders of the cervical spine, history of severe trauma
Reported chronic MSD at any area of the body	Acute MSDs
Group and individual interventions at the workplace	Guidelines, policies, and recommendations
Interventions focused on management of chronic MSDs	Interventions focused on prevention or return to work
RCT/cluster RCT design	Surveys and qualitative studies

Methods

MEDLINE, CINAHL, AMED, Cochrane, PsycINFO, Academic Search Complete, PEDro and SCOPUS were searched for publication between 2008 and 2017. Data were extracted independently by two reviewers. The SIGN tool was used for the appraisal of the RCTs. All 12 studies selected were categorised as high or acceptable quality.

Results

(significant results only)

Effect of physical exercise at the workplace

Author	Intervention	Results
Andersen et al. 2012	Intervention group 1 Specific strength training 1 hour, once a week Intervention group 2 Specific strength training 20 min three times a week Intervention group 3 Specific strength training 7 min nine times a week Control group No physical training Length: 20 weeks	Intervention group 1 Neck Pain p<0.01 Shoulder Pain p<0.01 Health Status p<0.01 Intervention group 2 Neck Pain p<0.01 Health Status p<0.02
Andersen et al. 2008	Intervention group 1 Specific strength training Intervention group 2 General fitness training Control group Health counselling Length: 10 weeks	Intervention group 1 General Pain intensity p < 0.0001 Worst Pain intensity p < 0.0001
Andersen et al. 2010	Intervention group 1 Specific resistance training Intervention group 2 All-round physical exercise Control group Encouragement and advice Length: 10 weeks	Intervention group 1 Neck Pain p<0.05 Intervention group 2 Neck Pain p<0.01
Baldwin et al. 2012	Intervention group -Single session of workplace ergonomic intervention -Written educational materials Control group Written educational materials	Intervention group Functional status 12 months p < 0.04 24 months p < 0.01 Pain 12 months p < 0.01 24 months p < 0.01
Blangsted et al. 2008	Intervention group 1 Specific resistance training Intervention group 2 All-round physical exercise (work and leisure time) Control group Education on general health-promoting activities Length: 12 months	Intervention groups 1,2 Vs Control Pain intensity (p=0.0318) * in favour of the activity interventions

Effect of physical exercise at the workplace compared to other interventions

Author	Intervention	Results
Hutting et al. 2015	Intervention group -Self-management interventions at the workplace (groups) -E-module on Health Control group Usual care and information	Work Status At 12 months: p=0.04 in favour of the self-management group
Jay et al. 2011	Intervention group Kettlebell training Control group Recommendations Length: 8 weeks	Pain: neck/shoulder p=0.02* in favour of the intervention group Pain: low back p=0.05* in favour of the intervention group
Jakobsen et al. 2015	Intervention group -Strength training at the workplace -Ergonomic training Control group Intervention at home Ergonomic training Length: 10 weeks	Pain (0-10) Intervention group p < 0.0001 Control group p < 0.0001 Intervention group Vs Control group p < 0.0003 for the intervention group

Effect of usual care or ergonomics at the workplace compared with other interventions

Author	Intervention	Results
Lambeck et al. 2010	Intervention group Integrated care (Health professional) Control group Usual care Length: 3 months	Functional Status p < 0.001 for the intervention group Sick leave p=0.003 for the intervention group
Shiri et al. 2011	Intervention group Workplace assessment by an occupational therapist or physiotherapist Control group No intervention	Pain intensity p=0.05* in favour of the intervention group Length: 2 weeks
Sundstrup et al. 2014	Intervention group High intensity strength training Control group Ergonomic training and education Length: 10 weeks	Work Ability Index p = 0.012 in favour of the intervention group <i>Note:</i> score worsened in the control group p<0.01
Zebis et al. 2011	Intervention group High-intensity specific strength training at the workplace Control group Advice to stay physically active, weekly consultation	Neck pain P < 0.001** in favour of the intervention group Length: 20 weeks

Conclusion and Discussion

- High-intensity strength exercises and/or integrated health care at the workplace may decrease pain and symptoms for employees who experience chronic MSDs.
- Sick leave, presenteeism rates and the use of self-management program was measured in some of the studies included; however there were no significant differences after the completion or at follow-up.
- There is significant improvement in functional status and the decrease in pain with the use of a workplace integrated care programme by an allied health professional.

Recommendations

The results of this systematic review suggest the implementation of a multicomponent workplace intervention for the management of long-term MSDs. It is crucial to look at this complex topic with an all-inclusive approach considering the differences within the workforce as this will benefit both the stakeholders and the providers.

References

Skamagki, G., King, A., Duncan, M., and Wåhlin, C. (2018) 'A Systematic Review on Workplace Interventions to Manage Chronic Musculoskeletal Conditions'. *Physiotherapy Research International* [online] 23 (4), e1738.

All other references can be found at the article above.

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Further information

