Improving the implementation of ergonomics advice – a Stage of Change approach

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1. Introduction

Ergonomics and injury prevention advice commonly comprises recommended changes to work systems, the work environment and individual work practices. However, even when actively sought, this advice may not be fully implemented or simply ignored (Trevelyan and Haslam, 2001). Compounding this is the absence of routine evaluation by ergonomics consultants of the implementation and effectiveness of the advice provided (Whysall et al., 2004).

The paucity of evaluation to explore the implementation of ergonomics advice has been primarily related to client/company disinterest due to the associated costs. Reasons for the lack of implementation of advice may include issues of cost, concerns over effectiveness or simply a lack of “desire” on the part of the company to introduce change (Trevelyan and Haslam, 2001). This suggests the need for consultants to frame their advice in a manner which will maximise its adoption (Rothmore et al, 2013).

Various methods have been proposed to improve the implementation and effectiveness of ergonomics advice according to behaviour change principles (Haslam, 2002). The most frequently applied method in workplace settings has been Prochaska and DiClemente’s Stage of Change (SOC) framework (Barrett et al., 2005; Prochaska et al., 2001; Village and Ostry, 2010; Whysall et al., 2006). However, despite some evidence for its potential effectiveness there is little evidence that this approach has been adopted by practitioners.

This study sought to determine whether there was any difference in the implementation of ergonomics advice if it were ‘tailored’ according to the SOC approach and to identify the barriers and facilitators experienced by workplace managers in the implementation of workplace change.

2. Methods

Purposive sampling was used to select organisations known to be at increased risk of musculoskeletal injury. Organisations were asked to identify discrete workgroups of 10-20 employees performing similar tasks for inclusion in the study. These workgroups were subsequently randomised to receive either ‘standard’ or ‘tailored’ advice. 25 workgroups (comprising 405 workers) were recruited. Each of these workgroups was visited and, based on direct observation and discussion, a written report outlining suggested changes was presented to company management for implementation. Those in the control arm of the study received ‘standard’ ergonomics advice while those in the intervention arm received advice ‘tailored’ according to the SOC profile of the workgroup.

3. Results

After 12-months semi-structured interviews were conducted with each manager. Bivariate analysis showed no differences in the number, or type, of recommendations made to organisations in the ‘standard’ or ‘tailored’ advice groups. In a multivariate model organizations which had received ‘tailored’ advice were found to have implemented significantly more of the recommended changes (IRR = 1.68, 95% CI 1.07-2.63). They were also found to have implemented more "independent" changes (IRR = 1.90, 95% CI 1.12-3.20). When the recommended changes were dichotomized into higher order (i.e. elimination or engineering solutions) or lower order control measures (the introduction of administrative solutions) those organizations in receipt of ‘tailored’ advice had introduced higher order changes at more than three times the rate of those in receipt of ‘standard’ advice (IRR = 3.25, 95% CI 1.14-10.80). Qualitative analysis identified that they key barriers and facilitators to the implementation of changes were largely related to worker resistance to change and the attitudes of senior managers towards health and safety.

4. Discussion
Ergonomics consultants proposing workplace changes frequently have little influence over their implementation. The results of this study suggest that the tailoring of advice according to the SOC approach can improve its implementation. Not only were recommended changes implemented at a higher rate in companies which received ‘tailored’ advice but they also introduced more additional changes (i.e. changes which were not specifically proposed). This may be indicative of a larger effect for this approach.

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References