Promoting work ability through exercise programmes

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There is a clear need to improve or at least maintain employees' abilities to meet the physical and mental requirements of their jobs. Unhealthy behaviours and obesity are important risk factors for reduced work ability[1] and subsequent sickness absence[2] and loss of paid employment.[3] Hence, it is unsurprising that many workplace programmes have been developed that aim to increase work ability through improvements in health behaviours, most notably through promoting a physically active lifestyle. Exercise programmes have long been popular, but their effectiveness is far from established. A systematic review[4] reported that only two out of six randomised controlled studies on the effects of exercise programmes on work ability showed improved work ability, but with small effect sizes. Furthermore, the generally small proportion of invited participants who enrol to receive these interventions and low compliance with the exercise regime are barriers to the successful implementation of workplace exercise programmes.[5]

In *The Lancet Public Health*, Sven Haufe and colleagues[6] report on a randomised controlled trial that compares health benefits in employees assigned to a 6-month exercise programme (n=160) with those in a waiting-list control group (n=154). Using their data on outcome measures, we calculated the effect sizes of their outcomes as a common measure of the effectiveness of the intervention (appendix). The intervention improved total physical activity with an effect size of 0·25, showing that participants in the intervention group indeed became more physically active than those in the control group. The intervention was effective in reducing bodyweight by 3·5 kg (ES=0·18), body fat percentage by 1·9% (ES=0·23), and by increasing work ability by 4% (ES=0·29). Since increased duration of physical activity per week was associated with increased improvement in work ability over 6 months, the exercise component of the intervention clearly contributed to the improvements in work ability and participant health.

Considering the negative results of several studies on the effect of exercise programmes,[4,5] the differences between their methodology and that of Haufe and colleagues should be examined. Several important features of their trial[6] must be discussed before advising on the most appropriate type of intervention for successful outcomes in workplace programmes that promote health.

First, the investigators adopted a selective intervention strategy, whereby workers with metabolic syndrome only were recruited, rather than the whole workforce. The trial started with a general health examination that is an effective way to attract potential participants into a study and to select those who are at increased risk of cardiovascular disease and type 2 diabetes. This approach might have disproportionately included participants who are highly motivated to increase their daily physical activity and to sustain a newly adopted health behaviour. Alternatively, it could have been much easier for those with a high risk for type 2 diabetes and cardiovascular diseases to change their behaviour. In the study by Haufe and colleagues, the mean bodyweight of participants was well above 105 kg, indicating that most participants were obese.

Second, the participants in the intervention group were supported through telemonitoring with a wrist-worn device that recorded steps, activity times, and heart rate. A linked mobile application provided continuous feedback on individual achievements and compliance with training goals. The use of mHealth (here an exercise application) is a potentially powerful strategy to improve health behaviours, specifically when combined with regular face-to-face meetings with a health coach,[7] and such monthly meetings were ensured in the study by Haufe and colleagues. This additional support would have contributed to the good adherence to the exercise regime in the intervention group.

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Third, the use of different communication strategies with participants through information meetings, in-application messaging, and face-to-face consultations was crucial for good adherence to the intervention, which was equally effective in manual and office workers and in shift workers and non-shift workers. A systematic review[8] has shown that workplace health promotion programmes are generally more effective in white-collar and younger workers, thereby introducing intervention-generated health inequalities. However, new evidence[9] suggests that workplace interventions could reduce health inequalities, specifically when the intervention combines different components tailored to the needs and preferences of different groups.

The health promotion programme by Haufe and colleagues is promising for the development of effective interventions that prevent unhealthy behaviours. Given the intervention's moderate benefits after 6 months, it is not an all-purpose solution to address health-related loss of work ability. Further improvements in health behaviours and outcome measures are required to create a healthy workforce. Favourable methods are multicomponent interventions that address several unhealthy behaviours simultaneously and interventions that ensure that strenuous working conditions and unhealthy behaviours are equally targeted.[10] The use of wearable fitness devices and applications will provide excellent opportunities for dynamic intervention programmes that overcome the traditional barriers of insufficient scope, uptake, and sustainability of large-scale health promotion programmes.

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We declare no competing interests.

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