Walking works wonders: a workplace health intervention evaluated over 24 months

Walking Works Wonders: a workplace health intervention evaluated over 24 months

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Abstract. Walking Works Wonders (WWW) is a workplace intervention designed to increase physical activity and reduce sedentary behaviour. WWW involves tailoring health information according to employees' readiness for change. The approach recognises that when attempting to motivate behaviour change, success is greater when interventions align with recipients' attitudes and beliefs. The impact of the tailored approach was investigated by comparing tailored interventions with standard conditions and control groups in a 24-month longitudinal study in 10 worksites across the UK. Employees who received either a standard or tailored intervention demonstrated significantly higher self-reported work ability and improved organizational commitment, job motivation, job satisfaction, and a reduction in intention to quit the organization. The tailored interventions significantly reduced BMI and waist circumference compared to standard and control conditions. Workplace health interventions designed to increase physical activity and reduce sedentary behaviour are likely to be more effective where the information is tailored to employees' readiness to change.

Keywords: Workplace health, older workers, physical activity, sedentary behaviour.

1 Introduction

Demographic changes, including increased life expectancy and falling birth rates, are reflected in the increasing age of the workforce. Current estimates suggest that by 2020, over a third of the workforce will be aged 50 years or over. The increasing age of the workforce presents new opportunities and challenges for government and other agencies, employers and occupational health services, but also for individual employees and their families. The ageing workforce creates a demand for research to support evidence-based policy and practice promoting and maintaining the health, quality of life and employability of older workers.

The workplace is an ideal arena for delivering health education and intervening to promote healthy lifestyle change. It is widely recognised that most adults do not perform sufficient levels of physical activity [1] yet there is there is compelling evidence to indicate that individuals who are physically active live longer and have lower morbidity that those who are inactive [2]. Economic advances and industrial innovation have resulted in large numbers of people employed within sedentary occupations and data suggests that workers spend more time sitting at work than they do sleeping at night [3]. Worksite interventions have the potential to reach large numbers of individuals and overcome one of the most widely cited barriers to increasing physical activity: lack of time [4].

The Working Late research programme investigated the policy issues associated with later life working and developed interventions and design solutions to promote health, productivity and quality of working life of older people. Walking Works Wonders was developed as part of the Working Late research programme. Walking Works Wonders is a tailored intervention designed to increase physical activity and reduce sedentary behaviour at work. The intervention involves tailoring health information according to employee's readiness to change. This approach is based on the Stage of Change Model [5, 6] which was originally developed within the context of smoking cessation. The model assumes that behaviour change involves movement through stages:

i) precontemplation (resistance to recognising or modifying problem behaviour)
ii) contemplation (thinking about changing, but not ready to act)
iii) preparation (intending to change in the next 30 days, and/or having made plans to do so)
iv) action (changed behaviour, no longer than 6 months ago)
v) maintenance (changed over 6 months ago, working to consolidate gains made and avoid relapse)

According to the model, stage determines receptiveness to (and the effectiveness of) health education. Individuals in the precontemplation stage require information about the health risks associated with their current behaviour whilst those in later stages (contemplation/preparation) need practical advice on how to change their behaviour. Following the successful application of the model to community health interventions, calls were made to apply the model to workplace interventions [7, 8]. Whysall, Haslam and Haslam [9] demonstrated that tailored interventions were significantly more effective in changing behaviour and reducing musculoskeletal disorders in a diverse range of workplace settings.

Walking Works Wonders was developed through extensive user engagement, with employees, managers and representatives from occupational health, and the intervention adopted a stage of change approach [10]. It was evaluated over a 2-year period in 10 worksites across the UK.

2 Method

A total of 1,120 employees took part in the intervention. Participants were recruited from 10 different worksites across the UK and were drawn from 2 different organisations (1 medium public sector, 1 large private sector). The 10 worksites were each allocated to 1 of 3 conditions: staged intervention, standard intervention or control group. In the staged intervention group the health information received was tailored according to recipients' readiness for change. Those thinking about increasing their levels of physical activity were given practical advice about changing behaviour whereas those not thinking about increasing their physical activity levels were targeted with awareness raising information about the risks of sedentary behaviour and the benefits of physical activity. In the standard condition, participants received generic physical activity promotion material already available via health promotion organisations. All participants, including the control group, received Working Late pedometers to record daily step counts. The step counts were logged on a website where participants received feedback on their progress.

The Working Late team partnered with the Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA), to launch a national competition for designers to develop innovative ways of encouraging people to be more active at work. The winners of the competition designed 'Walking Lunch'. Walking Lunch involves placing a large map (1 metre diameter) in a communal area of a worksite. The map covers a radius of 1.5 km and displays the surrounding areas of the workplace. The aim is to encourage employees to use their lunchtime breaks for a local walk. When employees arrive at an area on the map, they could take a photo on their mobile phone or digital camera, come back to the office to print out the photo and pin it to the map using tags. The tags have space for employees to record the number of steps taken to get to the location in the image and any other useful information. This encourages other employees to visit these areas. Participants in the Walking Works Wonders intervention were also provided with an individual (smaller) paper version of the map to track their journey and make any notes.

Participants received one-to-one physiological health assessments at six monthly intervals. Assessments included measures of: BMI, blood pressure, resting heart rate, waist to hip ratio, height and body composition analysis. Participants also completed psychological health measures including Work Ability Index, General Health Questionnaire 12, Organizational Commitment scale, Job Motivation scale, Job satisfaction and Intention to Quit scales from the Michigan Organizational Assessment Questionnaire. Following the one-year intervention period, a further 2 health assessments were conducted at 18 and 24 months to evaluate the longer-term impact of the intervention.

Fig. 1. The Walking Lunch

3 Results

At the end of the intervention period (12 months) individuals provided with staged intervention information demonstrated the biggest reduction in BMI. Walking for staged and standard intervention groups increased whereas the control group showed a reduction.

Fig. 2. Body mass index at 12 months

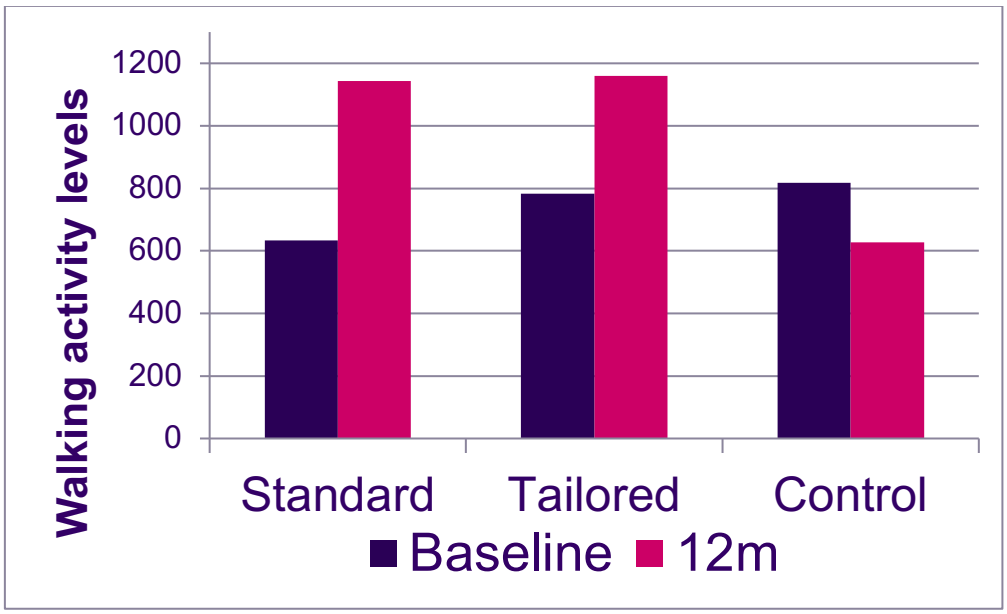

Fig. 2. Activity levels at baseline and 12 months

The staged intervention group showed a significant reduction in BMI over the duration of the intervention period, including post intervention in comparison to the standard intervention group and control group (intercept). The results show that participants provided with tailored health information were more likely to have reduced BMI by -1.05 kg/m^2 over the course of the measurement period. Waist circumference was significantly lower for the staged intervention group in comparison to the standard intervention group, which may indicate reductions in visceral fat.

In terms of psychological outcomes, significant differences in both intervention groups (standard and staged) were seen in comparison to the control group. The results show that employees receiving either standard or tailored intervention material demonstrated significantly higher self-reported work ability, organizational commitment, job motivation, job satisfaction, and a reduction in intention to quit the organization.

There were significant reductions in self-reported sickness absence for employees participating in the study: this averaged to 1.16 days per person per year. Employees also reported their work performance increased by 10% in the past year. Exploration of age revealed no differences between the results for employees aged over or under 50 years, indicating that the intervention was effective for workers of all ages.

Finally, an economic evaluation calculated that the return on investment for the intervention was strongly positive. Specifically, for every £1 the organisation invested, savings of £26 - £32 could be made in terms of reduced absence and increased performance.

The Walking Lunch concept was very well received, and the Walking Lunch map was viewed by participants as an innovative means of promoting physical activity and reducing sedentary time. Participants were keen to share the photographs they had taken during their explorations of the areas surrounding their worksites which they readily pinned to the Walking Lunch map. One of the worksites particularly embraced the Walking Lunch initiative and created a number of supplementary leaflets including details of local walks which were provided for all staff. Allied to this, the Walking Works Wonders website was also exceptionally popular, with participants logging over 60,000 step counts, demonstrating their commitment and engagement to the initiative.

Many individuals commented how the project had made them realise how sedentary they were, and they discovered how making small, sustainable changes could have a big impact on overall activity levels. Participants also discussed the wider, positive influence on family life, dietary behaviour and health attitudes.

4 Discussion

With the shift from manufacturing to service industries, combined with technological advances, work has become increasingly sedentary. Sedentary behaviour is an important risk factor for a wide range of chronic diseases. To support later life working, organisations need to manage this health risk and consider implementing interventions to encourage physical activity and reduce sedentary behaviour.

Walking Works Wonders was developed following extensive user engagement with employees, managers and representatives from occupational health, and the intervention adopted a stage of change approach [10]. This longitudinal study evaluated the effectiveness of this tailored workplace physical activity intervention compared to a standard condition and control condition implemented in 10 different worksites across the UK. The results showed that the tailored intervention group demonstrated significant reductions in BMI over the duration of the 12-month intervention period and the 12-month follow-up period in comparison to the standard intervention and control group. Additionally, waist circumference was significantly lower for the staged intervention group in comparison to the standard intervention and control group.

Employees who received either standard or tailored intervention material demonstrated significantly higher self-reported work ability, organizational commitment, job motivation, job satisfaction, and a reduction in intention to quit the organization. These results suggest that physical activity interventions have a positive impact on employees' job attitudes and psychological wellbeing.

The findings provide new evidence that tailored interventions are more effective in improving health outcomes in the workplace. These results support the calls for adopting ergonomics interventions which align with workers' stage of change [7, 8].

5 Conclusions

The results of this study indicate that tailoring information to employees' stage of change is more effective than standard approaches in improving health in the workplace. The intervention was effective across all age groups. These results provide important implications for future workplace physical activity interventions and offer considerable scope to counteract increasing levels of obesity and improve the health of the sedentary workforce.

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