Healthy Cities Toolkit

Last updated 22/04/22

Workplace interventions

Mild positive impact based on very low-quality evidence with uncertain resources implications

Impact

(+) (+) ( ) ( )

Resources

Evidence

Studies

8

Cite as Ang E. and Richards GC. 2022. Workplace interventions. Oxford Healthy Cities Toolkit

https://www.healthycitiescommission.org/toolkit/workplace-interventions/

Access data

Description

Workplace interventions were defined as any programme, event, or activity delivered to employees or whereby objects, stimuli, or routines in the work environment were added, altered, or removed (Demou 2018; Allan 2017). The types of workplace interventions varied widely in the included reviews as they were dependent on the type of employment, industry, and setting (e.g. office-based roles, hospitals, shift work), including aspects of nature, design, and environmental interventions.

Findings

Eight reviews examined the role of the workplace in altering health, collectively including nearly 2,000 primary studies (range 8-1,715 studies). Overall, workplace interventions improved mental health, cognitive function, and health behaviours.

Most reviews included adults or those of working age and had sample sizes ranging from 611 to 261,311 participants. The evidence represented countries from across the globe, although most were conducted in the USA and the UK, with one review focusing on England (Knai 2017).

Nature-based interventions in the workplace had a positive effect on mental health and cognitive ability, but mixed outcomes for recovery, restoration, psychophysiological indicators of health and life, and work satisfaction (Gritzka 2020).

Mindfulness (N=20 reviews) and cognitive-behavioural therapies (N=10 reviews) were found to have beneficial effects on mental health, including reducing stress, anxiety, depression, burnout and improving wellbeing, but findings did not always reach statistical significance (Pieper 2019). Peer supervision and organisational interventions (e.g. flexible work-time) helped reduce stress and burnout symptoms (Pieper 2019). Yoga was found to be highly effective in the prevention of stress and anxiety and web-based health promotion programmes were effective in preventing job-stress related mental disorders (Pieper 2019).

Behavioural interventions, such as physical activity programmes and ergonomic interventions, prevented and improved musculoskeletal disorders, yet there was insufficient evidence for the long-term effects beyond one year (Pieper 2019). Workplace strength training significantly reduced pain and prevented disorders in the upper musculoskeletal system, especially the back, neck and shoulders. Ergonomic interventions (e.g. adjustable Sit to Stand Desks) had opposing effects with one moderate quality review finding a reduction in back and neck pain and two high-quality reviews finding no effect (Pieper 2019).

Environmental (choice-architecture) interventions had significant positive effects on the eating behaviour of employees, including increasing fruit and/or vegetable consumption and sales of healthy options and reducing the number of calories purchased (Allan 2017). However the effect sizes, where they could be calculated, were small to medium and there was little translation to meaningful or significant changes in weight or BMI.

The social and physical environmental avenues for improving healthy eating in nurses were identified in a mixed-methods review, including increasing the availability of fresh food for

evening/night shift workers, adequate food preparation and storage facilities, and the influence of colleagues to eat healthily (Nicholls 2017). Another review focusing on shift workers found that group-based lifestyle interventions had moderate evidence for improvements in weight and physical activity, and insufficient evidence for changing healthy eating, although it was not possible to assess the strength of the effect (Demou 2018).

Design features of workplace buildings, for example, staircases and training facilities, were associated with physical activity and mental health benefits (Zhu 2020; Sallis 2015). Introducing sit-stand desks, treadmill desks, and stationary high desks to the work environment were found to reduce sedentary behaviour and increase standing (Zhu 2020). The work neighbourhood, including the time or distance to commute from home to work, parking availability, walkability, and friendliness of the surrounding neighbourhoods, also positively correlated with physical activity (Zhu 2020).

A review examined the effectiveness of the UK Government's 2011 Public Health Responsibility Deal "health at work" pledges, which found limited contribution to improving workplace health (Knai 2017).

Impact

Workplace interventions had a mildly positive impact on mental health and health behaviours. Overall, multi-component programs were more effective than single-component interventions (Pieper 2019).

It is within the interest of employers to introduce initiatives that prioritise workers' health and wellbeing, as evidence shows that this impacts performance, productivity, and satisfaction. Employees also have a right to expect that their health and safety are prioritised at work.

There are also incentives for governments to require employers to prioritise health, resulting in long-term population health benefits. But for health to be considered a priority rather than a benefit of work, governments must standardise requirements across industries (e.g. private, public, and voluntary sectors) to reduce variation in provision. Other recommendations from the evidence included:

1. fund large well-designed theory-driven trials,
2. improve the reporting of primary studies according to best practice guidelines,
3. a participative approach that engages employees, employers and management structures in communication and joint participation, appears to be an important success factor for the development and implementation of interventions for disease

prevention and health promotion in the workplace.

4. to increase the effectiveness of interventions they must be incorporated into the broader context of the workplace rather than isolated options. High-quality implementation, including the systematic evaluation and ongoing monitoring procedures, also leads to higher efficacy.

5. practitioners and researchers should collaborate to seize unique opportunities of actual workplace constructions or renovations for conducting experimental, quasi-experimental, or natural experimental studies.

6. future studies should also address the societal and insurer perspective, including costs to the worker such as lost income and lost time at work of family members due to caregiving activities.

Resources

Resource implications were graded as uncertain in most (88%) included reviews. An overview of systematic reviews found that health promotion interventions in the workplace can reduce absenteeism and associated costs, but evidence for their long-term sustainability were limited (Pieper 2019). Mental health interventions in the workplace had a positive return on investment of 302% after two years (Pieper 2019). Web-based psychological interventions delivered at work increased productivity of employees and had great cost effectiveness potential (Pieper 2019). Group-based approaches were also reported as the most cost-effective option (Demou 2018).

Quality of the evidence

Of the eight included reviews, four were formal systematic reviews, two were overviews of reviews, one was a mixed-methods review, and one literature review. Most reviews included randomised control trials or observational designs, but they reported selection and measurement biases, poor reporting, an absence of definitions, and heterogeneity in primary studies, which limited the ability of meta-analyses in all included reviews. Poor reporting made it difficult to identify the key elements of the interventions and to understand what worked and for whom. However, the number of participants exposed to the interventions was typically high, and the sampled participants represented diverse socioeconomic groups.

Searches for evidence were conducted between 2014 and 2018 in a median of five databases. The majority (88%) of reviews used a tool to assess the risk of bias or quality with one review of moderate quality, two of low quality, two of very low quality, and three of uncertain quality, giving an overall score of very low-quality evidence.

External links to related sources

- WHO (2017): <u>Protecting workers' health</u>
- OECD (2012-2021): <u>Mental health and work</u>
- Public Health England (2014): <u>Local action and health inequalities – workplace interventions to improve health and wellbeing</u>
- Public Health England (2017): <u>Workplace health needs assessment</u>
- Public Health England (2020): <u>Developing and evaluating workplace health interventions – factsheet</u>
- Public Health England & Northumbria Healthcare NHS Foundation Trust: <u>Developing and evaluating workplace health interventions – a toolkit for employers</u>
- NICE (2017): <u>Healthy workplaces – improving employee mental and physical health and wellbeing</u>
- UK Health Security Agency (2019): <u>Health matters – health and work</u>
- The Policy Institute, King's College London (2020): <u>What do we know about the effectiveness of workplace mental health interventions</u>
- International Labour Organization (2005): <u>Food at work – Workplace solutions for malnutrition, obesity, and chronic diseases</u>

References of included reviews

Allan, J., D. Querstret, K. Banas, and M. de Bruin. 2017. "<u>Environmental Interventions for Altering Eating Behaviours of Employees in the Workplace: A Systematic Review.</u>" *Obesity Reviews: An Official Journal of the International Association for the Study of Obesity* 18 (2): 214–26.

Demou, Evangelia, Alice MacLean, Lismy J. Cheripelli, Kate Hunt, and Cindy M. Gray. 2018. "<u>Group-Based Healthy Lifestyle Workplace Interventions for Shift Workers: A Systematic Review.</u>" *Scandinavian Journal of Work, Environment & Health* 44 (6): 568–84.

Gritzka, Susan, Tadhg E. MacIntyre, Denise Dörfel, Jordan L. Baker-Blanc, and Giovanna Calogiuri. 2020. "<u>The Effects of Workplace Nature-Based Interventions on the Mental Health and Well-Being of Employees: A Systematic Review.</u>" *Frontiers in Psychiatry / Frontiers Research Foundation* 11 (April): 323.

Knai, Cécile, Courtney Scott, Preethy D'Souza, Lesley James, Anushka Mehrotra, Mark Petticrew, Elizabeth Eastmure, Mary Alison Durand, and Nicholas Mays. 2017. "<u>The Public Health Responsibility Deal: Making the Workplace Healthier?</u>" *Journal of Public Health* 39 (2): 373–86.

Nicholls, Rachel, Lin Perry, Christine Duffield, Robyn Gallagher, and Heather Pierce. 2017. "<u>Barriers and Facilitators to Healthy Eating for Nurses in the Workplace: An Integrative</u>

Review." *Journal of Advanced Nursing* 73 (5): 1051–65.

Pieper C, Schröer S, Eilerts AL. 2019. "Evidence of Workplace Interventions-A Systematic Review of Systematic Reviews." *Int J Environ Res Public Health* 16 (19): 3553.

Sallis, James F., Chad Spoon, Nick Cavill, Jessa K. Engelberg, Klaus Gebel, Mike Parker, Christina M. Thornton, et al. 2015. "Co–Benefits of Designing Communities for Active Living: An Exploration of Literature." *The International Journal of Behavioral Nutrition and Physical Activity* 12 (February): 30.

Zhu, Xuemei, Aya Yoshikawa, Lingyi Qiu, Zhipeng Lu, Chanam Lee, and Marcia Ory. 2020. "Healthy Workplaces, Active Employees: A Systematic Literature Review on Impacts of Workplace Environments on Employees' Physical Activity and Sedentary Behavior." *Building and Environment* 168 (January): 106455.