

Combination approach to back pain

A brief intervention, combining problem solving for individual workers and training on communication for supervisors, reduced sickness absence and improved perceived health in workers with back pain compared with evidence-based treatment as usual (TAU), according to this randomised controlled trial involving 140 workers and 55 supervisors. Workers were put in the intervention or TAU group according to the random allocation of their supervisors (this ensured that no supervisor managed workers in both groups). Supervisors in the intervention group received communication training aimed at providing a supportive work environment and reducing psychosocial risk factors. Using cognitive-behavioural principles the worker training aimed to improve self-management of work-related obstacles related to pain experience. At the six-month follow-up, both treatments reduced the number of absences due to pain over the previous three months compared with the pre-treatment period; however, the incidence was more than halved in the intervention group, and the difference was statistically significant. Risk of absence was 2.4-times higher in the TAU group compared with the intervention group (odds ratio (OR) = 2.44; 95% confidence interval (CI) 1.10–5.43; $p < 0.05$). The amount of absence was also higher in the TAU group (mean absence 15.4 days over three months) compared with the intervention (4.1 days; $p = 0.028$). The intervention group also had lower use of healthcare and improved perceived health. There were no significant differences in pain intensity ratings. The researchers estimate a rough cost–benefit ratio of 1:1.7.

- *Journal of Occupational Rehabilitation* 2015; online first: doi: 10.1007/s10926-015-9596-z
- <http://link.springer.com/article/10.1007%2Fs10926-015-9596-z>

PTSD screening

Two screening tools – the four-item Primary Care PTSD Screen (PC-PTSD) and 17-item PTSD Checklist – show good sensitivity and specificity in identifying post-traumatic stress disorder (PTSD), and are relatively easy to use and interpret, according to this systematic review. Twenty-three studies met inclusion criteria, eight were conducted in community settings and 15 in primary care. Fifteen different screening tools were identified and compared – nine specific for PTSD and six for multiple mental-health problems. Few had been evaluated in more than one study; meta-analyses were possible only for the PC-PTSD and PTSD Checklist. The PC-PTSD had a sensitivity of 0.69 (CI 0.55–0.81) and specificity of 0.92 (CI 0.86–0.95). The PTSD Checklist had a sensitivity of 0.70 (CI 0.64–0.77) and specificity of 0.90 (CI 0.84–0.93). There was no statistically significant difference in diagnostic accuracy between these two tests. Multi-condition tools were less effective than those specifically designed to assess PTSD.

- *JAMA* 2015; 314(5): 501–510. doi:10.1001/jama.2015.7877
- http://jama.jamanetwork.com/article.aspx?articleid=2422547&utm_campaign=articlePDF&utm_medium=articlePDFlink&utm_source=articlePDF&utm_content=jama.2015.7877#Abstract

Management style affects health at work

Supervisor behaviours can alter the risk of workers developing musculoskeletal and psychosomatic symptoms and should be included as part of OH risk assessments, suggests research from the 2010 European Working Conditions Survey. Data were analysed from 32,770 working-age people. Workers' psychosocial and physical working conditions, depression and anxiety symptoms, age and gender, along with five supervisor behaviours and gender, were analysed for their impact on musculoskeletal symptoms, stress, fatigue and general health. Supervisor behaviour accounted for a significant amount of the observed variance in several self-reported health outcomes. Effect sizes were small, though of the same order of magnitude as known occupational risk factors, such as time pressure or lack of job control. The largest effects were: supervisors' conflict resolution skills on reducing upper-body musculoskeletal symptoms (OR

= 0.79; CI 0.73–0.86); and poor supervisor support increasing the risk of backache (OR = 1.15; CI 1.12–1.18).

- *International Archives of Occupational and Environmental Health* 2015; online first: doi:10.1007/s00420-015-1072-8
- <http://link.springer.com/article/10.1007/s00420-015-1072-8>

Economic impact of corporate wellness programmes

A systematic review of randomised controlled trials on the economic impact of corporate wellness programmes (CWPs) concludes that only a minority of such programmes have been cost-effective. The trials were carried out in the Netherlands, Finland and the UK. They compared CWPs with care-as-usual or no-intervention alternatives and all included an economic analysis of costs and benefit. Eleven papers met the criteria, five focusing on musculoskeletal disorders, two on mental health and four on multiple risk factors (eg physical inactivity, nutrition, obesity and blood pressure). All the studied interventions involved self-assessment questionnaires, education or training, and advice from a healthcare practitioner; seven included behavioural components, five had targeted exercises and four included changes to the work or work environment. The economic impact was calculated from the direct cost of the intervention (range: €7–€730 per employee per year) and the indirect costs associated with absence and lost productivity. Seven studies identified higher annual net costs for the intervention compared with the control (range: €2–€254 per employee) and four with annual cost savings (range: €2–€94 per employee). Just two studies reported consistent, positive and statistically significant benefits in terms of improved productivity, and better functional and health status. All the studies had methodological weaknesses, notably selection bias (more active people tended to sign up to the interventions) and small study sizes. The authors contrast their findings from European trials with reviews of CWPs carried out in the US, where employers are generally responsible for health insurance costs.

- *Journal of Occupational Health* 2015; 57: 201–211. doi: 10.1539/joh.14-0217-RA
- https://www.jstage.jst.go.jp/browse/joh/57/3/_contents

Better pregnancy outcomes for employed women

A large pan-European study of 222,317 mothers and their children concludes that employed women generally have a lower risk of pre-term delivery compared with those not in work (OR = 0.86; CI 0.81–0.91) and that most occupations do not carry a risk of adverse birth outcomes. Employed women tended to be older, less likely to smoke, educated to a higher level and have a lower body mass index compared with non-employed women. More than half (52%) of the employed pregnant women worked in just 10 sectors, notably healthcare, day care, industry, commerce and home cleaning. There was an increased risk of pre-term delivery in food industry workers (OR = 1.50; CI 1.12–2.02), whereas nursing occupations had a lower risk of small-for-gestational age infants (OR = 0.91; CI 0.84–0.99).

- *Scandinavian Journal of Work, Environment and Health* 2015; 41(4): 384–396. doi:10.5271/sjweh.3500. ohaw.co/1PkqRiC
- http://www.sjweh.fi/show_abstract.php?abstract_id=3500

Pilates for back pain

Pilates is commonly used to improve physical fitness and wellbeing – and is often delivered in workplaces. This Cochrane systematic review of 10 randomised controlled trials on adults with acute, sub-acute or chronic non-specific low-back pain (LBP) finds low-quality evidence that pilates delivered in primary- or tertiary-care settings reduces pain compared with minimal-intervention

controls at short-term follow-up (less than three months), with two trials showing reduced pain after intermediate follow-up (between three and 12 months). There is also low-quality evidence that the technique reduces disability score compared with minimal-intervention controls. However, there was no evidence that pilates performs better than other more general exercises in any of the measures – a meta-analysis of three trials found no significant difference in short- or intermediate-term disability scores. None of the studies measured return-to-work times from LBP-related absence, and none reported long-term outcomes.

- *Cochrane Database of Systematic Reviews, 2015; 7: CD010265. doi: 10.1002/14651858.CD010265.pub2*
- <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD010265.pub2/abstract>

Workplace exercise – a randomised trial

Physical exercise at work significantly reduces ‘perceived physical exertion’ – defined as the balance between physical work demands and the physical capacity of the individual – compared with exercise programmes undertaken at home, according to a cluster randomised controlled trial. It involved 18 departments in three Danish hospitals. In total, 200 female healthcare workers were randomly assigned (by department) either to a 10-week workplace or home-based fitness programme, both consisting of physical exercises for 10 minutes, five times a week. The work group had supervised and group-based high-intensity strength training using elastic resistance bands and kettle-bell weights. The home-exercise group received training equipment and instruction posters. Both groups were invited to attend ergonomic training sessions. Those in the exercise group experienced a moderate and statistically significant reduction in perceived physical exertion during work (0.77 points on the 10-point Borg CR10 scale) – the effect was greater than recorded in the home group ($p < 0.01$). A small reduction in perceived physical exertion in the home-exercise group was not statistically significant. Adherence to the five sessions was 45% in the workplace group and 21% in the home group, which may have explained the superior results in the former.

- *Scandinavian Journal of Public Health 2015; online first: doi: 10.1177/1403494815590936*
- <http://sjp.sagepub.com/content/early/2015/07/08/1403494815590936.abstract>

Predicting return to work in upper-limb cases

The disabilities of the arm, shoulder and hand (DASH) questionnaire is a 30-item self-reported screening tool that assesses symptom severity, functional status and disability of the upper limbs. In a study of workers referred to an occupational medicine department with an upper-limb disorder (ULD), the DASH questionnaire was the only tool able to predict which workers would return to work (RTW), and which would not. Fifty-six employees with a ULD were examined by an occupational therapist. Functional testing included grip and pinch strength tests, hand performance using the Functional Dexterity Test (FDT), and the DASH questionnaire. Whether or not workers returned to work was assessed one to four years after the assessment. In total, 42% of the employees returned, while 58% did not. There were no differences in age, gender, smoking habits or education level between those who did or did not return. Importantly, there were also no significant differences in any of the functional variables (grip and pinch strength, FDT scores), job requirements and vocational RTW predictors (eg physical work intensity, working hours, seniority). The only significant difference was in the DASH score, which was significantly higher (56 out of 100) in the did-not-return group compared with those who did come back (27 out of 100; $p < 0.001$). The DASH score was also a significant independent predictor of return to work (OR = 0.915; 0.84–0.99, $p < 0.05$) in a multivariate regression analysis.

- *Occupational Medicine 2015; online first: doi:10.1093/occmed/kqv100*
- <http://occmed.oxfordjournals.org/content/early/2015/07/19/occmed.kqv100.abstract>

Firefighters' cancer risk

A large case–control study in California identified that firefighters have a raised risk of being diagnosed with 14 different cancers compared with non-firefighters, with ethnicity having a significant effect. Researchers examined data from more than 678,000 individuals with cancer on the California Cancer Registry, including 3,996 male firefighters. Significantly raised risks across all racial groups included: melanoma (OR = 1.8; CI 1.4–2.1), multiple myeloma (OR 1.4; CI 1.0–1.8), acute myeloid leukaemia (OR 1.4; CI 1.0–2.0), and cancers of the oesophagus (OR 1.6; CI 1.2–2.1), prostate (OR 1.5; CI 1.3–1.7), brain (OR 1.5; CI 1.2–2.0), and kidney (OR 1.3; CI 1.0–1.6). An apparent raised risk for mesothelioma (OR = 1.4) was not statistically significant (CI 0.89–2.2) but it should be noted that the likelihood of encountering asbestos in buildings in the US might be different from that in the UK. The study found elevated risks to 12 cancers among other races, compared with just six cancers among white firefighters – the reasons for this are unclear.

- *American Journal of Industrial Medicine* 2015; 58: 715–729. doi: 10.1002/ajim.22466
- <http://onlinelibrary.wiley.com/doi/10.1002/ajim.22466/abstract>