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<sup>†</sup>This review is the abstract of a Cochrane Review previously published in the *Cochrane Database of Systematic Reviews*, 2015, Issue 4. Art. No.: CD002892, doi: 10.1002/14651858.CD002892.pub5 (see [www.cochranelibrary.com](http://www.cochranelibrary.com) for information). Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and the *Cochrane Database of Systematic Reviews* should be consulted for the most recent version of the review.

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See commentary in this issue.

**Preventing occupational stress in healthcare workers: a Cochrane Review<sup>†</sup>**

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**Background**

Healthcare workers can suffer from occupational stress as a result of lack of skills, organisational factors, and low social support at work. This may lead to distress, burnout and psychosomatic problems, and deterioration in quality of life and service provision.

**Objectives**

To evaluate the effectiveness of work- and person-directed interventions compared to no intervention or alternative interventions in preventing stress at work in healthcare workers.

**Search methods**

We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, PsycINFO, CINAHL, NIOSHTIC-2 and Web of Science up to November 2013.

**Selection criteria**

Randomised controlled trials (RCTs) of interventions aimed at preventing psychological stress in healthcare workers. For organisational interventions, interrupted time-series and controlled before-and-after (CBA) studies were also eligible.

**Data collection and analysis**

Two review authors independently extracted data and assessed trial quality. We used Standardised Mean Differences (SMDs) where authors of trials used different scales to measure stress or burnout. We combined studies that were similar in meta-analyses. We used the GRADE system to rate the quality of the evidence.

**Main results**

In this update, we added 39 studies, making a total of 58 studies (54 RCTs and four CBA studies), with 7188 participants. We categorised interventions as cognitive-behavioural training (CBT) ( $n=14$ ), mental and physical relaxation ( $n=21$ ), combined CBT and relaxation ( $n=6$ ) and organisational interventions ( $n=20$ ). Follow-up was less than one month in 24 studies, one to six in 22 studies and more than six months in 12 studies. We categorised outcomes as stress, anxiety or general health.

There was low-quality evidence that CBT with or without relaxation was no more effective in reducing stress symptoms than no intervention at one month follow-up in six studies (SMD  $-0.27$  (95% Confidence Interval (CI)  $-0.66$  to  $0.13$ ; 332 participants). But at one to six months follow-up in seven studies (SMD  $-0.38$ , 95% CI  $-0.59$  to  $-0.16$ ; 549 participants, 13%

relative risk reduction), and at more than six months follow-up in two studies (SMD  $-1.04$ , 95% CI  $-1.37$  to  $-0.70$ ; 157 participants) CBT with or without relaxation reduced stress more than no intervention.

CBT interventions did not lead to a considerably greater effect than an alternative intervention, in three studies.

Physical relaxation (e.g. massage) was more effective in reducing stress than no intervention at one month follow-up in four studies (SMD  $-0.48$ , 95% CI  $-0.89$  to  $-0.08$ ; 97 participants) and at one to six months follow-up in six studies (SMD  $-0.47$ ; 95% CI  $-0.70$  to  $-0.24$ ; 316 participants). Two studies did not find a considerable difference in stress between massage and taking extra breaks.

Mental relaxation (e.g. meditation) led to similar stress symptom levels as no intervention at one to six months follow-up in six studies (SMD  $-0.50$ , 95% CI  $-1.15$  to  $0.15$ ; 205 participants) but to less stress in one study at more than six months follow-up. One study showed that mental relaxation reduced stress more effectively than attending a course on theory analysis and another that it was more effective than just relaxing in a chair.

Organisational interventions consisted of changes in working conditions, organising support, changing care, increasing communication skills and changing work schedules. Changing work schedules (from continuous to having weekend breaks and from a four-week to a two-week schedule) reduced stress with SMD  $-0.55$  (95% CI  $-0.84$  to  $-0.25$ ; 2 trials, 180 participants). Other organisational interventions were not more effective than no intervention or an alternative intervention.

We graded the quality of the evidence for all but one comparison as low. For CBT this was due to the possibility of publication bias, and for the other comparisons to a lack of precision and risk of bias. Only for relaxation versus no intervention was the evidence of moderate quality.

**Authors' conclusions**

There is low-quality evidence that CBT and mental and physical relaxation reduce stress more than no intervention but not more than alternative interventions. There is also low-quality evidence that changing work schedules may lead to a reduction of stress. Other organisational interventions have no effect on stress levels. More randomised controlled trials are needed with at least 120 participants that compare the intervention to a placebo-like intervention. Organisational interventions need better focus on reduction of specific stressors.