Organizational interventions for the prevention of workplace stress: Evidence and implications for public health

Review on which this evidence summary is based:

Review Focus

P  Employed adults
I  Organizational-level interventions including: job redesign or restructuring, participation and autonomy, training and education, coworker support groups, physical and environmental characteristics, communication, role issues
C  Other intervention or no intervention
O  Stress, burnout, psychological wellbeing, sickness or absenteeism, and turnover or retention

Review Quality Rating: 9 (strong) Details on the methodological quality are available here.

Considerations for Public Health Practice

Conclusions from Health Evidence

- This is a methodologically strong review based on 6 systematic reviews (including 105 studies) of varying quality: 1 high, 4 moderate and 1 low quality.
- Because of variability of the populations studied, interventions evaluated, and outcomes measured, no firm conclusion can be drawn on which type of interventions or strategies are most effective.

<table>
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<tr>
<th>General Implications</th>
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<tbody>
<tr>
<td>- If workplace stress reduction interventions are implemented, these should be rigorously evaluated.</td>
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<td>- Rigorous research should 1) continue to assess the effectiveness and potential harms of workplace interventions to reduce stress, burnout, absenteeism and turnover, and to improve psychological well-being, and 2) determine which strategies are effective for which populations, and which components of interventions ensure or increase likelihood of success.</td>
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Evidence and Implications

<table>
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<th>What’s the evidence?</th>
<th>Implications for practice and policy</th>
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<td>Note: Stress prevention interventions were classified using DeFrank and Cooper’s framework (e.g. TRA = training and education). Classification abbreviations are shown below only for the first time each intervention strategy (or combination of strategies) is reported. The review summarized here provides data for effective interventions in high quality studies only.</td>
<td>1. Workplace interventions to reduce stress may be implemented however, given very limited evidence, these should be carefully designed and rigorously evaluated</td>
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</table>
1. Interventions aimed at reducing stress (2 SR, 11 interventions assessed in 37 included studies).
   Two interventions were effective:
   1.1 Training and Education with theory, role playing and experiential exchanges (TRA) (1 SR, 1 good quality study) had a moderate to small effect on stress immediately following intervention (MD -0.34, 95% CI -0.62 to -0.06) but no effect at 6 months (MD -0.19, 95% CI -0.49 to 0.11)
   1.2 Action teams with management and employees to improve team communication and cohesiveness, work scheduling, conflict resolution and recognition of good work (PAR/COM/JRD) (1 SR, 1 good quality study) were effective compared to no-intervention controls groups (P = 0.02)
   1.3 No impact for: two job redesign or restructuring interventions (JRD), two co-worker support groups / education and training interventions (CSG/TRA), job redesign or restructuring/training and education (JRD/TRA), training and education (TRA), two co-worker support group interventions (CSG), and participation and autonomy/training and education (PAR/TRA)

2. Interventions aimed at reducing burnout (6 SR, 10 interventions assessed in 105 studies). One intervention in a high quality study was effective:
   2.1 A participatory intervention to identify psychological stressors and solutions (PAR) (1 SR, 1 good quality study) had a large to small effect on work-related burnout compared to control (MD -1.83, 95% CI -3.58 to -0.09); no impact on client-related or personal burnout
   2.2 Inconsistent results were reported for job redesign or restructuring/ co-worker support groups/ communication interventions (JRD/CSG/COM) (4 low quality SR and one study); 3 SR and one study reported no effect and one SR reported a significant improvement on burnout
   2.3 No impact for: job redesign or restructuring/ communication/ co-worker support groups (JRD/COM/CSG), two job redesign or restructuring/ education and training interventions

3. Interventions aimed at improving psychological wellbeing (5 SR, 28 interventions assessed in 95 studies). Four interventions in high quality studies were effective:

2. Workplace interventions to reduce burnout may be implemented however, given very limited evidence, these should be carefully designed and rigorously evaluated

3. Workplace interventions to improve psychological wellbeing may be implemented however, given very limited evidence, these should be carefully designed and rigorously evaluated
### 3.1 A participatory stress reduction committee, more and smaller teams with sub-supervisors, more on-the-job training, and ergonomic improvements (JRD/PAR/PEC) (2 SR, 1 high quality study) significantly improved mean depression scores in the short term (pre 41.1, post 38.6) compared to controls (pre 41.5, post 42.3) (P = 0.025)

### 3.2 Control over production transferred to employee work groups with a steering group of representatives responsible for overseeing change (1 SR, 1 good quality study) significantly improved mental health (P <0.05)

### 3.3 A participative action research intervention (1 SR, 1 good quality study) significantly improved mental health (pre 57.56, 95% CI 54.10 to 60.93, post 52.27, 95% CI 45.96 to 56.93) compared to controls (pre 53.19, 95% CI 49.45 to 56.93, post 58.96, 95% CI 53.99 to 63.93)

### 3.4 Flexible working hours (1 SR, 1 good quality study) significantly improved mental health compared to controls (P <0.05)

### 3.5 No impact for co-worker support groups/ training and education, participation and autonomy/ communication/ role issues (PAR/COM/RIS), job redesign or restructuring, training and education/ co-worker support groups/ participation and autonomy, job redesign or restructuring/role issues, participation and autonomy interventions, participation and autonomy/ training and education, and participation autonomy/ job redesign or restructuring interventions

### 4. Interventions aimed at reducing absence and absenteeism (4 SR, 11 interventions assessed in 76 studies). Three interventions in high quality studies were effective:

#### 4.1 A participatory stress reduction intervention (2 SR, 1 good quality study) significantly reduced absenteeism compared to controls (P <0.05)

#### 4.2 An intervention of more teamwork, more personnel, role clarification, production goals, fewer supervisors, a partial change in shift system, increased feedback and a new vending machine and microwave (JRD/RIS/COM/PEC) (1 SR, 1 good quality study) significantly reduced sick leave (P <0.05)

#### 4.3 A participative action research intervention (1...
SR, 1 good quality study) significantly reduced absenteeism compared to a control group (P < 0.05)

4.4. No impact - of job redesign or restructuring, job redesign or restructuring/ training and education, participation and autonomy/ job redesign or restructuring

5. Workplace interventions aimed at reducing turnover (2 SR, 4 interventions assessed in 39 studies.
5.1. No impact - Change to a primary care nursing model with support from managers, advice on core skills and promotion of effective interprofessional communication

5. Workplaces interventions aimed at reducing turnover may be implemented however, given very limited evidence, these should be carefully designed and rigorously evaluated

Legend: P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk
* *For definitions see the healthevidence.org glossary at http://www.healthevidence.org/glossary.aspx

Why this issue is of interest to public health in Canada:
The Canadian Centre for Occupational Health and Safety defines workplace stress as “the harmful physical and emotional responses that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands.”1 In the 2010 General Social Survey, nearly 1 in 4 Canadian workers described their daily lives as highly stressful.2 Stress can lead to the development of chronic conditions, and studies have shown that workers in high-strain jobs have higher rates of disease than workers in low-strain jobs.3 A high level of workplace stress is a challenge for employers, as it results in a loss of productivity through absenteeism, reduced work output, and increased disability claims.2 Mental health problems are a significant cost, estimated at $20 billion annually, and they account for more than 3 in 4 short-term disability claims in Canada.2


Other quality reviews on this topic are available on www.healthevidence.org.

Suggested citation:

This evidence summary was written to condense the work of the authors of the review referenced on page one. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

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