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## **School-based interventions for depression and anxiety in children and adolescents**

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By the age of 18 up to 20% of children will have suffered with an emotional disorder of anxiety or depression.<sup>1</sup> Anxiety and depressive disorders frequently co-occur, are persistent and adversely impact upon everyday functioning, academic achievement, peer and family relationships.<sup>2</sup> They are associated with significant morbidity both during childhood and early adulthood and are leading causes of health related burden.<sup>1,3</sup>

Empirically supported psychological treatments for anxiety and depression have been developed although the availability of these within clinical services is limited. Of those who receive evidence based treatments the effects are often modest. Approximately half show a clinically meaningful improvement with relapse, particularly for depression, being common.<sup>4,5</sup> However comparatively few children with emotional disorders are ever identified and referred for treatment with the majority having no contact with mental health services.<sup>6</sup>

### **Prevention**

The limited availability, reach and effectiveness of psychological treatments have led to interest in preventive and early intervention approaches. These approaches aim to develop emotional resilience and are typically conceptualised as universal, selective or indicated reflecting the population upon which they are targeted.<sup>7</sup> Universal programmes are provided to all members of a target population regardless of risk status (e.g. children aged 11) whereas selective interventions are targeted upon groups with an increased risk of developing a disorder (e.g. children of depressed parents). Whilst universal and selective programmes may improve current psychological functioning their primary aim is to reduce the onset of new disorders developing. Indicated programmes are targeted upon those already showing increased signs of emotional problems (i.e. sub-diagnostic threshold) with the aim of preventing symptoms from escalating into disorders.

Universal approaches offer the potential for good population coverage, are less stigmatising, can easily be provided and reach large numbers of children. However they typically result in smaller treatment effects and face validity can be an issue when engaging with predominantly “healthy” children. Selective and indicated approaches focus finite resources upon at risk or symptomatic children and typically result in larger treatment effects. However they depend upon the accurate identification of at risk children, practically can be difficult to deliver and have a more limited population impact.

In terms of delivery, schools provide a natural and convenient setting for mental health prevention offering regular contact with the majority of the school aged population. Whilst the primary focus of schools is upon the development of academic skills they are increasingly expected to attend to the emotional health of their students. Anxiety and depression prevention programmes delivered in schools are therefore inherently appealing and have the potential to make a significant impact upon child mental health. This article will review the evidence base of these approaches and in particular will consider their effectiveness when implemented under diverse everyday conditions.

### **Depression Prevention**

A recent Cochrane Review reviewed the outcome of 55 randomised controlled trials of psychological and educational depression prevention programmes involving 14,406 young people aged 5-19.<sup>8</sup> Half of the programmes were targeted interventions. Most included some components of Cognitive Behaviour Therapy (CBT), ranged from 3- 30 sessions of varying length and were delivered by staff external to the school. In terms of content, CBT interventions typically target factors reported to protect against the development of depression such as positive and enabling thinking styles, emotional recognition and regulation, coping and personal effectiveness skills. Compared to no-intervention both universal and targeted depression prevention programmes reduced depressive symptoms at up to 12 month follow-up. Effect sizes were however modest with many studies being small, underpowered and of poor methodological quality.

Comparisons with other active interventions are lacking and the results are often disappointing. For example a review of 17 studies that evaluated the Penn Resilience Programme (PRP) showed that children receiving PRP achieved significant reductions in depressive symptoms compared to those receiving no intervention. However the four studies that compared PRP with an active intervention failed to find any significant effect of the programme.<sup>9</sup>

Many preventive trials are small scale efficacy studies and the ability to transport these and maintain effectiveness under more diverse everyday conditions have only recently been reported. The results of these implementation trials are disappointing and typically fail to find a significant post-intervention effect on depressive symptoms. For example, Stallard et al randomised 5030 children aged 12-16 from 8 UK secondary schools to a CBT programme, attention control and usual care condition.<sup>10</sup> The intervention was based on a CBT programme that had previously been shown to be efficacious with a pilot study confirming feasibility within the UK educational system. Whilst 80% of young people attended 60% or more of sessions and programme fidelity was good there was no difference between treatment arms on symptoms of depression at one year follow-up. The authors note that whilst schools offer a convenient and accessible location their suitability for delivering depression programmes cannot be assumed. Contextual factors such as compatibility with organisational objectives and priorities, perceived relevance, programme flexibility and fit within existing structures are important factors.<sup>11</sup>

### **Anxiety Prevention**

Reviews of school based anxiety prevention programmes have been more encouraging. A systematic review of 27 randomised controlled anxiety prevention trials found that most were universal programmes based on CBT of between 8-10 sessions and were delivered by mental health professionals.<sup>12</sup> Half of the studies provided only post-intervention follow-up data with 10% reporting a follow-up of two years or more. The authors concluded that universal and indicated approaches were both effective. Although not formally tested, the effects of CBT programs were marginally larger than non-CBT interventions with the median effect size for CBT programs of 0.57 indicating a moderate effect. Only 4 studies included an attention control comparison with effect sizes in these studies tending to be smaller. There was however considerable variation in effect size between studies, suggesting that although the programme content is important, mediating variables such as adherence to program fidelity, leader rapport, levels of participation and audience appeal are also important factors that will influence effectiveness. Indeed if evidence based programmes are delivered poorly they will not be engaging and their effectiveness will be compromised.

Of the anxiety programmes evaluated, the FRIENDS programme is particularly well established and has good evidence of effectiveness.<sup>13</sup> The programme is manualised and can be delivered as a universal or an indicated programme. A range of age-appropriate fun activities including stories,

quizzes, role plays and games, are used to help children learn practical skills to control their anxiety. They are helped to identify and manage their anxious feelings and to identify and replace unhelpful thoughts (anxiety increasing) with more helpful (anxiety reducing) thoughts. Finally, they are helped to face and overcome their problems and challenges rather than avoid them. Additional sessions are available for parents/carers to provide them with an overview of the program, the CBT rationale, and the skills the children learn.

The effectiveness of FRIENDS, particularly in Australia where it was developed, has been documented in a number of studies although other evaluations have failed to find positive effects. For example in an implementation trial in Canada sixty-three school staff were trained to deliver FRIENDS to 533 students aged 10-12 attending 15 schools.<sup>14</sup> Although treatment fidelity was high and children rated their understanding of the programme as good FRIENDS did not have a significant effect on anxiety for either native or aboriginal students at 6 months. In a subsequent study the effectiveness of FRIENDS delivered by teaching staff as a targeted and universal intervention for 9-10 children from 17 and 7 schools respectively was investigated.<sup>15</sup> Anxiety reduced over time irrespective of whether children were in the intervention arm or attended a story telling group. The authors noted a number of problems transporting evidence-based interventions into the school system such as competing work demands for the teaching staff and difficulties scheduling sessions.<sup>14</sup>

## **Conclusions**

A number of studies have demonstrated that anxiety and depression prevention programmes provided as universal or indicated interventions can be effective in the short term when compared to no intervention groups. Few studies have compared the effectiveness of prevention programmes against other active interventions and where they have been reported programme effects are typically non-significant. Long term evaluations are lacking with most studies assessing symptom reduction and are therefore more accurately conceptualised as early intervention rather than primary prevention programmes designed to reduce the incidence of new cases.

The variability in treatment effects between studies, including those using the same programmes, suggest that factors other than the specific programme content are important. The role of factors that moderate treatment effects such as child gender, age, ethnicity and symptom severity or factors which mediate them e.g. leader training and supervision, student engagement and leader

delivery skills should be investigated. A further factor which is emerging as important in implementation studies is the compatibility of prevention programmes with the school culture and competing priorities. How they practically fit within a complex and full timetable have been identified as major obstacles that can impede effective delivery.<sup>10, 11, 14, 16</sup>

In order to have a significant public health benefit evidence based prevention programmes need to be effective when delivered under diverse conditions in everyday settings. The results of recent large, methodologically robust trials have not been positive and suggest that the positive gains identified in more narrowly controlled trials are not evident when transported to everyday settings. At this point in time the evidence suggests that the use of anxiety and depression prevention programmes in schools should be undertaken cautiously. Further robust evaluations with other active interventions and including an economic evaluation of possible cost-benefits are required before the widespread use of school based anxiety and depression programmes can be advocated.

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