



# Meta-analysis of secondary anxiety prevention

By Pete Lawrence

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Anxiety disorders are amongst the most common mental health problems, with long-term negative associations such as prediction of school drop-out and later mental health problems. We made the case for anxiety prevention programmes on four bases: while effective interventions for anxiety disorders in children have been developed,

- i. there are significant barriers to access to interventions such that only a minority receive them;
- ii. they are ineffective for a large minority;
- iii. during the development of anxiety disorders, because patterns of behaviour and responding associated with anxiety are yet to crystallize in the child's system, these might be relatively easier to modify and;
- iv. the burdens on families and services associated with anxiety disorders could be reduced.

Our review focused exclusively on secondary prevention programmes, in particular, those targeted anxiety prevention programmes (TAPPS) for children and

adolescents who were individually identified as being at risk of developing anxiety disorders. This was distinct to previous reviews which had addressed programmes at all 'levels' of anxiety prevention programmes, including primary anxiety prevention programmes, i.e., programmes offered to all children, irrespective of whether children were at risk of experiencing anxiety disorders.

## Our research questions were:

"1. Is targeted prevention associated with a reduction in a) the onset of anxiety disorders in at-risk youth; (b) anxiety symptom severity in at-risk youth; and 2. are the effects of targeted prevention moderated by child age, gender, type and format of intervention, who delivered and participated in the intervention, and the type of risk?"

We registered our review protocol on the International prospective register of systematic reviews (PROSPERO), and found 16 trials of prevention for 2545 children and young people who were individually identified as at risk of developing anxiety disorders.

A striking feature of our results was that only two trials had assessed whether the children in their studies met criteria for an anxiety disorder. Both of these identified children as at-risk in light of parent anxiety disorder and compared prevention (six sessions of family based cognitive behaviour therapy targeting parenting behaviours and children's exposure to anxiety provoking situations to an inactive, wait-list control condition. We found that these programmes did effectively lower the rates of onset of anxiety disorders, with a reduction in risk of 91% at the end of the programme, 83% at 6 months follow-up, and 69% at 12 months follow-up (no further follow ups were reported).

We were able to compare trials that had evaluated the effect of targeted anxiety prevention programmes (TAPPs) on children's anxiety symptoms, to active control conditions (e.g. attention bias modification) and to inactive control conditions (typically wait-lists).

Five trials compared TAPPs to active control conditions; with a small and non-significant pooled effect on children's self-reported anxiety symptoms (a standardized mean difference, or SMD, of  $-.09$ , with a 95% Confidence Interval, or CI, of  $-.28$  to  $.10$ ; meaning that the true effect would rest between these values on 95% of occasions if the studies were re-run).

When TAPPs were compared to inactive control conditions; 10 TAPPs had a pooled small to moderate effect at the end of the programmes by child report (SMD =  $-0.43$ , 95% CI =  $-0.73$  to  $-0.12$ ); four studies reported 6 month follow-up data, with a similar effect size (SMD =  $-.46$ , 95% CI =  $-.62$  to  $-.30$ ); while only three studies reported follow-up data from 12 to 24 months, with a smaller effect, and large CI, nearly crossing the boundary to statistical non-significance (SMD =  $-.32$ , 95% CI =  $-.63$  to  $-.01$ ).

We were able to analyse parents' reports of children's anxiety symptoms only from five trials that used an inactive control. At the end of these TAPPs, there was a small effect on anxiety symptoms (SMD =  $-.40$ , 95% CI =  $-.63$  to  $-.17$ ); no significant effect at six months (SMD =  $-.45$ , 95% CI =  $-1.05$  to  $0.15$ ), and at 12-month follow-up, a small and significant effect (SMD =  $-.45$ , 95% CI =  $-.75$  to  $-.15$ ).

We found no evidence that the effects of TAPPs, on child anxiety outcomes, were moderated by any of the factors we examined.

### Conceptual highlights:

First, **regarding identification of children at risk**; while some trials used child factors (such as anxiety sensitivity) or family factors (such as parent anxiety disorders), no trial identified children on the basis of their socio-economic status. Also, only a single study identified individual children on the basis of more than a single risk factor.



This is important to highlight because there is evidence to suggest that facing more than a single risk factor, has a multiplicative effect on risk of adverse internalizing outcomes.

Second, **regarding modifying risk factors**; most TAPPs did not focus on established risk factors (such as parent child interactions), but focused on modifying factors implicated in maintaining anxiety disorders (such as children's thinking styles) or promoting general resilience (such as relaxation skills). While Ginsburg's 'Coping and Promoting Strength' programme did explicitly address risk factors for anxiety, this was an exception.

Third, **regarding the methods of studies we reviewed**; it is possible that many of the TAPPs we examined included children who, at baseline, would have met criteria for anxiety disorders, had these been assessed. Also, only five studies included an active control group. So, we do not know whether children benefited from participating in a TAPP (rather than being on a waiting list) or participating in a particular TAPP (rather than a programme not focused on anxiety).

Finally, **looking forward**, we urge that TAPPs identify children on the basis of at least two risk factors, that they assess for anxiety disorders pre- and post-TAPP, and that the programmes address the modifiable factors that place children at risk. Further, the optimal timing and features of TAPPs need to be informed by both research evidence and by what families themselves would engage with and want.

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