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▶ Universal multi-component prevention programs for alcohol misuse in young people.

Foxcroft D.R., Tsertsvadze A.
Cochrane Database of Systematic Reviews: 2011, 9, Art. No. CD009307.

In theory implementing alcohol use prevention tactics in a coordinated manner on several fronts at once – school, family and perhaps too the broader community – ought to maximise impacts, but this authoritative review found only patchy support for applying such programmes across the board to all school-age children.

Summary The featured review conducted for the Cochrane collaboration analysed trials which randomly allocated participants to 'multi-component' programmes which operate simultaneously in several settings (such as school lessons plus parenting support) to prevent alcohol misuse in schoolchildren aged up to 18, versus other types of interventions or no intervention. It was concerned with 'universal' programmes – those aimed at large groups such as an entire age range, whether or not they are known to be specially prone to substance use or problems.

The typical combination supplements school lessons with a family-based intervention; often also included are community involvement mechanisms and media promotions and campaigns. In school settings, prevention programmes typically aim to foster decision-making skills, either through raising awareness of substance-related harms, or through skill-based curricula which help young people understand and develop skills to resist social influences, such as peer pressure. In family settings, universal prevention typically entails developing parenting skills including providing support, nurturing, establishing clear boundaries or rules, and monitoring children's activities.

A previous review also conducted for the Cochrane collaboration had included relevant studies published up to 2002. Searches were conducted to identify further studies up to 2010. No language restrictions were applied. Nor did the results have to have been published in peer-reviewed journals, though in fact all were. Twenty trials (all but three from the USA) were found involving 57,545 participants. None were from the UK. Average ages of the children at the starts of the trials ranged from 7 to 15.

Most trialled interventions aimed to raise the awareness of parents and children of issues such as the risks of substance use, and to promote social, behavioural and psychological changes in the children which would make substance use problems less likely. Among these were correcting the children's overestimation of how 'normal' and accepted substance use is among their peers, boosting self-esteem, training in ways to resist other children's pressure to use drugs, and improving ability to solve problems and take decisions. Other features involved helping parents set rules and monitor and supervise their children, improving communication between parents and children, enhancing the quality of time spent together and attachment between family members, and reducing conflict.

To the extent that drinking and alcohol misuse are delayed, economic models calculate that some of the related long-term medical consequences of drinking too will be averted. This means that interventions which delay or curb drinking for several years are of more interest than those with short-term but no (or no evidence of) more persistent impacts. It was also intended to assess whether impacts differed for boys versus girls, children of different ages, those identified with different ethnic categories, or who at the start of the trial were drinking or not or drinking at different levels. In practice such analyses were not possible.

Main findings

Seven of the 20 trials found no statistically significant differences between children allocated to multi-component programmes versus comparison children on alcohol use measures taken over follow-ups ranging up to six years. However, 12 did find statistically significant reductions in drinking among children allocated to multi-component programmes. In these studies follow-up periods ranged up to 11 years, but the duration of significant impacts only up to three years. Several findings of statistical significance might not have survived had the trials deployed more sophisticated and/or appropriate statistical methods.

Differences between the studies (in their interventions, subjects, and outcome measures) were such that it was not appropriate to pool their results. Instead these were described and salient features highlighted. Conclusions from this account are presented below.

The authors' conclusions

The reviewed studies suggest that some universal multi-component programmes can be modestly (but across a population, usefully according to economic models) effective and could be considered as policy and practice options. However, effect sizes and durations varied in ways which may depend on the content of the intervention and the context within which it is implemented, all but one of the trials were conducted in western developed nations, all but three in the United States, and methodological and reporting weaknesses make it difficult to absolutely rule out bias in the results of the individual trials and therefore in the findings of this review. While multi-component interventions may generally be more effective than no intervention, there is no clear evidence that they are more effective than single-component interventions.

It could be that most of the positive studies and those recording no positive impacts reflect the underlying reality that universal multi-component alcohol prevention

programmes do not work, and that positive findings are due to chance variation around an overall zero impact. This is however unlikely given the preponderance of positive impacts and the sample sizes of the studies. More likely is that some (but not all) such programmes are effective in particular settings for reducing alcohol misuse among young people; why some have worked and others not is unclear.

However, the worth of these programmes does not rely solely on their impacts on drinking. Rather, they are intended to impact on a range of health and lifestyle behaviours among young people such as other substance use and antisocial behaviour.

FINDINGS The cautious conclusions of this review – admitting the (though it was said, unlikely) possibility that the reviewed interventions are in fact ineffective – are warranted by patchy evidence of effectiveness, the fact that nearly half the trials were judged as vulnerable to bias, and the modesty of the observed impacts.

Given patchy outcomes and the great differences in the contexts and content of the interventions commented on by the featured review, there seems a clear need for a forensic examination of what might have led some programmes to work and others not. This was not attempted by the featured review on the basis that the published accounts did not give sufficient detail of what the interventions consisted of. Unfortunately this leaves practitioners in the dark about whether any of the approaches might work in their particular circumstances.

Do extra components add extra value?

The studies in the featured review generally pitted multi-component interventions against no programme at all or a minimal one such as mailed advice leaflets. As might be expected among participants apparently willing to engage in these interventions, actually offering them has more impact than perhaps disappointingly offering (virtually) nothing. Arguably the more meaningful question is whether with a limited prevention budget it is cost-effective to reinforce core components (generally school-based drug education) with family, community and media elements, or whether the desired outcomes are achieved just as well by core elements alone. On this issue the evidence is thin and not on balance in favour of extra components, and therefore not in favour of multi-component programmes as opposed to single component. Details below.

The featured review's judgement that there was no clear evidence that multi-component interventions are more effective than single-component interventions rested on the seven relevant studies. All tried adding family/ parental elements and sometimes too other components to direct intervention with the young people, the latter usually in the form of school lessons. In three there was no added impact. In another three there was, but two of these studies lacked a no-intervention group against which to assess whether *any* of the intervention combinations were more effective than usual practice. On examination, just one of these studies is at all persuasive of the added value of components beyond direct work with young people.

The most convincing of the three positive studies was a Dutch trial which found that while each on their own did not improve on usual education, adding parenting components to a special classroom alcohol curriculum did substantially retard drinking among the 12–13-year-olds pupils. In this case the parenting element was built in to the schools' routine parent engagement programme, consisting of a brief presentation from an alcohol expert at the first parents' meeting at the start of each school year. It covered the adverse effects of youth drinking and the negative effects of permissive parental attitudes towards children's alcohol use, and was followed by collective or individual setting of rules on youth drinking by the parents.

In another study the extra affects on drinking of adding mailed cards to parents to reinforce brief advice from a nurse to their children was confined to the small minority of the average 13-year-old participants drinking at the start of the study and to one of the six alcohol use outcomes − results which given the number of outcomes tested might have been a chance occurrence. Across the board, the greatest improvement in risk and protective factors related to drinking was actually seen in children allocated to the least intensive intervention focused on physical activity without any parental components.

The third study to find additional effects of parental components may not have trialled a universal intervention at all, because families were approached by local facilitators who used undocumented selection criteria and the families had to agree to participate. The fact that all the enlisted families (all black) engaged in the home-based family component − a video and role-play on monitoring children's activities and communicating about these between parent and child − suggests that considerable selection did take place. Without this component, after an eight-session group programme for the children (aged 13−16) the proportion drinking in the past six months increased at both six- and 12-month follow-ups to 31%. But among the families also offered the family component this increase was reversed, resulting at 12 months in just 22% having drunk. Whether this represents a true lasting impact of offering the family component seems questionable because at 12 months it was the only one of 13 outcomes which using suitable criteria and methods would have proved statistically significant, a finding which might have happened by chance.

Among the studies which found that parental/family components had no impact, the most surprising and disappointing failure was the lack of any persisting impact from adding probably the best established and most promising substance use prevention family programme − the Strengthening Families Programme − to a well structured and extensive school drug education curriculum. Despite earlier findings from the same study, in this US trial there was no real hint that adding this improved the substance use outcomes reported by the study, though there may have been other benefits. Perhaps relevant is that only a quarter of the families allocated to these attended any of the family sessions, a programme which demanded the relatively heavy commitment of seven two-hour evening plus four booster sessions.

Not included in the featured review was a seven-nation European trial which also found no extra benefits of adding parent workshops to school drug education; few parents attended, and an important element − role-play − was generally omitted.

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