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▶ Effectiveness of motivational interviewing interventions for adolescent substance use behavior change: a meta-analytic review.

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Jensen C.D., Cushing C.C., Aylward B.S. et al.
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Not just for adults, but teenagers and young adults too, with this analysis motivational interviewing seems confirmed as the leading evidence-based approach to reducing possibly or actually risky substance use among non-clinical populations not seeking treatment.

Summary Evidence for the effectiveness of motivational interviewing to modify health-related behaviour in adults is strong, but evidence in respect of adolescents is just emerging. For the first time, this meta-analysis aimed to summarise information and synthesise data from studies of motivational interviewing interventions intended to promote changes in the substance use of teenagers and young adults.

The analysts searched for peer-reviewed, English language articles from studies which compared post-treatment outcomes from interventions described as motivational interviewing against those from control conditions such as assessment only or an intervention not intended or expected to affect substance use. The people involved had to be (with minor exceptions) aged 21 or less, though their parents might also be involved in the intervention. With relatively few studies, the analytic method did not assume that the impact of these motivational interventions varied only by chance around one 'true' underlying figure, but that differences between the studies might have led to real differences in the impacts of the interventions.

In all 21 studies were discovered. Most documented changes in cannabis and alcohol use, a third smoking, while lesser proportions reported on other drugs. All but four studies recruited samples who were not attending treatment centres but might for example have been identified as substance users in emergency departments or doctors' surgeries, or responded to requests for substance users to join a study. In line with this sampling, 13

of the 21 studies tested brief interventions consisting of just one session of motivational interviewing, and in 17 the motivational intervention was the sole 'treatment'. Additional to or instead of measuring change shortly after the interventions ended, seven studies conducted follow-up assessments over six months later and another four within the next six months.

Main findings

Measured as effect sizes, the degree to which the interventions affected substance use varied, but not so much that the studies had to be treated as so different that their results could not be pooled. Though in their own rights only three studies contributed statistically significant results, pooled across all 21, motivational interventions led to a small but statistically significant reduction in substance use amounting to an effect size of about 0.17.

Though still statistically significant, the impact waned when assessed over six months later (effect size of 0.13) compared to assessments less than six months later (effect size of 0.32). When (as it was in five studies) smoking was the sole target, at an effect size of 0.31 the impact was twice as large as the impact on other forms of substance use.

The authors' conclusions

The results of this synthesis of data from studies of young people are consistent with those found among adults. Pooled across all relevant studies, interventions for youth substance use based on motivational interviewing have resulted in small but statistically significant reductions in the use of substances including tobacco, alcohol, cannabis and other illicit drugs, though to a slightly lesser degree when tobacco-only studies were excluded. These results were recorded despite most interventions consisting of just a single session, and most interventionists not having received graduate-level training – features which suggest that motivational interviewing may be a particularly cost-effective approach for non-treatment samples of young substance users. Though impacts waned, they remained statistically significant over six months later, showing that just one or a few sessions can produce sustained substance use reductions.

It should be stressed that these results derived mainly from non-treatment populations and cannot be assumed to apply to young people diagnosed with substance use disorders, who might need more extended and possibly more robust interventions. Moreover, only five of the 21 studies systematically assessed whether the interventions really conformed to the principles of motivational interviewing, and no attempt was made to judge whether any of the studies might have produced biased results. This corpus of studies also offers no clear indication of the degree to which parents should be involved in such interventions.

Nevertheless, the results suggest that motivational interviewing does promote positive change in youth substance use, and that clinicians should consider using this approach as at least as one component of their interventions.

FINDINGS With this analysis motivational interviewing seems confirmed as the leading evidence-based approach to reducing possibly or actually risky substance use among non-clinical populations not seeking treatment not just among adults, but teenagers and young adults too. This status partly reflects the relatively intense research effort devoted

to the approach, which in turn is a testament to its widespread applicability from possibly risky substance users not seeking help to dependent users attending treatment, and as a standalone treatment, an adjunct to the main treatment, or as a style pervading all client-clinician encounters.

Broadly speaking, what the featured synthesis showed is that (compared to doing nothing or nothing meant to be effective) one or just a few face-to-face counselling sessions intended to be based on motivational interviewing are followed by reductions in substance use among young people who may have been using these substances inadvisably or excessively, but have not been diagnosed as clinical cases, and whose related problems have not been so troubling or noticeable that they have attracted treatment. As the authors comment, this finding accords with that from a synthesis of studies mainly of adults.

But within each study, the impacts were rarely statistically significant and, particularly when tobacco was not the focus, in aggregate very small. With the fact that the comparators were not intended to be active interventions, this raises doubts over whether the motivational nature of the interventions was the active ingredient or whether any acceptable and feasible intervention would have been as effective − or indeed, whether what we are seeing is the pooling of subtle biases in the studies which tipped findings slightly in favour of motivational interviewing.

One riposte to such doubts is that among people not seeking help, motivational interventions (which do not confront or insist that participants accept a clinical label or a pre-determined outcome) are among the few which *are* acceptable to the participants and feasible − feasible partly because they are acceptable, and partly because they can be quite brief. Another is that we have evidence − from studies of young people among others − that what happens during motivational sessions *does* matter. In particular, from a British study of further education students and others from Switzerland, it seems that it is important to embody the overall spirit of the approach and, in finer detail, to use the skill of reflective listening to 'play back' to the client an elaborated version of their own comments.

The authors' caution that a brief motivational intervention may be inappropriate and/or insufficient as a formal treatment for young people with a diagnosed problem is supported by a review of such studies of young problem drinkers. It tentatively concluded that the most promising approaches were cognitive-behavioural therapy, family therapy and community reinforcement − the latter two engaging the young person's parents and 'significant others' in the process. These suggestions accord with those made by a review conducted for Britain's National Institute for Health and Clinical Excellence (NICE). In respect of interventions for children and young people who misuse alcohol, it recommended offering individual cognitive-behavioural therapy for those with limited comorbidities and good social support, and multi-component programmes engaging families and the wider social circle for those with significant multiple problems and/or limited social support. Multidimensional Family Therapy in particular has a good research record, but one mainly due to studies conducted by its developers.

Thanks for their comments on this entry in draft to Ric Steele of the University of Kansas in the USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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