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▶ [Multidimensional family therapy lowers the rate of cannabis dependence in adolescents: A randomised controlled trial in Western European outpatient settings.](#)



Rigter H., Henderson C.E., Pelc I. et al.

Drug and Alcohol Dependence: 2013, 130(1–3), p. 85–93.

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Multi-national European trial partially confirms US findings from research led by the programme's developers that a family therapy which intervenes across a child's social environment is more effective than alternatives for problem substance using teenagers.

SUMMARY In 2003, government health department representatives from Belgium, France, Germany, The Netherlands and Switzerland agreed to prioritise joint research on a treatment programme for adolescent cannabis use disorders. Based on a review of research, multidimensional family therapy was selected for [the study](#).

[Multidimensional family therapy](#) addresses problem drug use and related problems among adolescents not through a set regimen, but by applying principles and a therapeutic framework to the individual seen as situated within a particular set of environmental influences and constraints. What distinguishes it from some other family therapies is that the intervention [extends beyond](#) the child and family to all the social systems (school, juvenile justice, etc) in which the child may be involved.

US studies involving young cannabis users have shown promising results, but it was not known whether these results would be replicated in Europe in diverse treatment settings and with different samples of adolescents. To answer this question, the featured study assessed the effectiveness of multidimensional family therapy among adolescent cannabis users in Belgium, France, Germany, The Netherlands and Switzerland, comparing it against the individual psychotherapies which constituted the usual treatments at the clinics which hosted the study.

Between 2006 and 2009 the study recruited 450 children aged from 13 to 18 diagnosed as having exhibited cannabis abuse or dependence during the past year, and with a parent figure who agreed to participate in treatment and in study assessments. The children were among the intake at one or two youth-oriented addiction and mental health treatment centres [nominated](#) by government representatives in each of the countries.

Participants averaged about 16 years of age and 85% were boys. According to their own accounts, on average they had used cannabis on about two-thirds of the past 90 days. Apart from alcohol (four in ten had an alcohol use disorder), problem use of other substances was rare. Parents were divorced or separated in 56% of cases and one in three adolescents had been arrested in the past three months.

Within each clinic patients were allocated at random to multidimensional family therapy or the clinic's usual treatment, each planned to last about six months and delivered by clinic therapists (different therapists for each treatment) on an outpatient basis. Multidimensional family therapy was the more intensive option, scheduled to occupy two one-hour sessions a week with the adolescent, parent(s) and/or family. It was delivered by therapists who followed a [manual](#) by the approach's developers and who [had been intensively trained](#) and continued to be trained and clinically supervised by the developers' unit throughout the trial, partly to promote adherence to the intended approach. Therapy teams contacted the trainers twice-monthly for supervision, feedback and consultation, and trainers visited the sites to supervise therapy sessions 'live' to improve practice.

Comparison treatments typically featured cognitive-behavioural elements and a motivational interviewing style. Monthly sessions were also scheduled for the parents to provide information and support, but to maintain the distinction from the family therapy, therapists were not to intervene in family dynamics or parenting.

An attempt was made to reassess patients to track their progress, the final assessment being 12 months after the baseline assessment conducted just before patients were allocated to the treatments. At the final follow-up, 89% of patients were reassessed.

One of the strengths of the study was that unlike most of the US studies of multidimensional family



Key points

Multidimensional family therapy is one of a family of approaches which intervene not just with the individual young problem substance user but with their family and other important influences in their lives.

US research led by the programme's developers has found this approach more effective than alternatives or usual treatment or criminal justice procedures.

The featured study offers a test of the approach on a non-US caseload and in a trial led by independent researchers not involved in the programme's development.

Dependence remitted more when teenage problem cannabis users were allocated to multidimensional family therapy rather than usual treatments at clinics in five European countries, and the more frequent users cut down more.

The approach seems particularly beneficial for high severity young cannabis users but extra cost and the relative scarcity of qualified practitioners are obstacles to implementation.

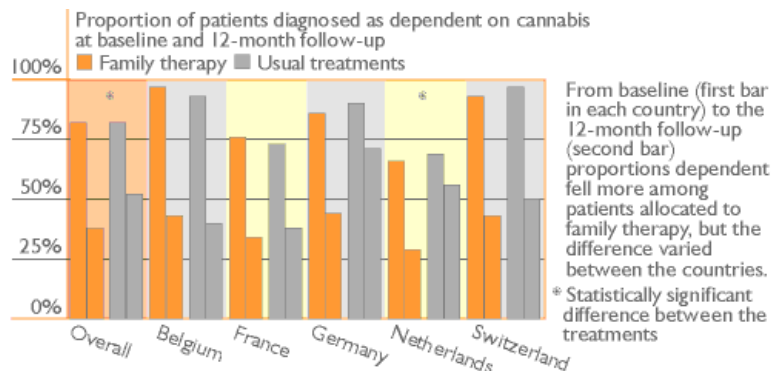
One of the strengths of the study was that unlike most of the US studies of multidimensional family therapy, the developers of the approach were not involved in evaluating its effectiveness, though they did help devise the study and train the therapists and remained in regular contact to help supervise implementation of the therapy.

The study was intended mainly as a transnational European test of the programme, but also as a test in each individual nation, though in two (Belgium and Switzerland) funding restrictions meant that participants would be too few to adequately test effectiveness.

Main findings

Multidimensional family therapy was far better attended. According to the therapists, 9 in 10 families/children completed this treatment compared to half allocated to usual treatments, and overall many more therapy hours were devoted to the family option. In particular, more hours were spent seeing the focal patient on their own, but these differences were not as great, and Germany was an exception; there the adolescent spent more one-to-one time with treatment-as-usual therapists than with the family therapists. As expected, time with the family and time spent interacting with other figures in the child's life were much greater in the family therapy.

Continued cannabis use was the norm – in both treatments, at 12 months still over 70% of patients were diagnosed as abusing or dependent on cannabis – but the general picture was of improvements between the 90 days before starting treatment and the 90 days before the final 12-month assessment, improvements which on several measures were significantly greater for patients allocated to multidimensional family therapy.



Compared to usual-therapy patients, at the 12-month assessment significantly fewer family-therapy patients (38% v. 52%) were diagnosed as dependent, an overall effect which within each country was statistically significant only in The Netherlands, and virtually absent in Belgium and Switzerland. Across the countries the average severity of cannabis use/problems measured as a count of symptoms of dependence also fell significantly more steeply among patients allocated to multidimensional family therapy, from about 4 out of 7 symptoms to 2.4 versus 3. Within each country this was found too in Germany, but was not statistically significant in the other countries.

Overall there was no statistically significant effect on the number of days on which the children had used cannabis. This figure fell from 61 days out of 90 to 34 with multidimensional family therapy and 42 with cognitive-behavioural therapy, a gap favouring the family therapy but one just missing the conventional cut-off for declaring it statistically significant rather than possibly due to chance. The extra reduction after family therapy was virtually absent in France and Switzerland. Despite this overall result, the half of the children using cannabis on most days before the start of the trial did reduce use significantly more steeply when allocated to multidimensional family therapy. From averaging over 80 days out of 90, use fell to just under 40 days after family therapy but about 50 after usual treatment, an effect appreciable in all the countries except France. In contrast, the half of the children using cannabis least often (average under 40 days out of 90) before the start of the trial ended up 12 months later on average using nearly as often, regardless of their allocated treatment.

The researchers reanalysed their results to take account of the fact that multidimensional family therapy occupied more treatment hours, an attempt to statistically even out duration of and retention in treatment to leave only differences due to the type of treatment. The extra reduction after family therapy in symptoms of dependence remained statistically significant. All other previously significant effects were no longer significant, though the extra reduction in the proportion of patients dependent on cannabis remained appreciable. Also accounted for were the various routes by which children reached treatment (eg, referral by family and friends, self-referral, via professional agencies, or by justice-related authorities) but these did not affect the results.

The authors' conclusions

In these European contexts, multidimensional family therapy retained patients in treatment better than usual treatments, led to extra reductions in the prevalence and severity of cannabis dependence, and to extra reductions in days of use among the children using most often. Most youngsters continued to use cannabis, but both therapies aimed primarily to reduce problems related to cannabis use rather than to secure abstinence. Generally these advantages of the family therapy were apparent in each individual country.

However, multidimensional family therapy is labour intensive. For financial reasons, this therapy may not be indicated for all adolescents with cannabis use disorder. When the disorder is mild, less intensive interventions of the kind against which the therapy was compared in this trial may be appropriate alternatives. But when cannabis use is heavy and cannabis dependence is severe or (other results from the trial suggest) associated with mental illness or family dysfunction, multidimensional family therapy would appear to be the treatment of choice.

Despite considerable strengths, the study has some limitations. Without a no-treatment control group, it cannot be said for certain that the treatments caused the observed improvements, though denying treatment would have been unethical and also impractical in terms of recruiting families to the trial. Also, multidimensional family therapy therapists were specially trained and supervised, extra supports which may have affected outcomes. Multidimensional family therapy was not only scheduled for more hours but also retained patients better, meaning that treatment 'dose' was higher than in the treatment-as-usual options. The analysis suggested that this extra time was influential, but even after it was accounted for, the family option led to greater reductions in the number of symptoms of dependence.

FINDINGS COMMENTARY This well designed study has considerable clinical relevance since participants were seeking treatment in the normal way, were not sifted to **exclude** more problematic youngsters as long as they were suitable for outpatient care, few were lost to follow-up, and they were clearly using cannabis excessively as well as having other problems in their lives. This is the kind of caseload one would expect at substance use and mental health treatment services for young people, and the kind seen in the UK, where among under-18s cannabis is now by **far the most common** primary drug in relation to which treatment is provided. The treatments which formed the comparators in the featured study including cognitive-behavioural elements and motivational interviewing are common in Britain. In contrast, family-based therapeutic work is surprisingly rare, given that for example **in England**, over 80% of young patients were living with their families. Based on the evidence, British **practice standards** from the Royal College of Psychiatrists on the care of young people with substance use problems commend family work, but say it is not standard in British services.

The featured study offers some guidance on whether for young, frequent cannabis users, UK services would do better to replace individual therapies with family work in the form of multidimensional family therapy. Though not on the key measure of the intensity of cannabis use, overall the answer is that family therapy did more to help these young patients overcome dependence on cannabis. Among more frequent users of cannabis, the expected effect on intensity of use also emerged **below** for a discussion of this key finding. Together with an impact on the most severe diagnosis of dependence but not on overall diagnoses of cannabis use disorder, these results support multidimensional family therapy for the most problematic youngsters.

The modest advantage gained by the family therapy may prove to be greater if later publications from the study reveal the broader social benefits in family life, education and crime seen in the USA (for example, **1 2**). Already the trial **has reported** that from the young person's point of view (but not that of their parents), the family therapy slightly outperformed treatment-as-usual in reducing delinquency and aggressive behaviour, perhaps heralding greater impacts on crime itself and helping the therapy pay for itself in reduced social costs. However, this one positive finding was accompanied by **five others** in respect of which there was no statistically significant difference. Surprisingly, family conflict and cohesion were not significantly improved relative to the non-family usual treatments.

These findings are particularly important since they derive from a rare test conducted with European caseloads and by a research team independent of the developers of the programme. Independence is important because in several social research areas (**1 2 3**), programme developers and other researchers with an interest in the programme's success have been found to record more positive findings than fully independent researchers.

Not universally effective

Differences between the countries show that positive results relative to usual treatments cannot be guaranteed, but depend on the context. The conclusion reached by the **Dutch arm** of the study was that individually-focused cognitive-behavioural therapy was overall just as effective as multidimensional family therapy, a result possibly partly due to a less multiply problematic caseload. Of the three countries where participant numbers were highest and statistically significant results had the greatest chance to emerge, out of 12 possibilities there were three such results, each for a different country.

Greater efficacy of multidimensional family therapy as a specific approach might account for the findings, but there are other possible explanations. Perhaps any credible, well structured, systematically quality-controlled therapy, delivered by thoroughly trained and well supervised therapists, would have delivered better results than the less structured usual treatments at the clinics. **Possibly** too, therapists allocated to carry on as usual were demoralised by not being trained in this new, promising approach; almost all applied to be trained when the trial had finished. To maintain the distinction between the treatments, usual-treatment therapists were also constrained in the work they could do with the families. Finally, the extra time the youngsters and their families spent with the therapists may have been influential, though some of these extra hours can be credited to the greater holding power of multidimensional family therapy.

Related research

Promising as US studies have been (for example, **1 2**), a **US study** independent of the programme's developers found multidimensional family therapy slightly (but not significantly) *less* effective at promoting recovery from substance use problems than **two other therapies**, and substantially less cost-effective. Like the featured study, the focus was on young problem cannabis users, and cognitive-behavioural therapy featured among the alternatives.

Multidimensional family therapy is one of a similar set of programmes which integrate intervention in to several domains of a child's life. Such approaches *can* improve on typically less well organised and less extensive usual practices (**1 2**), but this is **not always the case**, and among young cannabis users, performance against stronger individual-focused approaches **has been equivalent**. Evaluations conducted independently of programme developers have usually been unconvincing, and results overall have not been as impressive as investment in these programmes might be seen to require, especially if they supplement rather than replace legally or socially required procedures. A major obstacle to their use is the expensive training and supervision and considerable skills required to implement them in ways which have been associated with good outcomes. A major plus is that their programmes and effects are not confined to substance use; they can be funded as an omnibus approach to youth and family dysfunction.

Best for the hardest cases?

Britain's National Institute for Health and Clinical Excellence (NICE) **has recommended** the types of programmes exemplified by multidimensional family therapy for problem-drinking children who also have other major problems and/or limited social support, signalling their particular suitability for the most severely affected and multiply problematic youngsters. In line with this recommendation, the featured study and others suggest that investment in multidimensional family therapy might be warranted for more problematic youngsters. That suggestion is tentative however, because it seems (**1 2**) the trial did not plan in advance to divide the sample in to more versus less frequent users of cannabis to assess impacts on frequency of cannabis use. This means the analysis **could have selected** from among chance variations in outcomes for different sub-samples to register a significant effect on days of cannabis use, even if overall on this important outcome family therapy failed to register a statistically significant advantage.

significant advantage.

The same limitation applies to the US trials [which found](#) multidimensional family therapy particularly suitable for high-severity youngsters. In other ways too, the US findings are limited as a guide to whether multidimensional family therapy really is best for the most severely affected youngsters (details below), though the plausibility of this interpretation and the similar findings in the featured study in Europe offer substantial support.

[One of the US studies](#) compared multidimensional family therapy with cognitive-behavioural therapy. In this study the researchers identified a set of youngsters (about 4 in 10 of the sample) initially more strongly engaged with and affected by substance use, and among whom this engagement weakened less over the course of treatment and a 12-month post-treatment follow-up. They also had more psychological problems. Among this sub-sample, engagement with substance use [weakened significantly more](#) when they had been allocated to multidimensional family therapy. Less engaged youngsters were affected about equally by both treatments.

But these results were extracted only by a complex analysis which divided the sample up based not just on initial severity, but on their progress in and after treatment. The formation of these categories itself partly depended on the effects of the treatments, then the analysis tested whether the treatments affected each class differently – a circularity which complicates assessment of just what the results mean in practice. This analysis also had to contend with the fact that at each follow-up around 40% or more of the sample [could not be reassessed](#), presumably meaning it had to estimate how they would have scored based on the available data. Such estimates [can be unreliable](#) if the data is not 'missing at random' – in this case, if the reasons why a young person did not attend for reassessment had nothing to do with the factors which affected their response to treatment, an unlikely assumption.

A [more traditional analysis](#) of whether youngsters who started treatment with a deeper engagement with substance use became more disengaged when allocated to multidimensional family therapy was negative, as was one which tested initial psychological problems as a predictor of differential response to treatment. Nor were any relationships found between frequency of substance use and differentially benefiting from multidimensional family therapy. In a [similar analysis](#) of a second study comparing multidimensional family therapy to usual criminal justice procedures, the reverse was the case; here it was not the more deeply engaged youngsters who benefited more from multidimensional family therapy, but those who used substances most often. Such inconsistency heightens concerns over the selection of results to demonstrate that multidimensional family therapy is best for most severely affected youngsters.

See also results from the [Dutch arm](#) of the featured study. For more on Multidimensional Family Therapy see the [approach's web site](#), the therapy's entry in the [US government's directory](#) of evidence-based therapies, or download [the manual](#) used in one of the US studies. For more on family therapy in general see this [US expert consensus document](#).

Thanks for their comments on this entry in draft to research author Henk Rigter of the University of Leiden in The Netherlands. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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