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Multidimensional family therapy lowers the rate of cannabis dependence in adolescents: A randomised controlled trial in Western European outpatient settings☆

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ABSTRACT

Background: Noticing a lack of evidence-based programmes for treating adolescents heavily using cannabis in Europe, government representatives from Belgium, France, Germany, The Netherlands, and Switzerland decided to have U.S.-developed multidimensional family therapy (MDFT) tested in their countries in a trans-national trial, called the International Need for Cannabis Treatment (INCANT) study.
Methods: INCANT was a 2 (treatment condition) × 5 (time) repeated measures intent-to-treat randomised effectiveness trial comparing MDFT to Individual Psychotherapy (IP). Data were gathered at baseline and 3, 6, 9 and 12 months thereafter. Study participants were recruited at outpatient secondary level addiction, youth, and forensic care clinics in Brussels, Berlin, Paris, The Hague, and Geneva. Participants were adolescents from 13 through 18 years of age with a recent cannabis use disorder. 85% were boys; 40% were of foreign descent. One-third had been arrested for a criminal offence in the past 3 months. Three primary outcomes were assessed: (1) treatment retention, (2) prevalence of cannabis use disorder and (3) 90-day frequency of cannabis consumption.
Results: Positive outcomes were found in both the MDFT and IP conditions. MDFT outperformed IP on the measures of treatment retention ($p < 0.001$) and prevalence of cannabis dependence ($p = 0.015$). MDFT reduced the number of cannabis consumption days more than IP in a subgroup of adolescents reporting more frequent cannabis use ($p = 0.002$).
Conclusions: Cannabis use disorder was responsive to treatment. MDFT exceeded IP in decreasing the prevalence of cannabis dependence. MDFT is applicable in Western European outpatient settings, and may show moderately greater benefits than IP in youth with more severe substance use.

1. Introduction

1.1. Background

In most Western European countries, 3–5% of youth consume cannabis nearly every day (European Monitoring Centre for Drugs and Drug Abuse, 2011). Frequent use of cannabis is associated with concurrent problem behaviour, such as aggression, delinquency, truancy, and mental co-morbidity (Hussong et al., 2005; Monshouwer et al., 2006), as well as lower

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education and life satisfaction levels in the long term (Fergusson and Boden, 2008). There is a lack of evidence-based treatment options for adolescents with cannabis use disorder in Europe (European Monitoring Centre for Drugs and Drug Abuse, 2011).

Western European countries have been disputing their cannabis policies for years. In 2003, the government members for health from Belgium, France, Germany, The Netherlands and Switzerland agreed on priorities for joint research. Top of the list was a treatment programme for adolescent cannabis use disorder. In a systematic literature review (Rigter, 2005b), only a small number of randomised controlled trials targeting cannabis abusing adolescents could be traced. The outcomes of behavioural approaches, such as cognitive behavioural therapy (CBT) and stand-alone motivational enhancement, were mixed. The evidence base was most convincing for multidimensional family therapy (MDFT). The government representatives selected MDFT for a treatment study in Western Europe (Rigter, 2005a), on which we report here.

MDFT is a family-based therapy for adolescent substance abuse and associated problems, developed by Liddle et al. (1991), presently at the University of Miami Miller School of Medicine ('Miami'). MDFT holds that each major domain in the life of an adolescent influences the rise and decline of behavioural problems. These life domains include the youth, parents and extended family, peers, school and work and leisure time. MDFT views family functioning as instrumental in creating adaptive lifestyle alternatives for the adolescent in each of these domains.

1.2. Objectives

So far, MDFT has been found effective in eight randomised trials, all carried out in the USA (Liddle, 2010). Our objective was to evaluate MDFT with Western European adolescents, in a transnational trial (INCANT). Of issue was the transferability of MDFT to Europe, the applicability of MDFT in diverse treatment settings and in heterogeneous samples of adolescents.

We wanted to compare MDFT with an active treatment from the 'treatment as usual' (TAU) repertoire in the participating clinical sites. The predominant TAU approach in all INCANT sites was working with just the adolescents in individual sessions (Rigter, 2005a). We selected this form of TAU as the comparison treatment, and labelled it 'individual psychotherapy' (IP). From meta-analyses (Austin et al., 2005; Baldwin et al., 2012; Bender et al., 2011; Waldron and Turner, 2008), we know that versions of IP may decrease cannabis use in adolescents, especially if based on cognitive behavioural principles and/or including motivational enhancement (Miller and Rollnick, 2002) sessions. Based on the cited meta-analyses, we expected MDFT and IP to decrease the number of days of cannabis use. We assumed that MDFT would do better on this measure than IP in the most heavily cannabis using adolescents, as has been found earlier when MDFT was compared with CBT (Henderson et al., 2010).

Self-reported number of days of cannabis use is the most common outcome measure in cannabis treatment research, but it does not tell if the adolescent is free of cannabis use disorder (symptoms). Therefore, we included distal outcome measures in the trial, i.e., the prevalence of cannabis use disorder at symptom and diagnosis levels, expecting MDFT to outperform IP here without having hard evidence at hand: surprisingly, cannabis use disorder diagnosis has rarely been used as an outcome measure. We also examined the number of cannabis dependence symptoms, as it is not just diagnosis that matters, but also the severity of the constituting symptoms (Saha et al., 2012).

1.3. Funding

This research was funded by the (federal) Ministries of Health of Belgium, Germany, The Netherlands, Switzerland, and by MILDT: the Mission Interministerielle de Lutte Contre la Drogue et de Toximanie, France. These agencies had no influence on the design and the execution of the study, or on the interpretation and reporting of its results.

2. Methods

2.1. Approval and monitoring

INCANT was approved by the Ethical Board of Brugmann University Hospital (Belgium), the Chamber of Psychological Psychotherapists and Child and Adolescent Therapists in Berlin state (Germany), the Hotel-Dieu Committee for the Protection of Human Subjects in Biomedical Research (France), the medical–ethical committee METiGG (The Netherlands), the Ethical Board for Clinical and Outpatient Research (Medical Association Geneva Canton, Switzerland), and by the Institutional Review Board (IRB) of the University of Miami Miller School of Medicine in the USA. The International INCANT Study Team (IST) and the IRB oversaw the conduct of the trial.

2.2. Design

INCANT was a multi-centre phase III(b) randomised controlled effectiveness trial with an open-label, parallel group design. Study sites started the 24-month recruitment phase between July 2006 and February 2007. Assessments were scheduled at baseline, immediately before randomisation, and at 3, 6, 9 and 12 months thereafter.

2.3. Participants

Eligible participants were boys and girls from 13 through 18 years of age, with a cannabis use disorder (dependence or abuse) established for the past year at baseline, and with at least one parent willing to take part in the treatment. Cannabis use disorder was determined following DSM-IV guidelines, with dependence being diagnosed if at least 3 of 7 dependence criteria had been met, and abuse if at least 1 of 4 abuse criteria had been met.

Adolescents were ineligible if they suffered from a current mental disorder or condition (psychosis, advanced eating disorder, suicide ideation) requiring inpatient treatment or had a substance use disorder requiring maintenance treatment with methadone or buprenorphine. Cases were excluded if the adolescent and/or parent were unable to speak and read the local language.

Baseline assessment was scheduled in two meetings. In the first, the focus was on need for treatment. When the assessor thought the case might meet INCANT inclusion criteria, she explained the study and allowed the family time to consider giving informed consent. Cases (adolescent plus parent) were excluded if one or both did not show up for the second meeting, not even after prompting (Fig. 1). The presence of a cannabis use disorder (adolescent) was confirmed in the second meeting.

The adolescents were remunerated for completing follow-up assessments, for a total of € 60–70 accumulated across the follow-up assessments, except for France, where rewarding of study participants is forbidden.

2.4. Study sites

Sites were selected from secondary level addiction, youth and forensic care centres upon nomination by government officials,