

Psychosocial treatment of cannabis disorders (draft)

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Conclusion

It is necessary, for those who are dysfunctional, (about 10 % of the those who have tested once) to develop appropriate treatment programs based on cognitive-behavioural technique or cognitive-educative technique or Motivational Interviewing technique or a combination of these, and it should incorporate:

- A built-in flexibility to offer care to patients of all ages.
- A brief intervention, which has significantly larger reduction in substance related problems with the lowest severity clients, few sessions.
- A more comprehensive intervention, which works better with high severity clients, with at least 14 sessions over a period of 4 months with follow-up sessions, more often at the beginning.
- The subtle impairments in cognition within their agenda and work towards their resolution.
- A focus on immediate abstinence and the possibility to have urine samples taken.
- Sessions for family members and significant others.
- The possibility of long-lasting cognitive deficits that affect both the performance of complex tasks and the ability to learn.
- A focus directly on use itself, and at the same time, help to improve the accompanying deficits in competence.
- A help to critical examination of the drug-related episodic memory (memory for self-knowledge).
- Strategies to enhance self-esteem that is not based on a drug-related episodic memory.
- A set of adequate questions to enhance the recognition factor. The effectivity of the cue is dependent on the associative strength and encoding specificity.

Introduction

By definition, a diagnosis of substance dependence indicates that an individual is experiencing a cluster of cognitive, behavioural or physiological symptoms associated with substance use yet continues to use the substance regularly. Epidemiological studies indicate that the lifetime prevalence of cannabis dependence approximates 4 % of the U.S. population, the highest of any illicit drug, and 9.2 % of those who have used cannabis (Anthony et al.

Syndromes of drug abuse and dependence, in: Robbins et al (eds) *Psychiatric disorders in America*, New York: Free Press, 1991;116-154) (Anthony et al, *Comparative epidemiology of dependence on tobacco, alcohol, controlled substances and inhalants: basic findings from the National Comorbidity Survey*. *Experimental and clinical Psychopharmacology* 1994;2:224-268). There are data indicating that almost all of the users have developed cannabis dependence by the age of 18 years. It's rare to develop dependence after that (Anthony personal communication, June 2004).

Rates of conditional dependence, that is the risk of developing dependence among those who have used the drug, provide a better indicator of dependence potential. In this regard Cannabis has a substantial, albeit lower, rate of conditional dependence (9 %) than substances such as alcohol (15 %), cocaine (17 %), heroin (23 %), or tobacco (32 %) (Anthony et al 1994). More frequent use results in greater risk of dependence. For example, rates of cannabis dependence are estimated at 20 % to 30 % among those who have used at least five times, and even higher estimates (35 %-40 %) are reported among those who report near daily use. (Hall et al: *the health and psychological consequences of cannabis use*. National Drug Strategy Monograph No 25. Canberra: Australian government Publication Services, 1994.) (Kandel et al: *Progression to regular marijuana involvement: phenomenology and risk factors of near daily use*, in Glantz (Eds). *Vulnerability to Drug Abuse*. Washington, DC: American Psychological Association, 1992:221-253.)

Those who develop cannabis dependence willingly seek treatment for problems related to their use. (Stephens et al 1993). Interestingly, treatment admissions for individuals younger than age 20 comprise about 45 % of all admissions (Copeland et al 2001). They exhibit substantial psychosocial impairment and psychiatric distress, report multiple adverse consequences, report repeated unsuccessful attempts to stop using, and perceive themselves as unable to quit.

The first randomized controlled trial evaluating treatment for adult cannabis dependence did not appear in the literature until 1994 (Stephens et al 1994) three additional randomized trials have now been published (Budney et al: *Adding voucher-based incentives to coping-skills and motivational enhancement improves outcomes during treatment for marijuana dependence*. *Journal of consulting and clinical psychology* 200;68:1051-1061.(Copeland et al 2001) (Stephens et al 2000).

Result across the studies indicate that the same types of psychosocial treatments found effective for other substances dependence disorders are effective for cannabis dependence. Coping skills training, relapse prevention and motivational enhancement therapies have demonstrated efficacy compared to delayed treatment controls. (Copeland et al 2001) (Stephens et al 2000).

Contingency management interventions that provide positive reinforcement contingent on abstinence from cannabis, documented by urinalysis testing, can enhance treatment outcomes when integrated with other effective therapies (Budney et al 2000). However in the above

mentioned studies only the minority (20 % - 40%) of cannabis-dependent patients achieve abstinence during the treatment, although more show clinically significant reductions in marijuana use and associated problems.

Cannabis users in Sweden

In a report focusing on cannabis users in Sweden (Lundqvist, 2003), treatment organisations in Sweden report that 50% of the users seeking treatment, who are twenty years old and younger, report cannabis as primary drug. Further, Lundqvist report that 27% of the users who are twenty years old and older, and seeking treatment, report cannabis as a primary drug.

However the treatment units report that 90% of the users seeking treatment have considerable problems with cannabis, surfacing during the course of treatment.

The report contains the following profiles of the clients: Cannabis is to 80% the only drug used on a regular base among the younger group and approx. 40% of the clients are females. However, the difference is that the boys use cannabis regular, while the girls only use it occasionally. The girls often use amphetamine as a frequent secondary drug. Almost all live with their parents and are financially supported by their parents and the educational system. The normal situation is that you are in the educational system but not active. They seek treatment when they have lost control over their drug use. It is often a daily use over the last 6 months. (Ref. 69 treatment units from all over Sweden, comprising community-based (social welfare system) treatment programs and medical centres (hospital). 10 of the units focus on users who are younger than twenty years old.)

In the older group there is a proportion of 20% female and 80% male users. In both groups 70% have started cannabis consumption before the age of 17. 34% are single and 34% live together with their parents. 40% have their own permanent address. 20% have wages, 26% social assistance, and 23% parental support. 16% have not concluded 9 years education, 47% have concluded 9 years, and 24 have 12 years of education, and 2% have more than 12 years education. They all have usually tried to abstain several times without success before they apply for treatment. They have a daily use from 6 months to 21 years (sometimes more). (Ref. 69 treatment units from all over Sweden, comprising community-based (social welfare system) treatment programs and medical centres (hospital). 10 of the units focus on users who are younger than twenty years old.)

In Sweden (Can, Drogutveckling i Sverige rapport 73) prevalence studies report that youth in the age of 16-24: Ever used; 1994 (4 %), 1996 (11 %), 1998 (11 %), 2000 (13 %), 2003 (17 %): Last year; 1994 (1 %), 1996 (5 %), 1998 (4 %), 2000 (5 %), 2003 (7 %): Last month; 1994 (0 %), 1996 (1 %), 1998 (1 %), 2000 (1 %), 2003 (2 %). That means about 19 000 young individual have used cannabis in the last month.

Studies on psychosocial treatment of cannabis disorders

Tabell

Author	year	country	design	N	evidence
1.Dennis	2003	USA	short cog beh vs long cog beh	600	2
2.Babor	2003	USA	short cog beh vs long cog beh	450	2
3.Copeland	2001	Australien	short cog beh vs long cog beh	229	2
4.Budney	2000	USA	Voucher vs cog beh	60	2
5.Stephens*	2000	USA	RPT vs support	291	2
6.Lundqvist	1995	Sverige	cog edu vs Del treat	15	3
7.Azrin*	1994	USA	Soc skills vs couns	26	3
8.Stephens*	1994	USA	RPT vs support	212	3
9.Joanning*	1992	USA	Fam ter vs educat	134	3
10.Hengeler*	1991	USA	Fam ter vs couns	200	3
11.Lewis*	1990	USA	Fam ter vs ind ter	84	3
12.Szapocznik*	1988	USA	Fam ter vs couns	108	3

In the SBU-report (*) on psychosocial treatment for alcohol- and drugproblems (SBU, Behandling av alkohol- och narkotikaproblem, en evidensbaserad sammanställning, augusti 2001), Fridell reports in the chapter of randomized studies on treatment of cannabis disorders, that seven studies have included outcome data on cannabis abuse or have marijuana abuse as its focus in the interventions. Fridell concludes that none of these studies show any effectiveness and positive outcome. However in a final version in English some effectiveness were found.

Interesting questions are:

1. How many sessions in how many months, and if there is follow-up sessions?
2. The treatment technique and the theoretical backgrounds?
3. Client characteristics?
4. Measures for treatment outcome?

Below is a presentation of the studies of concern and some reports concerning the subjects studied.

Dennis, M et al USA 2003. The Cannabis Youth Treatment (CYT) Study: Main Findings from Two Randomized Trials.

This article presents the main outcome findings from two inter-related randomized trials conducted at 4 sites to evaluate the effectiveness and cost-effectiveness of 5 short-term outpatient interventions for adolescents with cannabis use disorders. Trial 1 compared five sessions of Motivational Enhancement Therapy plus Cognitive Behavioral Therapy (MET/CBT) with a 12-session regimen of MET and CBT (MET/CBT12) and another that included family education and therapy components (Family Support Network [FSN]). Trial II compared the five-session MET/CBT with the Adolescent Community Reinforcement Approach (ACRA) and Multidimensional Family Therapy (MDFT).

The 600 cannabis users were predominately white males, aged 15-16. All five CYT interventions demonstrated significant pre-post treatment improvements during the 12 months after random assignment to a treatment intervention in the two main outcomes: days of abstinence and the percent of adolescents in recovery (no use or abuse/dependence problems and living in the community). Overall, the clinical outcomes were very similar across sites and conditions; however, after controlling for initial severity, the most cost-effective interventions were MET/CBT5 and MET/CBT12 in Trial 1 and ACRA and MET/CBT5 in Trial 2.

It is possible that the similar results occurred because outcomes were driven more by general factors beyond the treatment approaches tested in this study; or because of shared, general helping factors across therapies that helped these teens attend to and decrease their connection to cannabis and alcohol.

Babor, T USA 2003. TREATMENTS FOR CANNABIS DEPENDENCE. Brief Treatments for Cannabis Dependence: Findings from a Randomized Multi-Site Trial

This study evaluated the efficacy of two brief interventions for cannabis dependent adults. A multi-site randomized controlled trial compared cannabis use outcomes across three study conditions: 1) 2 sessions of motivational enhancement therapy (MET); 2) 9 sessions of multicomponent therapy that included MET, cognitive-behavioral therapy, and case management, and 3) a delayed treatment control (DTC) condition. Participants were 450 adult marijuana smokers with a DSM-IV diagnosis of cannabis dependence. Assessments were conducted at baseline, and at 4, 9, and 15 months post-randomization. The 9-session treatment reduced marijuana smoking and associated consequences significantly more than the 2-session treatment, which also reduced marijuana use relative to the DTC condition. Most differences between treatments were maintained over the follow-up period. Discussion focuses on the relative efficacy of these brief treatments and the clinical significance of the observed changes in marijuana use.

Azrin; USA, Ft Lauderdale, Fl. 1994. (Social skills vs. counselling, cognitive-behavioural therapy vs. social support).

Azrin et al Youth drug abuse treatment: A controlled Outcome study, *Journal of child & adolescent Substance Abuse*, Vol 3(3) 1994.

Azrin et al. Follow-up results of supportive versus behavioural therapy for illicit drug use. *Behav. Res. Ther.* Vol 34 No. 1, pp41-66, 1996.

Twenty-six youth received six months of treatment (mean of 15 sessions) after random assignment to either a supportive counselling program or to a newly designed behavioural treatment, including several procedures to restructure family and peer relations and to control urges. The result showed that during the last month, 9% of youth receiving supportive

counselling were abstinent vs. 73% of youth receiving the new behavioural treatment. A better social and psychological achievement, e.g. school performance and attendance, relationships, decreased depression, improved conducting ratings.

Follow-up data (mean 9 months) were obtained for 74 subjects who had been treated for a mean of 8 months and 17 sessions in a controlled comparison of behavioural vs. supportive counselling for drug use. During the last month of treatment, 81% of the supportive treatment subjects and 44% of the behavioural treatment subjects were using drugs at least once. At the follow-up month, drugs were used at least once by 71% of the supportive vs. 42% of behavioural subjects. The result indicate favourable results appear attributable to the inclusion of family/significant others in therapy and the use of reinforcement contingent on urinalysis results.

Hengeler: USA, San Diego, CA, 1991. (Family therapy vs. counseling.)

Hengeler et al., Effects of multisystemic therapy on drug use and abuse in serious juvenile offenders: a progress report from two outcome studies. *Fam Dynamics Addict Q*, 1991, 1(3), 40-51, 1991 Aspen Publishers Inc.

Hengeler et al.: Eliminating (almost) treatment dropout of substance abusing or dependent delinquents through home-based multisystemic therapy. *Am J Psychiatry* 153:3, March 1996.

Hengeler et al. Family Preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile Offenders. *Journal of consulting and clinical psychology* 1992 vol 60, No 6. 953-961.

This study presents a progress report, focusing on reductions in substance use and abuse, from two independent evaluations of the efficacy of multisystemic therapy (MST) in treating antisocial behavior of serious juvenile offenders. Together, these findings support the value of conducting a rigorous and more comprehensive evaluation of the efficacy of MST in treating substance-abusing delinquents and their families. In the other study concluded that the serious and long-standing problem of high dropout rates in the substance field can be greatly attenuated by service that increase accessibility and place greater responsibility for engagement on service providers (with MST). In the third study they conclude that in comparison with youths who received usual services, youths who received MST had fewer arrests and self-reported offenses and spent an average of 10 fewer weeks incarcerated.

Joanning: USA Iowa state, 1992. (Family therapy vs. education.)

Joanning et al.: Treating adolescent drug abuse: A comparison of family systems therapy, group therapy, and family drug education. *Journal of Marital and family Therapy* 1992, vol 18, No 4, 345-356.

The differential effectiveness of three models of adolescent drug abuse treatment was assessed nn a controlled outcome study. Family systems therapy (FST) (40 families, 31

finished) with 7 to 15 sessions was compared to Adolescent group therapy (AGT) (52, 23) 12 90 minute session and family drug education (FDE) (42, 28) 6 21/2 hour session. FST appear to be more effective in stopping adolescent drug abuse than AGT or FDE, registering twice as many apparently drug-free clients than FDE and three times as many as AGT. However, a number of possible confounds make this conclusion tentative.

Lewis: USA, 1990. (Family therapy vs. individual therapy.)

Lewis et al. Family-Based interventions for helping drug-abusing adolescents. *Journal of adolescents research*, Vol. 5 No. 1, January 1990 82-95.

The Purdue Brief family therapy (PBFT) model is a 12 session program that integrates some of the most effective elements of structural, strategic, functional and behavioral family therapies. Its purpose is to stem the drug use and abuse of adolescents. This model appears to have been effective in reducing drug use for a greater percentage of the adolescents (84 adolescents), than did the family education intervention.

Stephens USA 1994. (RPT vs. social support).

Stephens et al.: Treating adult marijuana Dependence: A test of the relapse prevention model. *Journal of consulting and clinical psychology*, 1994, Vol 62, No. 1, 92-99.

Stephens et al. Predictors of marijuana treatment outcomes: the roles of self efficacy. *Journal of Substance abuse*, 5, 341-353 (1993).

Men (161) and women (51) seeking treatment for marijuana use were randomly assigned to either a relapse prevention (RP) or a social support (SSP) group discussion intervention. Data collected for 12 months posttreatment revealed substantial reductions in frequency of marijuana use and associated problems. There were no significant differences between the cognitive-behavioral RP intervention and the SSP group discussion conditions on measures of days of marijuana use, related problems, or abstinence rates. Men in the RP condition were more likely than men in the SSP condition to report reduced use without problems at 3-month follow-up. Post-treatment increases problem associated with alcohol did not appear to relate to reduced marijuana use. More research needed on RP.

The "Predictor study" tested the ability of sets of demographic, socioeconomic, marijuana use/abuse, psychological distress, and self-efficacy variables to predict posttreatment indices of marijuana intake and problems related to use. Subjects were 167 adults. Method; 10 two-hour group sessions during a 4-month treatment period. Treatment groups met weekly for the first 8 weeks and biweekly for the last 4 weeks in order to fade treatment. Two additional booster sessions occurred for all groups at the 3-month and 6-month follow-up sessions. Treatment was conducted in groups of 12 to 15 subjects that were led by four male-female cotherapist teams. Results: the measure of psychiatric status was relatively unimportant in predicting outcome in this sample. Pretreatment self-efficacy for avoiding use showed little, if any relationship to posttreatment problems, again suggesting the need to tailor measures

specifically to the outcome of interest. Interestingly, the measures of pretreatment severity of abuse, and not frequency of use, were the stronger predictor of posttreatment problems. The authors conclude that: Use is not equivalent to abuse and further research is needed.

Szapocznik Florida USA 1988. (Family therapy vs. counseling.)

Szapocznik et al. Engaging adolescent drug abusers and their families in treatment: A strategic structural systems approach. *Journal of consulting and clinical psychology*, 1988, Vol 56, No. 4, 552-557.

Szapocznik et al. Structural family versus Psychodynamic child therapy for problematic Hispanic boys. . *Journal of consulting and clinical psychology*, 1989, Vol 57, No. 5, 571-578.

Szapocznik et al. Interplay of advances between theory, research, and application in treatment interventions aimed at behavior problem children and adolescents. *Journal of consulting and clinical psychology*, 1990, Vol 58, No. 6, 696-703.

Szapocznik et al. Conjoint versus one-person family therapy: further evidence for the effectiveness of conducting family therapy through one person with drug-abusing adolescents. *Journal of consulting and clinical psychology*, 1986, Vol 54, No. 3, 395-397.

Szapocznik et al. Conjoint versus one-person family therapy: Some evidence for the effectiveness of conducting family therapy through one person. *Journal of consulting and clinical psychology*, 1983, Vol 51, No. 6, 889-899.

This article presents evidence for the effectiveness of a strategy for engaging adolescent drug users and their families in therapy. However the results did not support basic assumptions of structural family systems therapy regarding the mechanisms mediating symptom reduction. Another report presents additional data for the effectiveness of conducting family therapy through one-person.

Copeland Australia 2001. (Cognitive-behavioural therapy vs. delayed treatment).

Copeland et al. A randomized controlled trial of brief cognitive-behavioral interventions for cannabis use disorder. *Journal of substance abuse Treatment* 21 (2001) 55-64.

Copeland et al. Clinical profile of participants in a brief intervention program for cannabis use. *Journal of substance abuse Treatment* 2 (2001) 45-52

Swift et al.: Characteristics of long-term cannabis users in Sydney, Australia. *Eur Addict Res* 1998;4:190-197. A total of 229 participants were assessed and randomly assigned to either a six-session brief cognitive-behavioral program (6CBT), a single-session CBT intervention (1CBT), or a delayed-treatment control (DTC) group. Participants were assisted in acquiring skills to promote cannabis cessation and maintenance of abstinence. A follow up median 237 days after last attendance. Participants in the treatments groups reported better treatment outcomes than the DTC group. They were more likely to report abstinence, were significantly less concerned about their control over their cannabis use, and reported significantly fewer

cannabis-related problems than those in the DTC group. Those in the 6CBT also reported less cannabis consumption than DTC. While the therapist variable had no effect on any outcome, a secondary analysis of the 6CBT and 1Cbt groups showed that treatment compliance was significantly associated with decreased dependence and cannabis-related problems. This study supports the attractiveness and effectiveness of individual CBT interventions for cannabis use disorders.

Concerning treatment compliance: The mean number of treatment sessions attended by those allocated to the 6CBT group was 4.2 (SD=2.2). Half (50%; n=39) attended all six sessions of the 6CBT, 9% (n=7) attended five, 7.7% (n=6) each attended three and four, 9% (n=7) attended two, and 7.7% (n=6) attended one session; 9% (n=7) attended the assessment only. The majority of those allocated to the 1CBT group (87.8%; n=72) attended their appointment. In total, just over two thirds (69.4%) of those allocated to an intervention completed all sessions to which they had been randomized. Less than one third (28.8%) had previously sought specialist assistance to moderate their cannabis use. Check the article for more details on the program.

Stephens USA 2000. (RPT vs. social support).

Stephens et al.: Comparison of extended versus brief treatments for marijuana use. *Journal of consulting and clinical psychology*, 2000, Vol 68, No. 5, 898-908.

Adult marijuana users (N=291) seeking treatment were randomly assigned to an extended 14-session cognitive-behavioral group treatment (relapse prevention, support group; RSPG), a brief 2-session individual treatment using motivational interviewing (individualized assessment and intervention; IAI), or a 4-month delayed treatment control (DTC) conditions. Results indicated that marijuana use, dependence symptoms, and negative consequences were reduced significantly in relation to pretreatment levels at 1-, 4-, 7-, 13-, and 16 months follow-ups. Participants in the RSPG and IAI treatments showed significantly and substantially greater improvement than DTC participants at the 4-month follow-up. There were no significant differences between RSPG and IAI outcomes at any follow-up.

The average number of RSPG treatment sessions attended was 8.42 (SD=3.51) out of possible 14. Fifty percent of RSPG participants attended 10 or more sessions. Forty-six RSPG participants (39%) had a supporter who attended at least one of the four SG sessions.

Seventy-six of the 88 IAI participants (86%) attended both sessions. A supporter accompanied 31 IAI participants (35%).

IAI therapists were rated as more caring and less active than the RSPG therapist teams. IAI also were rated as significantly more competent than the RSPG therapists.

An interesting finding was contrary to their predictions, RSPG participants did not achieve greater reductions in marijuana use than the IAI participants. In fact IAI participants reduced

their marijuana use more during the first month of treatment; a finding that may be related to the difference in quitting promoted by the interventions. RSPG participants spent the first 4 weeks of treatment learning to identify high-risk situations for use and preparing to quit, whereas IAI participants developed plans for quitting during the first session. According to the authors this is the second controlled trial to focus on the treatment of marijuana use disorders. It is notable that both an extended group intervention and a brief individual intervention produced substantial reductions in marijuana use and related problems relative to the delayed treatment condition. The result suggests that the brief individual treatment is just as effective as the more extended group therapy for this population. Check the article for more details.

Lundqvist, Lund Sweden 1995. (Cognitive-educational therapy vs. delayed treatment). Lundqvist. Chronic cannabis use and the sense of coherence. *Life Sciences*, Vol 56 Nos. 23/24 pp.2145-2150, 1995.

Chronic cannabis users undergoing therapy were tested using the Sense of Coherence scale to determine the extent to which patients showed improvements in perceived comprehensibility, manageability, and meaningfulness of life. Improvement was demonstrated between admission and the completion of therapy six weeks later. Post-treatment scores were in the range of control subjects. Users who had quit using cannabis for more than 40 days at admission, but who had not participated in therapy, had somewhat higher scores than those who had quit for 17 days or less at admission. Patients in a methadone treatment program had scores below norms and did not show improvement during treatment. Poly-drug abusers, who had undergone psychosocial treatment, had scores somewhat below normative scores. Improvement in chronic cannabis users is discussed in the context of cognitive and psychosocial problems associated with chronic cannabis use. The study indicates that abstinence is not enough to improve the accompanying deficits in psychosocial competence.

The results

Before and after cognitive-educative psychosocial treatment and abstinence of six weeks (15), Sense of coherence total score of 118.20/141.93, Comprehension score 3.58/4.40*, Manageability score 4.45/5.15* and Meaningfulness score 4.29/5.29*.

A group (20) of cannabis users, who had abstained for at least 40 days before entering treatment Sense of coherence total score of 125.75, Comprehension score 3.92, Manageability score 4.57, Meaningfulness score 4.64.

Lundqvist, T., & Ericsson, D. (1988). *Vägen ut ur haschmissbruket*. Lund: Studentlitteratur.
Lundqvist, T. Marijuana: An International Research Report, Monograph Series, No 7, Proceedings of the Melbourne (Australia) Symposium on Cannabis 2-4, September 1987. "A way out of fog": an out-patient treatment program for cannabis abusers.
Lundqvist, T. (1995). Specific thought patterns in chronic cannabis smokers observed during treatment. *Life Sciences*, 56(23/24), 2141-2144. This study systematizes observations that

were made during treatment of cannabis users during and after cessation of cannabis use. Cognitive symptoms prior to cessation are described in the conceptual framework of cognitive categories in the I.Q. test. Normalization of these cognitive functions during therapy is discussed.

Lundqvist, T., Jönsson, S., & Warkentin, S. (2001). Frontal lobe dysfunction in long-term cannabis users. *Neurotoxicology & Teratology*, 23(5), 437-443.

Rossi, Musty, and Lundqvist, Frontal lobe functioning in marijuana users:

Neuropsychological Functioning Among Individuals Seeking Treatment to Quit Marijuana Use: Comparisons of Recent and Continuing Abstainers. Submitted to JAMA spring 2002.

The treatment manual is used since the 1980's and it is based on a cognitive perspective and tailored to the cognitive functioning seen in chronic cannabis users. This program is used for younger users (17-22) in a structured design for 18 sessions and for older users in a semi-structured design for six weeks. It's a pragmatic manual with a psychodynamic-cognitive approach. It can be seen as a framework, a basic structure intended for interpretation, improvisation or completion by someone else than the authors. It, indeed, implies individuality and a personal touch of the performer.

Treatment outcomes measures

In four studies (Stephens 1994, Stephens 2000, Copeland 2001 and Lundqvist 1995) the following assessment tools were used.

Stephens 1994: Urinalysis, drug lifeline (first use and daily use), Typical day use, modified version of the 20-item Drug abuse Screening test (DAST, Skinner, 1972)

Stephens 2000: same as above, how many sessions attended=compliance, DSM-IV, SCL-90 Global index,

Copeland same as above, Opiate Treatment index, Five item Severity of Dependence Scale SDS (Gossop et al 1992), Cannabis Problems questionnaire.

Lundqvist, Urinalysis, Sense of coherence.

The Cannabis Youth Treatment Experiment and the Marijuana Treatment project

Two large multi-site field experiments on the issue, the treatment of marijuana use disorders: The Cannabis Youth Treatment (CYT) study with adolescents and the Marijuana Treatment project (MTP) with adults. The papers cover multiple aspects of the treatment of cannabis users, including the rationale for studying cannabis use disorders, description of the CYT and MTP studies, characteristics of adolescents and adult presenting for treatment of cannabis use disorders, court diversion issues, economic evaluation and confirmation of self-reported cannabis use, among other topics.

Adolescent admissions to substance abuse treatment increased by 45 percent between 1993 and 1998, and 57 percent of treatment admissions age 12-17 reported marijuana as the primary substance of abuse. This is not a problem that can be ignored since adolescent marijuana use is associated with emotional, behavioral, legal, and health problems, including unprotected sex.

The Cannabis Youth Treatment Experiment has now identified five effective treatments that can be used to treat adolescents depending on the severity of the marijuana use. These five treatment protocols will be released this fall (2001) so that treatment programs for youth all over the country will be able to utilize best practices that have been proven to show results with adolescents. Six months after intake to treatment these programs were able to increase the percentage of adolescents with no past month use 8 fold (from 4 percent to 34 percent) and the percent reporting no past-month abuse or dependence symptoms by 3 fold (19 percent to 61 percent). Treatment reduced days of use by 36 percent, and reduced the number of adolescents with past month substance related problems by 61 percent. The decrease in rate of use is better than all prior studies of adolescent outpatient treatment in community settings. Data from the Substance Abuse and Mental Health Services Administration's (SAMHSA) Treatment Episode Data Set for 1998 show that 49 percent of all marijuana admissions to treatment are under age 20. While four out of five of these adolescents are going into outpatient treatment, little research has been done in this area and evaluations of practice have produced mixed results. SAMHSA's Center for Substance Abuse Treatment sponsored a cooperative agreement to develop treatment models that could be set out in written treatment manuals for replication elsewhere and conduct a field test of their effectiveness and cost.

The five treatment protocols include:

1. A brief, basic, low cost treatment consisting of five sessions over six weeks using motivational enhancement treatment and cognitive behavioral therapy. Patients have two individual sessions followed by three group sessions. This program is designed to motivate the patient to change marijuana use and identify high-risk situations that could increase the likelihood of relapse. The sessions help the patient establish a social network supportive of recovery and develop a plan for activities to replace marijuana-related activities.
2. Adding to the basic treatment model seven additional group sessions of cognitive behavior therapy to create a 12 week treatment program. This is a more intense version of the first therapy and is designed to help adolescents develop coping skills and alternative responses to cannabis use, and deal with problem solving, anger, criticism, psychological dependence, and depression management.
3. Adding to the enhanced option (#2) three to four home visits for family therapy, six parent-education group meetings, and case management. This program is designed to improve family cohesion, parenting skills and parental support. It includes case management to promote parent engagement in the youth's treatment process. It also includes referral of parents to self-

help support groups. The program allows counselors to tailor plans to fit a family's specific home situation.

4. A 14-session intervention of individualized counseling that could be used for victimized youth, in rural areas, or anywhere that group formation might delay or increase the cost of treatment. The focus of this intervention is to identify reinforcers that make abstinence from marijuana more rewarding than use. This therapy includes 10 sessions with the adolescent alone, two with the caregiver alone and two with caregiver and child.

5. An approach that integrates family therapy and primary substance abuse treatment throughout the 12-week program rather than as an add-on. This approach uses 12-15 family-focused treatment sessions as well as counseling sessions with both adolescent and parents. This type of therapy is designed to change the individual's relationships with family, peers and social systems, and includes case management to help resolve other problems.

All four study sites used option one. Two sites used options 2 and 3 with option 1 (incremental study arm). Two sites used options 4 and 5 with option 1 (alternate study arm). The researchers recruited 600 adolescents between the ages of 12-18 who reported using marijuana in the past 90 days, reported problems related to marijuana abuse or dependence and met criteria for outpatient, rather than inpatient, therapy.

The researchers found that:

- The brief intervention (#1) had significantly larger reductions in substance related problems with the lowest severity clients.
- The enhanced, more comprehensive intervention (#3) worked better with high severity clients.
- At the six month mark, the more comprehensive treatment caught up with the brief intervention for low severity clients and continued to be the most effective with high severity clients.
- The brief and individual behavior therapy interventions (#4) reduced use of marijuana significantly more than the integrated family therapy (#5) in the beginning. However, at the six months mark all improved further and the family therapy had caught up.
- The costs of all five of these therapies appear to be affordable as they are in line with what is currently being paid. The average weekly economic costs of the five types of outpatient treatment ranged from \$105 to \$244 per week. The cost differences reflected both weeks of treatment and hours of formal sessions and variations in cost of living, and similar factors.

The Cannabis Youth Treatment Experiment is a collaboration of the Center for Substance Abuse Treatment (CSAT) with researchers and providers from Chestnut Health Systems (CHS) in Bloomington and Madison County Illinois, the Alcohol Research Center (ARC) in Connecticut, Operation PAR in Florida, and the Child Guidance Center (CGC) in Philadelphia. The coordinating center director and chair is Michael L. Dennis, Ph.D. of

Chestnut Health Systems of Bloomington, IL. The manuals will be released later in the fall by CSAT at www.samhsa.gov/csat and more information on the project is available at www.chestnut.org/li/cyt.

References in CYT and MTP

- Clark et al. Moving from research to practice just in time: the treatment of cannabis use disorders comes of age. *Addiction*, 97 (Suppl 1), 1-3.
- Dennis et al. Changing the focus: the case for recognizing and treating cannabis use disorders. *Addiction*, 97 (Suppl 1), 4-15.
- Dennis et al. The cannabis youth treatment (CYT) experiment: rationale, study design and analysis plans. *Addiction*, 97 (Suppl 1), 16-34
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Summary

For those who are dysfunctional, there is a need to develop appropriate treatment programs based on cognitive-behavioural technique or cognitive-educative technique or Motivational Interviewing technique or a combination of these, and it should incorporate:

- A built-in flexibility to offer care to patients of all ages.

- A brief intervention, which has significantly larger reduction in substance related problems with the lowest severity clients, few sessions.
- A more comprehensive intervention, which works better with high severity clients, with at least 14 sessions over a period of 4 months with follow-up sessions, more often at the beginning.
- The subtle impairments in cognition within their agenda and work towards their resolution.
- A focus on immediate abstinence and the possibility to have urine samples taken.
- Sessions for family members and significant others.
- The possibility of long-lasting cognitive deficits that affect both the performance of complex tasks and the ability to learn.
- A focus directly on use itself, and at the same time, help to improve the accompanying deficits in competence.
- A help to critical examination of the drug-related episodic memory (memory for self-knowledge). It is first after cessation of use that the user will notice that his subjective history is difficult to retrieve.
- Strategies to enhance self-esteem that is not based on a drug-related episodic memory.
- A set of adequate questions to enhance the recognition factor. The effectivity of the cue is dependent on the associative strength and encoding specificity.

Recommendations from the National Institute of Drug Abuse.

The ultimate goal of all drug abuse treatment is to enable the patient to achieve lasting abstinence, but the immediate goals are to reduce drug use, improve the patient's ability to function, and minimize the medical and social complications of drug abuse.

Principles of Effective Treatment

1. **No single treatment is appropriate for all individuals.** Matching treatment settings, interventions, and services to each individual's particular problems and needs is critical to his or her ultimate success in returning to productive functioning in the family, workplace, and society.
2. **Treatment needs to be readily available.** Because individuals who are addicted to drugs may be uncertain about entering treatment, taking advantage of opportunities when they are ready for treatment is crucial. Potential treatment applicants can be lost if treatment is not immediately available or is not readily accessible.
3. **Effective treatment attends to multiple needs of the individual, not just his or her drug use.** To be effective, treatment must address the individual's drug use and any associated medical, psychological, social, vocational, and legal problems.

4. **An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person's changing needs.** A patient may require varying combinations of services and treatment components during the course of treatment and recovery. In addition to counseling or psychotherapy, a patient at times may require medication, other medical services, family therapy, parenting instruction, vocational rehabilitation, and social and legal services. It is critical that the treatment approach be appropriate to the individual's age, gender, ethnicity, and culture.
5. **Remaining in treatment for an adequate period of time is critical for treatment effectiveness.** The appropriate duration for an individual depends on his or her problems and needs. Research indicates that for most patients, the threshold of significant improvement is reached at about 3 months in treatment. After this threshold is reached, additional treatment can produce further progress toward recovery. Because people often leave treatment prematurely, programs should include strategies to engage and keep patients in treatment.
6. **Counseling (individual and/or group) and other behavioral therapies are critical components of effective treatment for addiction.** In therapy, patients address issues of motivation, build skills to resist drug use, replace drug-using activities with constructive and rewarding nondrug-using activities, and improve problem-solving abilities. Behavioral therapy also facilitates interpersonal relationships and the individual's ability to function in the family and community.
7. **Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.** Methadone and levo-alpha-acetylmethadol (LAAM) are very effective in helping individuals addicted to heroin or other opiates stabilize their lives and reduce their illicit drug use. Naltrexone is also an effective medication for some opiate addicts and some patients with co-occurring alcohol dependence. For persons addicted to nicotine, a nicotine replacement product (such as patches or gum) or an oral medication (such as bupropion) can be an effective component of treatment. For patients with mental disorders, both behavioral treatments and medications can be critically important.
8. **Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way.** Because addictive disorders and mental disorders often occur in the same individual, patients presenting for either condition should be assessed and treated for the co-occurrence of the other type of disorder.
9. **Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use.** Medical detoxification safely manages the acute physical symptoms of withdrawal associated with stopping drug use. While detoxification alone is rarely sufficient to help addicts achieve long-term abstinence,

for some individuals it is a strongly indicated precursor to effective drug addiction treatment.

10. **Treatment does not need to be voluntary to be effective.** Strong motivation can facilitate the treatment process. Sanctions or enticements in the family, employment setting, or criminal justice system can increase significantly both treatment entry and retention rates and the success of drug treatment interventions.
11. **Possible drug use during treatment must be monitored continuously.** Lapses to drug use can occur during treatment. The objective monitoring of a patient's drug and alcohol use during treatment, such as through urinalysis or other tests, can help the patient withstand urges to use drugs. Such monitoring also can provide early evidence of drug use so that the individual's treatment plan can be adjusted. Feedback to patients who test positive for illicit drug use is an important element of monitoring.
12. **Treatment programs should provide assessment for HIV/AIDS, hepatitis B and C, tuberculosis and other infectious diseases, and counseling to help patients modify or change behaviors that place themselves or others at risk of infection.** Counseling can help patients avoid high-risk behavior. Counseling also can help people who are already infected manage their illness.
13. **Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment.** As with other chronic illnesses, relapses to drug use can occur during or after successful treatment episodes. Addicted individuals may require prolonged treatment and multiple episodes of treatment to achieve long-term abstinence and fully restored functioning. Participation in self-help support programs during and following treatment often is helpful in maintaining abstinence.