Improvement in cognitive and social competence in adolescent chronic cannabis users.

- Results from a manual based treatment programme at Maria Youth Centre, Stockholm, Sweden.

Lund University Hospital | Maria Youth Centre

Thomas Lundqvist[1], Birgitta Petrell[2], Jan Blomqvist[3]. [1]Drug Addiction Treatment Centre, Lund University hospital, S-22185 Lund, Sweden, [2]Maria Youth Centre, S-11235 Stockholm, Sweden.[3]Centre for Social Research on Alcohol and Drugs, University of Stockholm, S-106 91 Stockholm Sweden

SoRAD Centre for Social Research on Alcohol and Drugs

Background

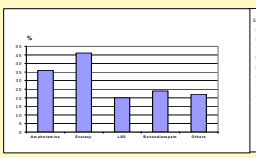
At Maria Youth Centre in Stockholm, a system-theoretical approach involving family treatment had been used since the late 1980s to help young drug addicts. However, the traditional family treatment did not work for young people who had been using cannabis actively for several years. In 2000, a manual based 18 sessions programme for young chronic cannabis users (17 -20 yrs) was created, based on a treatment manual for adult chronic cannabis users developed by Lundqvist & Ericsson (1988) and Lundqvist (1995b). It is a structured six-week treatment programme including sessions three times a week, with main focus on helping the cannabis users to redirect cognitive patterns and to regain intellectual control. After completion of the six-week programme, the patients are advised to take part in supportive sessions once a week for six weeks. The programme is presented as a course in quitting, and is now a regular programme at the centre.
The aim of this study is to evaluate the treatment programme and to compare the results from questionnaires assessing the psychological and social competence at three different occasions.

Subjects (n=50) and method

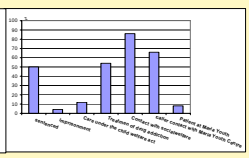
Age at admission	17.9 (16–19)
Years in school	9 (92%)
First time of use	14.2 (11-17)
Years of use	3.6 (1-8)
Years of regular use (>3 times a week)	2.5 (1-6)

15 subjects reported problems with alcohol.

Use of other drugs (%).



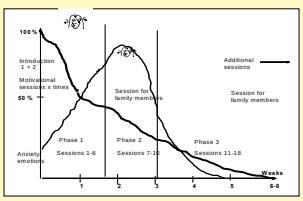
Earlier contacts with authorities (%).



The structure of the treatment manual

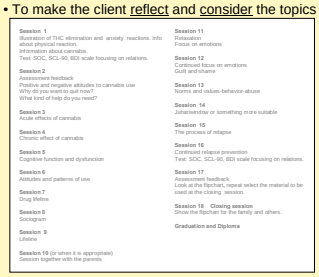
Phase 1: a bio-medical focus lasting until the 12th day after smoking cessation.
Phase 2: a psychological focus lasting until the 21st day after smoking cessation.
Phase 3: a psychosocial focus during the rest of the program.

Δ-9-THC-eliminationprocess and the structure of the manual.



The manual is based on

- The chronic influence on the cognitive functions.
- The impact of the enhanced subjective perception.
- The need of professional guidance in the relearning process.
- Critical examination of the drug-related episodic memory.
- Promotion of the psychological maturation.
- Enhancing the social competence and orientation to life.
- The self-regulation use of cannabis.
- Depression and phobic reaction following cessation of cannabis.
- The need to be given proposals.
- To make the client notice what is happening.
- To make the client compare with earlier experiences.
- To make the client reflect and consider the topics of the discussion.



The cognitive and social competence were assessed

- at admission,
- after six weeks
- one year after concluding the course,

with a battery of questionnaires consisting of

- Sense of coherence (SOC),
- Symptomchecklist-90 (SCL-90),
- Beck's Depression Inventory (BDI),
- CAGE, focusing on alcohol problems
- Scales focusing on life situation and relationships
- Urine test once a week.

Result

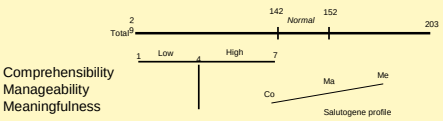
Sense of Coherence (SOC)

To get a good sense of coherence (Antonovsky, 1987) the individuals perceive that

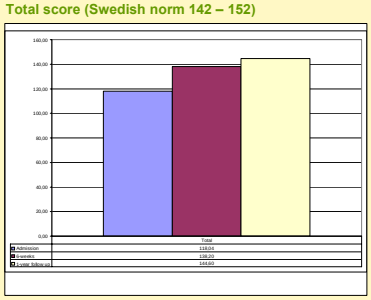
- the stimuli deriving from ones internal and external environments in the course of living are structured, predictable, and explicable (comprehensibility);
- the resources are available to one to meet the demands posed by these stimuli (manageability);
- these demands are challenges, worthy of investment and engagement (meaningfulness).

	Adm. (M, sd)	6-weeks. (M, sd)	t	df	sign[1]	N	1-year (M, sd)	t	df	sign	N
Comprehensibility	3,71 (0,71)	4,78 (0,71)	- 4,69	49	***	50	4,3 (0,8)	- 0,7	39	ns	40
Manageability	4,32 (0,87)	5,03 (0,77)	- 5,50	49	***	50	5,1 (1,0)	- 0,6	39	ns	40
Meaningfulness	4,26 (0,98)	5,06 (0,89)	- 5,86	49	***	50	5,3 (1,2)	- 1,6	39	ns	40
Total	118,04 (19,97)	137,84 (18,62)	- 5,95	49	***	50	141,2 (24,6)	- 1,1	39	ns	40

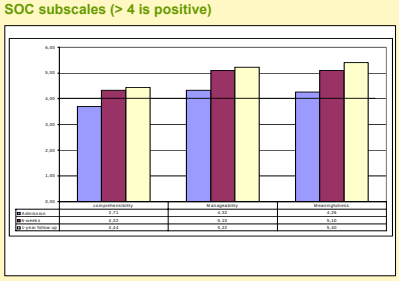
[1] *** p < .001; ** p < .01; * p < .05; ns= non significant



Total score (Swedish norm 142 – 152)



SOC subscales (> 4 is positive)



Symptom Checklist 90 (SCL-90)

The test measure 9 primary symptom dimensions and is designed to provide an overview of a patient's symptoms and their intensity at a specific point in time. By providing an index of symptom severity, the assessment helps facilitate treatment decisions and identify patients before problems become acute.
The Global Severity Index can be used as a summary of the test.

Global Indices

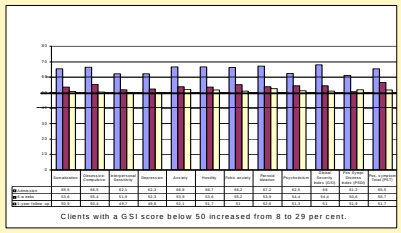
- Global Severity Index (GSI): Designed to measure overall psychological distress.
- Positive Symptom Distress Index (PSDI): Designed to measure the intensity of symptoms.
- Positive Symptom Total (PST): Reports number of self-reported symptoms.

SCL-90, standarized T-value; significance tested by mean (paired t-test)

	Adm. (M, sd)	6-weeks. (M, sd)	t	df	Sign[1]	N	1-year. (M, sd)	t	N
Somatization	65,5 (15,5)	53,6 (9,1)	5,59	49	***	50	53,7 (14,3)	0,6	41
Obsessive-compulsive	66,5 (13,5)	55,1 (10,1)	6,55	49	***	50	52,9 (12,5)	1,0	41
Interpersonal sensitivity	62,1 (16,0)	51,7 (8,9)	5,70	49	***	50	52,0 (12,8)	0,3	41
Depression	62,3 (13,0)	52,2 (8,7)	5,96	49	***	50	52,6 (14,1)	- 0,1	41
Anxiety	66,8 (14,6)	53,6 (9,1)	7,31	49	***	50	54,4 (12,8)	- 0,2	41
Hostility	66,7 (15,3)	53,5 (10,6)	6,54	49	***	50	54,0 (12,9)	0,3	41
Phobic anxiety	66,2 (21,6)	55,0 (13,5)	5,14	49	***	50	52,8 (11,9)	1,3	41
Paranoid ideation	67,2 (15,5)	53,8 (9,6)	7,56	49	***	50	55,2 (13,3)	0,1	41
Psychoticism	62,5 (14,5)	54,1 (8,6)	4,87	49	***	50	53,2 (11,3)	0,6	41
Global Sever. Iind (GSI)	68,0 (14,7)	54,1 (8,5)	7,89	49	***	50	53,7 (12,0)	0,6	41
Pos. Sympt. Distr Ind (PSDI)	61,2 (10,7)	50,6 (7,6)	7,95	49	***	50	54,5 (14,0)	- 1,7	41
Total Pos Sympt (PST)	65,5 (10,8)	56,4 (10,2)	6,48	49	***	50	54,7 (12,2)	1,3	41
								ns	

[1] *** p < .001; ** p < .01; * p < .05; ns= non significant

SCL-90



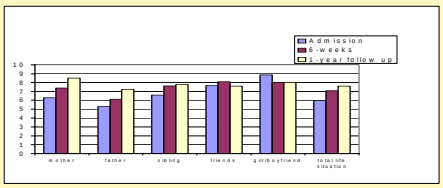
Clients with a GSI score below 50 increased from 8 to 29 per cent.

Becks Depression Index (BDI):

	Adm(M, sd)	6-weeks(M, sd)	t	df	sign[1]	N	1-year(M, sd)	t	sign[1]	N
Somatic affective	5,6 (3,2)	2,7 (1,6)	5,4	29	***	30	2,2 (2,2)	0,4	ns	24
Cognitive affective	8,3 (5,2)	4,1 (4,3)	4,8	29	***	30	5,0 (6,1)	- 0,4	ns	24
Amount	9,8 (4,3)	5,1 (3,2)	6,8	29	***	30	5,1 (4,6)	0,3	ns	24
Total	13,9 (7,3)	6,4 (4,9)	6,2	29	***	30	7,3 (7,9)	- 0,2	ns	24

< 14 no depression [1] *** p < .001; ** p < .01; * p < .05; ns= non significant

Estimation of relationship and life situation



Who did better?

Those, who had a higher sense of coherence at admission.
Those, with fewer symptoms according to SCL-90 at admission
Those, who lived together with both parents.
Those, who applied on their own initiative.

Who did worse?

Those, who had an early onset of abuse, polydrug use and alcoholproblems.
Those, who had higher points on anxiety and depression at the 6-weeks assessment.
Those, who had a low estimation on the relationship to the mother.

Conclusion

Young chronic cannabis users undergoing therapy were assessed with the Sense of Coherence scale and with SCL-90 symptom scales and global indices. The aim was to determine the extent to which patients showed improvements after completion of therapy after six weeks, and at follow-up one year later, in perceived comprehensibility, manageability, and meaningfulness of life, and to determine emotional distress. They were also asked to estimate relationship and life situation.

After six weeks of abstinence and treatment they display a significant improvement to normal values in sense of coherence and this improvement remained stable at the one year follow-up.

The result of SOC indicate that young chronic cannabis users seeking treatment at admission are characterised as:

- having a mean that is considerably lower than normal.
- experiencing inner or outer stimuli as not comprehensible in a rational way, but rather that the information is unorganized and incoherent.
- convinced that they are able to manage the problems and stimuli they receive.
- having an emotional and cognitive motivation, with the feeling that there are some things in life worth some interest, commitment or devotion.

These results are concordant with the findings in a similar study focusing on old chronic cannabis users by Lundqvist (1995a).

The significant improvement in SCL-90 values between admission and the six-week assessment indicate emotional distress that may be caused by the impact of the cannabinoids on human emotion and cognition. This improvement remained stable at the one year follow-up.

In our clients, the symptoms of depression disappeared after six weeks of abstinence indicating that the cannabinoids creates depression like symptoms. Improvement was seen at six-week assessment, and it remained stable at the one year follow-up.

At the one year follow-up, two-thirds were cannabis free (67%);
35 per cent had had no relapses and 33 per cent had had one brief relapse, 57 per cent were free from all problematic use, including alcohol.
Clients with initial problematic alcohol use were less successful.
Remaining symptoms of anxiety and depression were signs that indicate that extended support is needed.
Finally, improvements could be seen in their overall life situation.

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