



# Outcome of information and coping skills training for relatives of drug abusers: A randomised controlled study

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## Abstract

**Background** Substance abuse often has a severe influence on family members and relatives and thus, the health of the relatives is also at risk. The aim of the study was to compare two programmes on coping skills and well-being in relatives/good friends of persons with drug use disorders.

**Method** Forty-three relatives to drug abusers were randomly assigned to one of two interventions: a Coping Skills Training programme (CST) or a Standard Information programme (SI). The CST consisted of one SI-session plus four monthly CST sessions. Five different self-report scales were used to measure symptoms (SCL 90/GSI), coping, social interaction, alcohol and drug use. Follow-up periods were 12 and 24 months.

**Results** Ninety-eight per cent of the participants completed the first follow-up and eighty-eight per cent the second follow-up. Both groups (CST and SI) showed a decrease in symptoms and coping values after 24 months with a significant better overall coping in the long term for CST.

**Conclusion** Both programmes led to decreased symptoms and improved coping. The significant lower value on overall coping after 24 months indicates that a long-term intervention programme might be more efficient.

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## Introduction

Despite increasing interest in research on relatives of people with alcohol problems in recent decades, there have been few international studies, including a Swedish study on relatives of people with drug use disorders. However, knowledge obtained from studies of relatives of alcohol abusers might be a good starting point for measures directed towards relatives of people with drug use disorders.

It is well-documented that the well-being and coping of these relatives are influenced by their partners' alcohol problems. Several papers have shown that a person's alcohol problems also have a negative effect on other members of their family (1-3). Some of the papers in this field are looking at the effect of including spouses in specific treatment programmes when dealing with reduction of their partners' alcohol intake (4-6). In these studies, the outcomes were generally positive, i.e. a significantly larger

proportion of the abusers made appointments for treatment or entered treatment programmes. However, some studies mainly focus on relatives, their health, stress and ability to cope (7-11). These papers indicate that a coping strategy chosen by relatives may be as important for their own health as for the rehabilitation of the abuser. Thus, improving the family's overall situation is an important subject when working on health promotion.

According to Orford et al. (12;13) tolerant-inactive coping seems to have a negative influence on relatives' health. The same applies to engaged coping, even though there is a lower correlation. The randomised studies presented by Zetterlind and co-workers (7) and by Hansson et al. (8) showed that different types of interventions reduced symptoms, but also that long-lasting intervention programmes had the most positive results in a two-year perspective.

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## Research and Best Practice

In this paper, we have compared two intervention methods for relatives of persons with drug use disorders. One intervention focuses on a single standard information session including a dialog with the relative, and the other uses the same standard information session, which is then followed by four coping skills training sessions. The structure of the study is similar to that used in previous studies (7;8). The aim was to investigate the outcome of short- and long-term intervention for relatives of persons with drug use disorders.

### Materials and Methods

#### Study design

Relatives/close friends were randomly assigned to either the intervention consisting of a single standard information session (SI) of 90 minutes, or the intervention of SI plus four 90 minutes monthly sessions of individual coping training (CST). Follow-up periods were 12 and 24 months. A number of self-report scales were filled out at baseline and at each follow-up period. The flow chart of the procedure is shown in Figure 1.

#### Patient enrolment

Information about the study was given in oral and in written form to the staff at the Addiction Centre, Malmö University Hospital, the Outpatient Drug Department in Lund, the Social Services in Malmö and Lund and to other Social Services in the area. The study was advertised in local newspapers and staff magazines, where it was explained that the researchers were looking for persons who were affected by illegal drug abuse by relatives or close friends. The period of information took about two months.

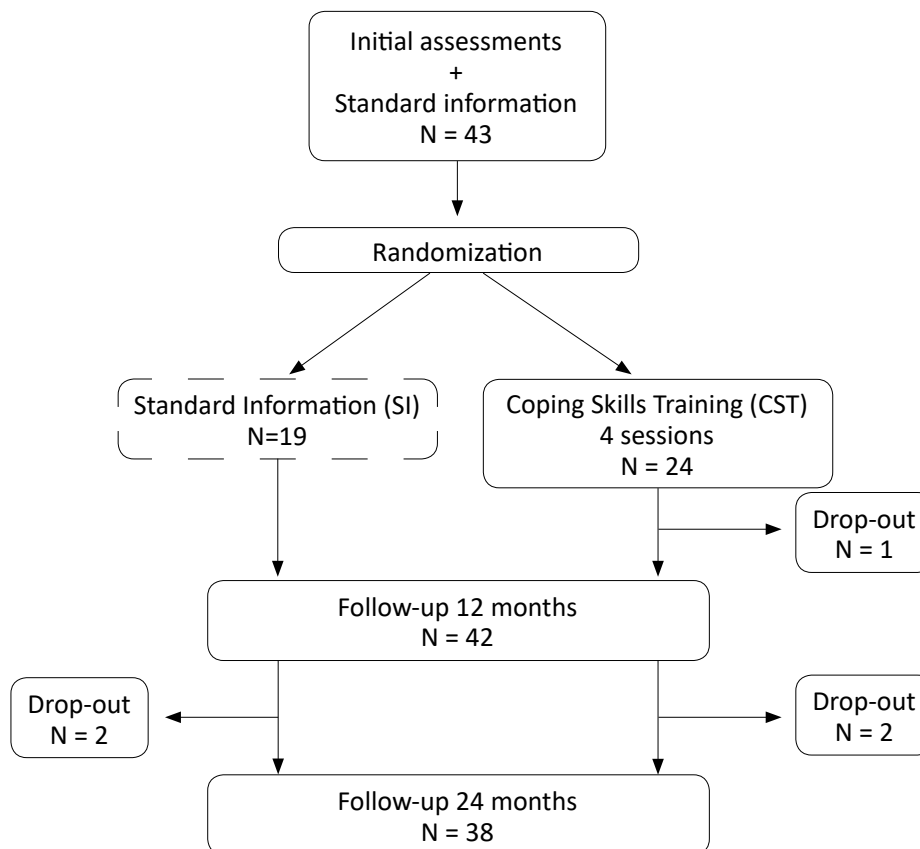
#### Inclusion criteria

Relatives or friends of illicit drug abusers with a present drug related problem. The minimum age for subjects was set at 18 years.

#### Exclusion criteria

Participants who themselves have a drinking or drug addiction, participants with severe domestic violence in the relationship, participants with ongoing psychosocial

Figure 1 Flow chart: Intervention for relatives/close friends of persons with illicit drug abuse problems





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treatment and participants with major psychiatric disorders were all excluded from the study, as it was believed that participation in the study might further deteriorate the situation of the family.

### **Enrolment of participants**

All participants were first screened by the author in a telephone interview. All relatives were carefully informed about the purpose and the design of the study orally and in written form. All accepted the randomization assessments. Most of the attendants (37 persons) responded to the advertisements in the local newspapers and staff magazines. Others were recommended from the social services (2 persons), Addiction Centre (3 persons) and Malmö University Hospital (1 person). In cases where more than one relative from the same family wanted to attend the study, they were individually included and offered the same type of programme. Five relatives, two in the SI session and three in the CST intervention, were included this way. The reason for offering the same programme for relatives from the same family was that we did not want to complicate the family coping situation.

### **Procedure**

The standard information session started with a presentation of the study. This was followed by a structured face to face interview including questions on family situation, drug-problem history, time of living with the drug-problem, the situation of the drug abuser, the participants own situation during child- and adulthood, as well as physical and mental well-being of the participants. Participants were assessed with different self-reporting scales: The Symptom Checklist 90 (SCL 90), Coping Behaviour Questionnaire, The Alcohol Use Disorders Identification Test (AUDIT), The Drug Use Identification Test (DUDIT) and The Interview Schedule for Social Interaction (ISSI). All scales are described below.

General information of the study took place after the assessments. The allocated time for the initial assessment and the information was 90 minutes. All participants in the study received a booklet with written information in addition to the 90 minute session. At the end of the information session participants were randomly assigned to either SI or CST.

The study was approved by the local ethics committee, Lund University.

### **Randomization**

After the completion of baseline assessment, the randomisation process was carried out by an administrative coordinator with no other involvement in the study. The randomisation was done with the use of sealed black envelopes from different boxes based on different strata

(14). Stratification was made for relative category and for the drug abuser's main drug, heroin.

### **Self-report scales**

*Coping Behaviour Scale by Orford* (3) consists of 56 questions concerning different ways of coping for relatives of people with excessive drinking or drug use. The structure of coping is described in three broad coping positions: tolerance, engagement, withdrawal. In this study, a short developed version of the Coping Behaviour Scale (12;13) with 30 questions was used for self-assessment, measuring coping actions over the previous three-month period. According to Orford, family members' experience of health is generally associated with low coping values.

*The Symptom Checklist 90, SCL-90 by Derogatis* (15) is a 90 item self-report symptom inventory. It is primarily designed to reflect the psychological symptom pattern of psychiatric and medical patients and includes a Global Severity Index (GSI) for overall mental well-being. The questionnaire has been regulated for a Swedish population by Fridell and co-workers (16) using the reference mean value of 0.6 for women and 0.4 for men.

*The Alcohol Use Disorders Identification Test (AUDIT)* (17-19) is a 10 items screening questionnaire for identification of hazardous and harmful alcohol use. Bergman et al. (19) tested the scale on a Swedish population with an internal consistency of Cronbach's alpha = 0.95.

*The Drug Use Disorders Identification Test (DUDIT)*, developed by Berman and co-workers (20), is a parallel instrument to Audit for identification of persons with drug-related problems.

*The Interview Schedule for Social Interaction (ISSI)*, developed by Hendersen and co-workers (21), measures social support. In this study, we have used a brief Swedish version of ISSI by Undén & Ort-Gomer (22). This scale has been validated for a Swedish population by Eklund et al. (23). A higher index value on the scale indicates more relations to family, friends, neighbours and colleagues.

### **Treatment programme design**

Both SI and CST were manual-based and conducted by one therapist (Ulla Zetterlind) with experience of working with relative support and research in this field. The treatment programme is described in table 1.

### **Follow-up examination after 12 and 24 months (90 minutes)**

Interviews concerning the living situation were performed by co-author Susanna Kovac.



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**Table 1** Intervention

**Control group: SI**

- Clarification of the problem of being family/friend to a drug abusing person via a discussion between the therapist and the participants
- Obtaining of baseline data, using interview and questionnaires (1;12-22)
- Feedback according to the Coping behavior questionnaire (12;13)
- Delivering of a booklet with information about the study, usual patterns, own coping, discussed, changes and course of action if the drug abusing relative wanted to enter treatment
- Information on follow-up and randomization of the participant to either a Standard Information session group or to a group including additional 4 coping training sessions

**Content of CST**

Session	Themes	Homework
1	Family adjustment Family roles Relationships	- Describe yourself and your relatives in positive terms and note 5 adjectives for each person. - Read the book "Coming off Drugs" (24) - Make 5 notes to discuss at next session
2	Isolation Social network	- Watch a video film "Hidden Sign" (25) - Make 5 notes to discuss at next session
3	Family dynamics Family communication Dependence/independence	- Do something for the participants own satisfaction - Make at least 5 notes to discuss at next session
4	Repetition of the 3 sessions Definition of future goals	

The interviews included information of the living situation of the participants as well as of the drug abusers. The questionnaires from the beginning of the project were filled in by the participants again.

### Statistical methods

The Mann-Whitney's U-test was used to study changes between the groups at 12 and 24 months follow-up. The Statistical Package for Social Sciences (SPSS) 22.0 was used for the statistical analysis.

### Power analysis

The calculation was based on parametric statistics (26) assuming a standard difference of 1.0. This value was previously used by Guyatt (26), but values close to 1.0 have also been obtained in our previous investigation on spouses of alcohol dependent persons (7;8), a study with a similar approach as the present one. Using a standard difference of 1.0, a power of 0.90 and a p-value of 0.05, the number of attendants needed would be approximately 43.

## Results

### Background characteristics for the relatives and friends

No significant differences were found between the two groups except for the Interview schedule for social in-

teraction (ISSI) total (Table 2). Regarding relatives' own alcohol behaviour, 2 (11%) in the SI (1 sister, 1 partner) and 4 (17%) in the CST-group (1 sister, 2 mothers and 1 close friend) scored above the traditional cut off points on AUDIT (6 for women and 8 for men).

**Table 2** Background characteristics of the relatives by treatment group/ number (range/%)

	SI n= 19	CST n= 24	Total n= 43
<b>Women/Men</b>	17/2	21/3	38/5
<b>Age</b>	52 (19-64)	49 (19-69)	51 (19-69)
<b>Marital status</b>			
Married	9/19 (47%)	16/24 (67%)	25/43 (58%)
<b>Type of relative</b>			
Parent	11/19 (58%)	17/24 (70%)	28/43 (65%)
Sibling	4/19 (21%)	4/24 (17%)	8/43 (19%)
Partner	4/19 (21%)	2/24 (8%)	6/43 (14%)
Good friend	0/19 (0%)	1 /24 (4%)	1/43 (2%)
<b>Education</b>			
12 years or more	12/19 (63%)	17/24 (71%)	29/43 (67%)
<b>Employment</b>			
Full time	9/19 (47%)	13/24 (54%)	22/43 (51%)
<b>Present duration of drug abuse estimated by the relative</b>			
	6 (0.5-25)	8 (1-38)	8 (0,5-38)
<b>Drug abuse in other family members</b>	84%	71%	77%



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### The characteristics of the abusing persons' drug abuses and social situations

The 43 attendants in the study were relatives/friends of 38 persons with illicit drug problems. The average age of the drug abusers was 28 (range 16-51 years). 66% of them had earlier sought treatment but they had all relapsed in drug abuse. For the SI group, according to the relatives, the main drugs used were: heroin (5 persons), amphetamine (2), cannabis (9) and pharmaceutical preparation (1). Parallel figures for the CST group were heroin (7 persons), amphetamine (6), cannabis (5), pharmaceutical preparation (2) and cocaine (1). Overall, 28 (74%) of the drug abusers had a mixed drug abuse. In 5 of these cases, the mixed drug abuse also included alcohol.

The majority of the drug abusers were unemployed (74%), 21% were students, and 5% were in work ability training via a social services programme. 26% of the

drug abusers were steadily living together with relatives, 26% were homeless and lived sometimes at their parents' home and sometimes with friends, while 47% were living with a partner or in a flat of their own. All of the abusers had regular contact with their relatives/good friends, either in person or by telephone.

### Follow-up

The participant flow is shown in Figure 1. The drop-outs did not want to give information about their reasons for dropping out of the project.

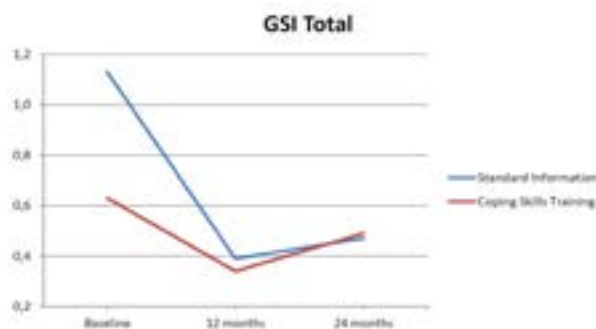
Changes between the SI group and the CST group over time are shown in Table 3. At the 24 months follow-up, the CST group differed significantly from the SI group ( $p = 0.02$ ), with respect to overall Coping. No significant difference was detected for the GSI. The symptoms measured by ISSI were significantly different between the groups, both at baseline and after 24 months.

**Table 3** Results for Standard Information and Coping Skills Training after 0, 12 and 24 months (median and range)

	SI 0 months	CST 0 months	SI 12 months	CST 12 months	SI 24 months	CST 24 months
<b>SCL 90/GSI-total</b>	1.13 (0.13-3.31)	0.63 (0.21-1.83)	0.39(0.02-2.81)	0.34(0.02-1.98)	0.47(0.09-1.98)	0.49 (0.09-1.78)
<b>Coping total</b>	44.00 (17.00-69.00)	37.00 (17.00-61.00)	16.50 (7.00-55.00)	24.00 (9.00-55.00)	24.00 (12.00-46.00)	<b>15.00 (0.00-54.00)*</b>
Engagement	24.00 (0.00-39.00)	19.50 (0.00-34.00)	6.00 (0.00-34.00)	11.00 (0.00-31.00)	9.00 (0.0-24.00)	3.50 (0.0-42.00)
Tolerance	11.00 (1.00-22.00)	10.00 (0.00-20.00)	3.50 (0.00-15.00)	4.00 (0.00-19.00)	2.00 (0.00-20.00)	2.00 (0.00-15.00)
Withdrawal	9.00 (2.00-18.00)	8.50 (0.00-21.00)	7.00 (3.00-16.00)	10.00 (5.00-21.00)	9.00 (2.00-19.00)	7.00 (0.00-14.00)
<b>ISSI total</b>	<b>18.50 (4.00-26.00)*</b>	23.00 (7.00-30.00)	21.00 (9.00-30.00)	26.00 (6.00-30.00)	<b>17.00 (9.00-26.00)*</b>	23.00 (4.00-30.00)
<b>AUDIT total</b>	2.50 (0.00-22.00)	2.00 (0.00-12.00)	3.00 (0.00-28.00)	2.00 (0.00-12.00)	2.00 (0.00-22.00)	2.00 (0.00-11.00)
<b>DUDIT</b>	0.00 (0.00-8.00)	0.00 (0.00-4.00)	0.00 (0.00-0.00)	0.00 (0.00-6.00)	0.00 (0.00-0.00)	0.00 (0.00-10.00)

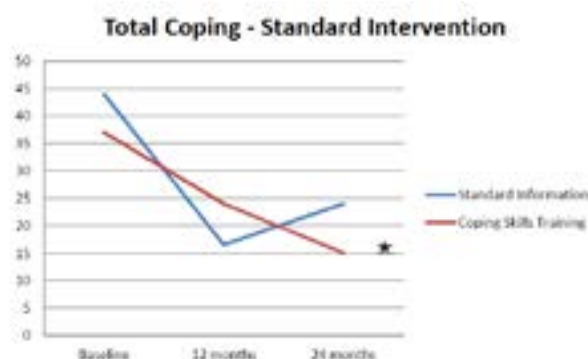
\* Statistically significant ( $P < 0.05$ )

**Figure 2** Changes in GSI (SCL-90) for both groups at baseline, 12 and 24 months follow-up.



There were no significant difference between the two groups at 24 months.

**Figure 3** Changes in total coping behaviour between the two interventions at baseline, 12 and 24 months follow-up.



The CST-group differed significantly from the SI-group at 24 month ( $p=0.02$ ).



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In the 24 months AUDIT total 4/17 (24%) for the SI group and 2/21 (10%) for the CST group scored higher than the cut-off points at 6 for women and 8 for men. The figures were close to baseline and 12 months follow-up.

### Discussion

The only difference between the two groups (SI and CST) was a significant better Coping total, for the CST group in the long term. This could be due to the extended training in coping for this group. This result differs from a previous very similar study on spouses of persons with alcohol problems conducted by Hansson and co-workers (7). In the previous study, there was no significant difference between the SI and the CST group after 24 month.

In this study the GSI- total value was lower for the CST group than for the SI group but the difference was not significant. In the present study, the reason for an insignificant difference in GSI between the SI and GSI groups after 24 months may well depend on the fact that GSI-values for the two groups are close to the normal mean values for men and women in the Swedish population (16).

One difference in the present study compared to the study of spouses of persons with alcohol problems mentioned above is that in the latter investigation, the GSI-value for the SI group increased between 12 and 24 months while it continued to decrease for the two more longstanding interventions. An intervention for relatives also seems to have a positive outcome for the abusers. A majority of the abusers, 71% in the SI group and 52% in the CST group, showed improvements in their drug abuse at the 24 months follow-up.

Taking into consideration the present results as well as previous experiences from studies in this area (1;2;7-10), it is clear that relatives are strongly affected by the drug abuse. Thus, from a health promotion perspective, it seems important that relatives of people with alcohol or drug use disorders get the opportunity to receive professional support.

### *The strengths and weaknesses of the study*

The strengths of the present study are that we have used validated questionnaires combined with structural interviews in a randomized controlled trial, that the follow-up period has been relatively long (24 months) and that the percentage of drop-outs has been relatively low (12%). Furthermore, blinded follow-up examination was accomplished by a clinical experienced investigator (SK) and most of the outcome variables were manual-based, all of which may reduce the risk of bias.

There are other features in our study which can be discussed. Firstly, we had only one therapist for both types of intervention, which might increase the risk for therapist factors. The use of several therapists is generally preferable because, in many studies, differences in outcomes are explained by therapist factors rather than technique factors (27;28).

However, the manual-based model used here should, at least in part, compensate for this weakness. Furthermore, since the power calculation was based on a relatively high minimal relevant difference, there is a risk of overlooking minor differences between the two groups (type-2 failure). From a clinical point of view, alcohol and drug problems are still hidden problems and getting in touch with participants within a reasonable time frame create difficulties in this type of studies.

### Conclusions

In the study, both the SI session and the extended CST programme led to decreased symptoms and improved coping. The significant lower value on Coping total after 24 months indicates that a long-term intervention program might be more efficient.

### Acknowledgements

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### Contribution Details

Both authors have drafted, revised and approved the manuscript and met the ICMJ criteria for authorship. UZ designed the study, analyzed and interpreted the results. SK carried out the 12 and 24 month follow-up interviews.

### Competing Interests

None declared.



## Research and Best Practice

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