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Alcoholics Anonymous and other 12-step programmes for alcohol dependence (Review)

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[Intervention Review]

Alcoholics Anonymous and other 12-step programmes for alcohol dependence

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ABSTRACT

Background

Alcoholics Anonymous (AA) is an international organization of recovering alcoholics that offers emotional support through self-help groups and a model of abstinence for people recovering from alcohol dependence, using a 12-step approach. Although it is the most common, AA is not the only 12-step intervention available there are other 12-step approaches (labelled Twelve Step Facilitation (TSF)).

Objectives

To assess the effectiveness of AA or TSF programmes compared to other psychosocial interventions in reducing alcohol intake, achieving abstinence, maintaining abstinence, improving the quality of life of affected people and their families, and reducing alcohol associated accidents and health problems.

Search methods

We searched the Specialized Register of Trials of the Cochrane Group on Drugs and Alcohol, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE from 1966, EMBASE from 1980, CINAHL from 1982, PsychINFO from 1967. Searches were updated in February 2005. We also inspected lists of references for relevant studies.

Selection criteria

Studies involving adults (>18) of both genders with alcohol dependence attending on a voluntary or coerced basis AA or TSF programmes comparing no treatment, other psychological interventions, 12-step variants.

Data collection and analysis

One reviewer (MF) assessed studies for inclusion and extracted data using a pre-defined data extraction form. Studies were evaluated for methodological quality and discussed by all reviewers.

Main results

Eight trials involving 3417 people were included. AA may help patients to accept treatment and keep patients in treatment more than alternative treatments, though the evidence for this is from one small study that combined AA with other interventions and should not be regarded as conclusive. Other studies reported similar retention rates regardless of treatment group. Three studies compared AA combined with other interventions against other treatments and found few differences in the amount of drinks and percentage of drinking days. Severity of addiction and drinking consequence did not seem to be differentially influenced by TSF versus comparison treatment

interventions, and no conclusive differences in treatment drop out rates were reported. Included studies did not allow a conclusive assessment of the effect of TSF in promoting complete abstinence.

Authors' conclusions

No experimental studies unequivocally demonstrated the effectiveness of AA or TSF approaches for reducing alcohol dependence or problems. One large study focused on the prognostic factors associated with interventions that were assumed to be successful rather than on the effectiveness of interventions themselves, so more efficacy studies are needed.

PLAIN LANGUAGE SUMMARY

Alcoholics Anonymous (AA) is self-help group, organised through an international organization of recovering alcoholics, that offers emotional support and a model of abstinence for people recovering from alcohol dependence using a 12-step approach.

As well as AA, there are also alternative interventions based on 12-step type programmes, some self-help and some professionally-led. AA and other 12-step approaches are typically based on the assumption that substance dependence is a spiritual and a medical disease. The available experimental studies did not demonstrate the effectiveness of AA or other 12-step approaches in reducing alcohol use and achieving abstinence compared with other treatments, but there were some limitations with these studies. Furthermore, many different interventions were often compared in the same study and too many hypotheses were tested at the same time to identify factors which determine treatment success.

BACKGROUND

Alcohol consumption is rising in many developing countries and in Central and Eastern Europe (WHO 2005). Alcohol's abuse significantly contributes to the global burden of disease and in parts of Central and Eastern Europe alcohol abuse has been linked to an unprecedented decline in male life expectancy (WHO 2001). On average, alcohol dependence one-year prevalence is around 7% and its life-time prevalence rates are 14% in the general population (Regier 1993; Kessler 1994). Alcohol dependence (also called alcoholism) is a condition that involves four main symptoms: craving (a strong need to drink); uncontrolled behaviour (after the first drink it is impossible to stop); physical dependence (if one does not drink enough then withdrawal symptoms such as nausea, sweating, shakiness and anxiety occur); and tolerance (the need to increase the amount of alcohol intake to feel satisfied) (NIAA 2003). Substance dependence is defined (DSMIV 1994) as a "cluster of cognitive, behavioural, and physiological symptoms indicating that the individual continues using a substance despite significant substance-related problems". Dependence on alcohol is characterised by tolerance and withdrawal symptoms. Tolerance is a progressive reduction in the susceptibility to the effects of a substance, resulting from its continued administration. It is present when a person must use an increasing quantity of a given substance, to achieve the same perceived effect as time passes (Gitlow 2001). Tolerance is also experienced when the person notices a decreased sensation with similar doses of a substance over time. Tolerance can be measured objectively, for example when a person with high blood alcohol level can still perform given perceptual and motor tasks such as walking in a straight line. Withdrawal symptoms are physiological and psychological symptoms associated with withdrawal from a substance after prolonged administration or habituation. Withdrawal is present when a characteristic physiological pattern associated with a certain substance is experienced, or when the person uses the substance to avoid or reduce specific symptoms (Gitlow 2001). People compulsively using alcohol may devote substantial time to obtain and consume alcoholic beverages and continue to use alcohol even if they experience severe psychological and physical consequences such as depression, blackouts, liver disease or other sequelae (DSMIV 1994).

There is no unique and known cause of alcohol dependence and several factors may play a role in its development: familiar and genetic factors, psychological attributes such as high anxiety, ongoing depression, unresolved conflicts within a relationship or low self-esteem, and social factors such as availability of alcohol, social acceptance and promotion of the use of alcohol, peer pressure and a demanding lifestyle (A.D.A.M. 2002). Risk factor studies conducted on animals suggest that genetic vulnerability to alcohol dependence is multigenic. In humans, evidence about the genetic vulnerability is typically provided by studies involving monozygotic and dizygotic adult twins, suggesting that alcohol dependence can be attributed in the ratio 2/3 to genetic factors and 1/3 to environmental factors, without gender differences (Heath 1997). Alcoholic dependence syndrome is three to four times higher in the relatives of alcohol dependent people compared with the general population (DSMIV 1994). Stress and emotional problems can also play a role in the development of alcohol abuse (NIAA 2000).

Remission is spontaneous in about 20% of people with alcohol dependence, who achieve long term sobriety without active treatment (DSMIV 1994). Gender and age do not substantially affect prognosis. Positive prognostic factors are good social functioning (employment, family relationship, absence of legal problems) and good health status. Retention in treatment for at least one month increases the likelihood of remaining abstinent for one year (Hales 1999). Psychiatric comorbidity is a negative prognostic factor.

The health, social and economic consequences of alcohol abuse are usually devastating. Although many individuals do achieve long-term sobriety with treatment, others continue to relapse and deteriorate despite multiple courses of treatment. Alcohol dependence contributes to accidents, violent behaviours, suicide, loss of working days, work related accidents and low productivity. Mortality and morbidity are increased in people with alcohol dependence (Hales 1999).

Attendance of self-help groups is often suggested to people with a diagnosis of alcohol dependence. Participation in self-help organization meetings can be an adjunct to professional treatment, or a treatment in itself in particular for long periods. Alcoholics Anonymous (AA) is an international organization composed of recovering alcoholics that offers self-help group emotional support and a model of abstinence for people recovering from alcohol dependence. The practice of AA is the 12-step approach, an intervention based on the assumption that substance dependence is a spiritual and a medical disease (Nowinksi 1992). The 12-step approach consists of a brief, structured, manual-driven approach to facilitating recovery from alcohol abuse, and it is intended to be implemented over 12 to 15 sessions. In addition to AA, there are also other, alternative, interventions based on the 12-step approach: some include a spiritual approach and others do not; and some are led by a professional and others are led by former alcohol dependents. AA self-help groups are widely available and are well known in many countries. Although it is the most common, AA is not the only 12-step intervention available: in this review we have considered all 12-step approaches. However, as AA is the most widely available we have distinguished, wherever possible, those that are conventional AA self-help programmes from other 12-step approaches. The latter have been labelled Twelve Step Facilitation (TSF) in one of the most powerful studies recently conducted on this treatment (MATCH 1998).

A meta-analysis by Tonigan (Tonigan 1995) reported that many of the available studies were not focused on AA per se but rather on AA-inspired or AA-focused treatment and on AA involvement and outcomes within formal therapeutic interventions. The meta-analysis included 74 studies, 10 of which were randomised. The results were grouped by global study quality, a multidimensional tool considering random allocation as one of several weighting factors. Therefore it was not possible to distinguish results by study design. Another meta-analysis by Kownacki (Kownacki 1999) identified severe selection bias in the available studies, with the randomised studies yielding worse results than non-randomised studies. This meta-analysis is weakened by the heterogeneity of patients and interventions that are pooled together. Emrick 1989 performed a narrative review of studies about characteristics of alcohol-dependent individuals who affiliate with AA and concluded that the effectiveness of AA as compared to other treatments for alcoholism was not clear and therefore needed to be demonstrated.

This systematic review updates previous reviews and meta-analyses and also incorporates the results from Project MATCHMATCH 1997; MATCH 1997b; MATCH 1998b), a large randomised controlled trial conducted in the United States in the late 90's with the aim of identifying the predictors of success in different non-pharmacological interventions for alcohol dependence.

OBJECTIVES

To assess the effectiveness of Alcoholics Anonymous and other Twelve Step Facilitation (TSF) programmes in reducing alcohol intake, achieving abstinence, maintaining abstinence, improving the quality of life of affected people and their families, reducing alcohol associated accidents and health problems.

The following interventions will be compared:
twelve-step programmes versus no intervention;
twelve-step programmes versus other interventions (e.g. Motivational Enhancement Therapy (MET), Cognitive-behavioural coping skills training (CBT), Relapse Prevention Therapy (RPT));
twelve-step programmes versus Twelve-Step programme variants (e.g. spiritual, non-spiritual, professionally led, lay led).

METHODS

Criteria for considering studies for this review

Types of studies

Randomised controlled trials comparing AA or other TSF programmes to other psychological treatments or no treatment. Where available observational studies with control groups will be considered and separately analysed.

Types of participants

Adults (>18) with alcohol dependence attending AA or other TSF programmes; studies on patients coerced to participate will be included and results will be considered separately from those of studies on voluntary participation.

Types of interventions

Experimental Interventions
AA or TSF programmes for encouraging retention (meeting attendance), reducing drinking, remaining abstinent, and reducing social problems related to alcohol consumption.

Control interventions
1. No treatment.
2. Other psychological interventions, e.g. Motivational Enhancement Therapy (MET) based on the principles of cognitive and social psychology: MET seeks to evoke the clients motivation for changing the harmful use of drugs. Each client is helped by a Counsellor to set their own goals and plan (Miller 1996); Cognitive-behavioural coping skills training (CBT): a treatment where the goal is abstinence from use of substances through identification of high risk situations for substance use and the implementation of effective coping strategies (Marlatt 1995); Relapse Prevention Therapy (RPT): a cognitive-behavioral approach to the treatment of addictive behaviours that specifically addresses the nature of the relapse process and suggests coping strategies useful in maintaining change (Marlatt 1995; Parks 2001).
3. Twelve-Step programme variants (e.g. spiritual, non-spiritual, professionally led, lay led).

Types of outcome measures

1. Severity of dependence and it's consequences measured as: addiction severity measured with a questionnaire (e.g. ASI, a semi-structured interview protocol used to assess a spectrum of addiction-related behaviours and consequences (McLellan 1980), or severity of impact of alcohol abuse measured with a questionnaire (e.g. Drinking Inventory Consequences (DrInC): a self-administered 50-item questionnaire designed to measure the consequences of alcohol abuse in five domains: Interpersonal, Physical, Social, Impulsive, and Intrapersonal. Each scale provides lifetime and past 3 month measures of adverse consequences, and scales can be combined to assess total adverse consequences (NIAA 2003; NIAA 2003a).
2. Retention in, or drop out from, treatment.
3. Reduction of drinking, self-reported.
4. Abstinence, self reported.
5. Qualitative outcomes regarding patients and relatives' satisfaction will be reported as described in the included studies.

Search methods for identification of studies

We searched electronic bibliographic databases: The Cochrane Central Register of Controlled Trials (CENTRAL, *The Cochrane Library 2005, issue1*), which include the Specialized Register Search; MEDLINE (OVID - January 1966 to February 2005); EMBASE ((OVID - January 1988 to February 2005); and CINAHL ((OVID -January 1967 to February 2005) with no language or time restrictions. Search strategies were developed for each database to take account of differences in controlled vocabulary and syntax rules. *See* Appendix 1; Appendix 2; Appendix 3; Appendix 4

Data collection and analysis

Study Selection
One reviewer (MF) inspected the search results by reading the titles and the abstracts. Doubts were resolved by discussion. Each potentially relevant article located in the search was retrieved and assessed for inclusion. Decisions about inclusion were discussed among reviewers.

Assessment of the methodological quality of Randomised Controlled Studies
Quality assessment was performed by one reviewer (MF) and discussed with other reviewers. Disagreements were resolved by discussion. Study quality was assessed according to the latest quality criteria from the Drugs and Alcohol Editorial Group (see the module of the group (Amato 2005). The randomisation procedures are described below to indicate the types of procedures accepted (from the best to the worst) and to explain what we mean by allocation concealment and follow-up.

Randomisation method
Computer generated list, random number table, coin toss etc.
Date of birth, number of hospital records, etc.
Double randomised consent design (Jadad 1998).

Allocation concealment
Methods described and acceptable (Higgins 2005): centralised (for example, allocation by a central office unaware of participant characteristics) or pharmacy-controlled randomisation; pre-

numbered or coded identical containers which are administered serially to participants; on-site computer system combined with allocations kept in a locked unreadable; computer file that can be accessed only after the characteristics of an enrolled participant have been entered; sequentially numbered, sealed, opaque envelopes;
other methods; no description.

Follow up
Information on people who left the study for any reasons clearly reported (Greenhalgh 1997).

Assessment of the methodological quality of Observational Studies with a Control Group
For observational controlled studies it was decided at protocol stage that quality would be assessed against the scales developed by the Scottish Intercollegiate Guidelines Network (SIGN 2004).

The quality evaluation was not used as a criteria for exclusion and inclusion but the findings are described and discussed below.

Data extraction
One reviewer (MF) extracted data and discussed with other reviewers.

Statistical analysis
If possible, we calculated relative risks with Review Manager (RevMan 2003). The types of intervention considered here involve heterogeneity due to social context, political organization (for instance in the legal consequences of dependence related problems, access to social services etc.) (Ferri 2006); therefore the random-effects model was chosen.

Considering the varieties of approaches delivered under the name of Twelve-Steps, we decided at protocol stage to perform separate analyses basing on the characteristics of the interventions, for example: the standardized procedures for the conduct of groups; the spiritual approach, the professionally led groups; and the former alcoholic led groups. Other subgroups may be identified as the review is updated and reasons for separate analysis will be justified.

In fact, the heterogeneity of studies (interventions, patients, settings and outcomes measured) prevented a formal meta-analysis and therefore the results are described narratively in the results section.

RESULTS

Description of studies

Methods
The search strategy identified 117 studies, of which 29 were eligible for inclusion and 8 met the inclusion criteria. All the studies meeting the inclusion criteria (Brown 2002; Cloud 2004; Davis 2002; Kahler 2004;MATCH 1998; McCrady 1996; Walsh 1991; Zemore 2004) were randomised controlled studies. Twenty two studies were excluded and the reasons are explained in the table 'Characteristics of excluded studies'. Briefly these reasons can be summarized as: study design not in the inclusion criteria (ten studies); objectives not in the inclusion criteria (three studies); intervention not in the inclusion criteria (five studies); outcomes measured not in the inclusion criteria (four studies).

Participants
One study (Brown 2002) studied participants who had completed an inpatient detoxification treatment; another study (Davis 2002) studied participants who had applied for outpatient rehabilitation without passing through in-patient treatment. Project MATCH and its sub-analyses (Cloud 2004; MATCH 1998) studied either participants in outpatient therapy or participants in aftercare. Inpatients only participated in Kahler (Kahler 2004). McCrady (McCrady 1996) considered men with alcohol problems and their wives. Walsh (Walsh 1991) recruited people in their work setting and considered compulsory participation in inpatient programmes versus compulsory Alcoholic Anonymous meetings. Zemore (Zemore 2004) compared a hospital based programme combining medical and behavioural interventions against a community based 12-steps program.

Interventions
Since some ambiguity existed regarding classifying interventions as a conventional AA or other TSF programme we defined the interventions as they are reported by study authors. Three studies (Davis 2002; McCrady 1996; Walsh 1991) considered AA in association with other treatments, and in one study compulsory attendance at AA meetings was studied.
Three studies (Brown 2002; MATCH 1998; Zemore 2004) considered 12-step facilitation (TSF). Two studies compared TSF with Motivational Enhancement Therapy and Cognitive Behavioural Therapy (MATCH 1998) and Relapse Prevention Therapy (Brown 2002); and one study investigated the relationship between helping others and being involved in TSF (Zemore 2004). One study (Kahler 2004) consider motivational enhancement to encourage people to attend 12-step facilitation.

Duration of trials
Four studies (Brown 2002; Davis 2002; Kahler 2004; Zemore 2004) lasted six months; one study (Cloud 2004) lasted one year; one study (McCrady 1996) lasted 15 weeks; one other study (Walsh 1991) lasted two years; and Project Match lasted three years (MATCH 1998).

Countries in which trials were conducted
Brown 2002 was conducted in Canada. Cloud 2004; Davis 2002; Kahler 2004; MATCH 1998; McCrady 1996; Walsh 1991; and Zemore 2004 were conducted in the USA.

Types of comparisons
AA versus other self-help programs (Davis 2002; McCrady 1996; Walsh 1991)
Brief advice to attend AA versus Motivational enhancement for 12-steps involvement (Kahler 2004)
TSF versus other self-help programs (Brown 2002; Cloud 2004; MATCH 1998)
Hospital based 12-step principles versus community based programmes (Zemore 2004)
(*see* Table 1: Studies Interventions and Comparisons, and Table 2: Studies by intervention, comparison and aim)

Outcomes
The majority of the studies considered outcomes about drinking behaviour (Brown 2002; Cloud 2004; Davis 2002; Kahler 2004; MATCH 1998; McCrady 1996; Walsh 1991; Zemore 2004). The MATCH study was designed to test a series of a priori hypotheses on how patient-treatment interactions relate to outcome. Two independent but parallel matching studies have been conducted,

one with clients recruited from outpatient settings, the other with participants receiving aftercare treatment following inpatient care. Several publications (MATCH 1998) derived from the study and each of them investigate different associations, overall 504 hypotheses were tested on these data (Moyer 2001). Among the publications derived from MATCH data we identified, one article reported measuring drinking outcomes (in terms of Percent Days Abstinent and Drinks per Drinking Days) at 12-weeks during treatment; another publication measured the same outcomes at one year post-treatment. A third publication studied only the outpatient arms at three year follow-up, looking for association of participants characteristics with successful treatment. The most recent publication (Cutler 2005) looked for associations between treatment outcome and treatment quantity (*see* Table 3: studies by intervention and outcomes).

Risk of bias in included studies

All included studies are declared to be randomised controlled trials.

Randomisation methods
While randomisation is always mentioned, the methods and procedures to perform it are not described in any report or publication and could not be assessed.

Allocation concealment
Allocation concealment was never mentioned in any report or publication of the included studies.

Follow up
Details of people who left the study have been provided in six out of eight studies.

The main methodological problem with the included studies is the statistical power which was never mentioned and possibly not taken into account when designing the studies. The largest study (MATCH 1998) was suspected to be susceptible to a type I error due to the enormous quantity of hypotheses tested and analyses performed (Moyer 2001).

Effects of interventions

Outcomes considered at protocol level

1. Severity of dependence and its consequences measured as: addiction severity measured with a questionnaire (for example, ASI, a semi-structured interview protocol used to assess a spectrum of addiction-related behaviours and consequences (McLellan 1980), or severity of impact of alcohol abuse measured with a questionnaire (for example, Drinking Inventory Consequences (DrInC)).
Two studies (2062 participants) (Brown 2002; MATCH 1998) adopted the Addiction Severity Index to measure alcohol problems at baseline and at follow up.

1.1 TSF versus Cognitive Behavioral Therapy (CBT) and versus Motivational Enhancement Therapy (MET).
In MATCH 1998 (N = 1726) the Addiction Severity Index (psychiatric composite) is measured at baseline and at 12-weeks post-treatment. The TSF group showed no significant differences compared to other groups (CBT and MET) either in outpatient or in aftercare settings. The mean score differences varied from 0.21 (baseline) to 0.12 (12-weeks) (P = 0.934) with CBT outpatients; and 0.22 (baseline) to 0.17 (12-weeks) (P = 0.695) in CBT aftercare. The same pattern (no differences between groups and settings) is observed when the addiction severity index (psychiatric composite) is measured at month 9 and month 15.

The MATCH study measured impact of consequences of alcohol abuse (MATCH 1998) at baseline, 9 and 15 months and did not find any differences between TSF and the other two compared treatments (MET and CBT). All three interventions reduced drinking consequences (as measured by the questionnaire mentioned above).

1.2 TSF versus Relapse Prevention (RP)
Brown 2002 (N = 336) adopted the Addiction Severity Index with two composite scores specifically related to alcohol and drug use over the previous 30 days of measurement. No differences (statistical significance is not reported) are evident in scores measured at baseline and after 6 months. (TSF ASI alcohol baseline = 0.31, SD = 0.23; month 6 = 0.15, SD = 0.19; RP ASI alcohol baseline = 0.33, SD = 0.22; month 6 = 0.20, SD = 0.22).

Zemore 2004 (N = 279) and Kahler 2004 (N = 48) only measured ASI at baseline. The remaining four studies (Cloud 2004; Davis 2002; McCrady 1996; Walsh 1991) did not report this measure of alcohol addiction severity.

2. Drop out from treatment
This is measured as the difference between number of participants assigned to the treatment and the absolute number of participants who completed it (and checked at follow up).

2.1 AA plus different therapies versus educational intervention
In Davis 2002 (N = 105) AA meetings (minimum six) provided in a programme also involving group therapy sessions, alcohol education films, a leisure education session and three community meetings led by a PhD trained in alcoholism (Standard Treatment), helped participants to accept treatment in comparison with a minimal treatment condition (alcoholism education movie once a week). In this study 3/52 participants rejected Standard Treatment (including AA) and 13/53 rejected Minimal Treatment.

2.2 AA plus marital therapy (ABMT) versus Relapse Prevention (RP)
McCrady 1996 (N = 90) combined AA with marital therapy and 7/31 (22.58%) participants left treatment before the 12-week treatment had completed versus 8/30 (26.67%) in the alcohol-focused behavioral marital therapy (ABMT) group and 7/29 (24.14%) in the ABMT plus relapse prevention (ABMT/RP) group. In Walsh 1991 (N = 227) 12% of participants in the compulsory AA group left before the end of the treatment compared to 14% in the compulsory hospital treatment and 10% of the choice by participants group.

2.3 TSF versus RP
In Brown 2002 at the end of treatment (following 10-session aftercare) in the TSF group N = 58 (41.4%) left the treatment; at the end of follow-up (at six months from completion of intensive treatment) N = 70 (50%) of participants left treatment; in the RP group at T1 N = 58 (41.4%) left treatment and at T2 N = 65 (51.6%) left treatment.

In MATCH 1998 drop outs are reported at one year and at three years (only for outpatients), but information is not reported at type of treatment level but divided by outpatients and aftercare setting. Zemore 2004 and Kahler 2004 do not report this information.

3. Reduction of drinking, self-reported

3.1 AA plus different therapies versus minimal treatment

Davis 2002 measured reduction of drinking (in the preceding six months) at intake and at follow-up in terms of drinking days and in amount of alcohol drunk:

(N = 44 Standard treatment, including AA)
baseline, mean days = 111.8, SD = 64.4; follow up, mean days = 29.3, SD = 43.7 (P < 0.001)
baseline, amount (oz/day) = 9.55, SD = 9.84; follow up, amount (oz/day) = 1.94, SD=4.57 (P < 0.001)

(N = 36 Minimal treatment)
baseline, mean days = 103.1, SD = 59.1; follow-up, mean days = 52.9, SD = 70.4 (P < 0.005)
baseline, amount (oz/day) = 5.29, SD = 4.03 ; follow-up, amount (oz/day) = 3.29, SD = 6.10 (P < 0.005)

3.2 AA plus marital therapy (AA/ABMT) versus Relapse Prevention (RP)

McCrady 1996 reported reduction of drinking during the 12-weeks treatment as % of drinking days and in % of drink per drinking days, without finding any significant differences:

AA/ABMT, behavioural marital therapy + alcoholics anonymous:
% of drinking days = 19.38, SD = 21.09 measured on 23 participants
% of drink per drinking days measured on 19 participants = 5.94, SD = 5.05 measured on 19 participants

ABMT, behavioural marital therapy:
% of drinking days = 15.10, SD = 24.61 measured on 24 participants
% of drinks per drinking days = 7.27, SD = 9.75 measured on 14 participants

ABMT/RP, marital therapy + relapse prevention
% of drinking days = 9.75, SD = 11.12 measured on 22 participants
% of drinks per drinking days 4.61, SD = 2.73 measured on 17 participants

3.3 AA compulsory group versus AA hospital compulsory group

Walsh 1991 (N = 227) describes the AA compulsory group as similar to the hospital compulsory group and the self-choice group in four measures of drinking (mean number of daily drinks, number of drinking days per month, binges and serious symptoms) but worse if the outcomes compared were any drinking, intoxication, blackouts, IOWA stage, Rand impairment score, definite alcoholism, cocaine use, or time to additional treatment. The authors performed a life-time analysis of 200 participants followed by interview. They found overall 46 participants abstinent at every follow-up assessment (during 24 months). The hospital group had a significant lower rate of relapse than AA group (P = 0.005) or other choice group (P = 0.0018) the difference between the choice group and the AA group were not significant (P = 0.9848).

3.4 TSF versus RP

In Brown 2002 (N = 226) mean days of use in the TSF group was 46.1 at intake and 13.3 at six months follow up versus 46.0 intake and 9.2 in the relapse prevention group.

3.5 TSF versus CBT versus MET

In the MATCH 1998 (N = 1726) outpatient arm (N = 952) during 1 to 12 weeks treatment, the percentage of days abstinent is reportedly higher for TSF and CBT clients than for MET participants. Coherently, the amount of drinks per drinking days is lower for TSF and CBT compared with MET (drink reduction is reported as a graph and calculated with hierarchical linear modelling). In the aftercare arm (N = 774) the same pattern is showed during 1 to 12 weeks treatment, with the percentage of days abstinent reduced for the three groups and drinks per drinking days increased for the three groups. At year one (15 months after treatment onset) in both outpatient and aftercare arms there was an improvement in terms of drinking reduction from baseline. TSF participants had a better Percentage Days Abstinent than the other groups (P < 0.01). At three years follow up, only outpatient data were considered to match results with participants characteristics, without finding significant differences with other treatments .

Kahler 2004 (N = 48) compared Brief Advice to Motivational Enhancement for attending TSF and did not find any difference between groups either in terms of percentage of days drinking or in terms of drinks per drinking days at 6 months follow-up.

4. Abstinence, self reported

Most studies included in this review did not allow assessment of the effect of TSF in promoting complete abstinence.

4.1 AA plus different therapies versus minimal treatment

Only one of the included studies (Davis 2002) measured abstinence at six-month follow up by confirming self-report through witness of a collateral and found that Standard Treatment (including AA) obtained a higher percentage abstinent than comparison treatment: 17/47 (36.2%) and 7/37 (18.9%), respectively (P < 0.05).

Other outcomes, not specified in the review protocol

Below we list other measures reported in the included studies. Many of these are process rather than outcome measures and as we did not list these in the protocol, we have not reported the results.

- Sum of steps completed, considered self member of AAN, meetings attended, spiritual awakening, rated importance attending, attended AA meetings, been an AA sponsor last 90 days, meetings in 90 days, had AA sponsor (Cloud 2004).
- Pre-treatment commitment to abstinence and 12-step involvement, AA-NA attendance and involvement after treatment (Kahler 2004).
- Test of three hypotheses: 12-steps involvement predicts help during treatment, helping during treatment predict 12-steps involvement at follow up; helping during treatment and 12-step involvement impact treatment outcomes (Zemore 2004).
- Employment status, AA attendance (monthly) (Davis 2002).
- Attendance at meetings, treatment skills (McCrady 1996).
- 12 job-performance variables (Walsh 1991).
- Number of days to lapse (any use of substance), Number of days to relapse (three or more consecutive days of consumption), and psychological status (Brown 2002).
- PFI-social behaviour, per cent days paid for work, client treatment matching during treatment, prognostic value of client matching variables (MATCH 1998).

DISCUSSION

Overall, severity of addiction does not seem to be differentially influenced by the interventions from studies included in this review. TSF improved scores in drinking consequences in the same way

as other comparison treatments, though regression to the mean cannot be discounted as a factor. Similarly, there is no conclusive evidence from a number of different studies to show that AA helps patients to accept therapy and keep patients in therapy any more or less than other interventions. Similarly, there was no evidence that other TSF interventions impacted the number remaining in treatment any more or less than relapse prevention treatment.

In terms of reduction of self-reported drinking measures, this review shows that TSF helps to reduce alcohol consumption similarly to other comparison interventions, though without a no treatment control group conclusions are limited. Two studies comparing TSF to other interventions showed a similar reduction in alcohol consumption in all groups. It was not clear whether AA specifically helps people to reduce drinking during treatment and at follow up compared with other interventions. Three studies comparing AA in different conditions with other interventions found few differences between interventions in reducing amount of drinks and percentage of drinking days.

Although one small study reported AA had better abstinence outcomes than a comparison treatment, there is no conclusive evidence to show that AA can help patients to achieve abstinence, nor is there any conclusive evidence to show that it cannot. Most studies included in this review did not allow assessment of the effectiveness of TSF in promoting complete abstinence.

12-step and AA programmes for alcohol problems are promoted worldwide. Yet experimental studies have on the whole failed to demonstrate their effectiveness in reducing alcohol dependence or drinking problems when compared to other interventions. Even with the notable contribution from the USA National Institute on Alcohol Abuse and Alcoholism (NIAAA) in terms of funding, resources and researchers for the MATCH study (MATCH 1998), and then in giving free access to the Match data to allow further analysis, no conclusive results have been obtained about superiority of one treatment over the other included studied (Cutler 2005).

In general, the available research seems to be concentrated on prognostic factors associated with assumedly successful treatments rather than on the effectiveness of treatments in themselves. Moreover, further attention should be devoted to quality of life outcomes for patients and their families and it is possible that a well designed qualitative study could identify hypotheses for further research

AUTHORS' CONCLUSIONS

Implications for practice

People considering attending AA or TSF programmes should be made aware that there is a lack of experimental evidence on the effectiveness of such programmes. It should also be underlined that in the available studies all the interventions appeared to improve at least some of the outcomes considered. Policy makers and health care professionals need to consider the options they provide and the advice they give in this regard. The active collaboration of patients or clients should perhaps be sought to identify the best intervention for that specific person.

Implications for research

Further large-scale studies comparing just one AA or TSF intervention with a control should be undertaken to test the efficacy of that intervention over longer follow-up periods.

Further attention should be devoted to quality of life outcomes for patients and their families and it is possible that a well designed qualitative study could identify hypotheses for further research.

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* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Brown 2002

Methods	Study design: randomised controlled trial Objectives: to explore the presumptive support for the mechanisms mediating the effectiveness of 2 different aftercare programs upon substance abusers Allocation: Random
Participants	N = 266 adults who had completed an intensive inpatient treatment in three residential centres. DSM-III-R for psychoactive substance abuse/dependence; no severe organic brain syndrome or psychosis, ability to read and write in French or English, resident within 50-km from Montreal
Interventions	1) Structured relapse prevention consisting of 10 weekly session of a manual 3-stage treatment process : a) questionnaire to assess substance use risk; b) counselling on change; c) counselling focused on maintenance 2) 12-step facilitation, based on the TSF manual developed by the Project MATCH Research Group was the basis for the 10 weekly session Both the groups were led by highly trained counsellors.
Outcomes	Change in self-efficacy process, utilization of AA's principles; substance abuse indices measured pre-post aftercare program and at 6-month follow up
Notes	Randomization procedure was correct, allocation concealment is not mentioned

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

Cloud 2004

Methods	Study design: randomised controlled trial Objectives:sub analysis of Project MATCH to test the Alcoholic Anonymous Affiliation Index Allocation: random
Participants	N = 1506 adults alcohol dependents enclosed in Project MATCH
Interventions	1) Cognitive behavioural skills training 2)12-steps facilitation 3) Motivational enhancement therapy
Outcomes	Alcoholic Affiliation and Involvement (AAI) as prognostic factor for abstinence at 1 year follow up
Notes	Secondary analysis of Project MATCH

Risk of bias

Cloud 2004 *(Continued)*

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

Davis 2002

Methods	Study design: randomised controlled trial Objectives: to assess the effectiveness of standard outpatient alcoholism treatment Allocation: random
Participants	N = 49 male alcohol dependents who had applied for outpatients rehabilitation without having gone through inpatient rehabilitation, DSM III criteria for alcohol dependence or abuse
Interventions	1) Standard Treatment (group and individual therapy emphasis on AA) 2) Minimal treatment consisting of weekly alcohol education movies)
Outcomes	Abstinence Abstinence and follow-through Number of drinking days Amount of consumption; Length of sobriety; employment status AA attendance; number of detoxifications during the study period (6 months)
Notes	Randomization procedures not described

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

Kahler 2004

Methods	Study design: randomised controlled trial Objectives: to compare Brief Advice to attend Alcoholic Anonymous with Motivational Enhancement for 12-step self help group in attending AA and using alcohol Allocation: randomised
Participants	N = 48 both genders recruited in inpatients detoxification program in a private, nonprofit psychiatric and substance abuse hospital
Interventions	1) Brief Advice to attend Alcoholic Anonymous 2) Motivational Enhancement for 12-step self help group
Outcomes	AA-NA attendance Alcohol Use Outcomes 6 months follow up
Notes	Randomization procedures not described

Risk of bias

Bias	Authors' judgement	Support for judgement

Kahler 2004 *(Continued)*

Allocation concealment?	Unclear risk	B - Unclear

MATCH 1998

Methods	Study design: randomised controlled trial Objectives: to compare three different therapies for alcohol users Allocation: random
Participants	N = 952; 72% male outpatient therapy N = 774; 80% male aftercare therapy following inpatient or day hospital treatment
Interventions	12-week, manual-guided, individually delivered treatments: Cognitive Behavioral Coping Skills Therapy, Motivational Enhancement Therapy or Twelve-Step Facilitation Therapy
Outcomes	Individual differences in response to treatment were modelled as a latent growth process and evaluated for 10 primary matching variables and 16 contrasts specified a priori. The primary outcome measures were per cent days abstinent and drinks per drinking day during posttreatment (measured at different time intervals)
Notes	

Risk of bias

Bias	**Authors' judgement**	**Support for judgement**
Allocation concealment?	Unclear risk	B - Unclear

McCrady 1996

Methods	Study design: Randomized controlled trial Objectives: to assess the effectiveness of therapies involving alcohol user's partners in achieving abstinence Allocation: random
Participants	N = 90 men with alcohol problems and their female partners were randomly assigned to 1 of 3 outpatient conjoint treatments
Interventions	Alcohol behavioral couples therapy (ABCT), ABCT with relapse prevention techniques (RP/ABCT), or ABCT with interventions encouraging Alcoholics Anonymous (AA) involvement (AA/ABCT)
Outcomes	Abstinence Duration: 15 weeks
Notes	

Risk of bias

Bias	**Authors' judgement**	**Support for judgement**
Allocation concealment?	Unclear risk	B - Unclear

Walsh 1991

Methods	Study design: randomised controlled trial Objectives:to compare the effectiveness of mandatory in-hospital treatment with that of required attendance at the meetings of a self-help group and a choice of treatment options Allocation: random
Participants	N = 227 workers newly identified as alcohol abusers
Interventions	1) Compulsory inpatients treatment 2) Compulsory attendance at Alcoholics Anonymous meetings 3) Choice of options
Outcomes	12 job-performance variables 12 measures of drinking and drug use
Notes	2-year follow-up period

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

Zemore 2004

Methods	Study design: randomised controlled study Objectives: to assess whether clients in treatment for alcohol use benefit from helping others Allocation: turn randomisation
Participants	N = 279 alcohol and/or drug-dependent individuals recruited through advertisement and treatment referral from Northern California Bay Area
Interventions	1) hospital-based hybrid model blending professional medical and behavioural sciences with 12-steps principles. One program was for only women. 2) the other three programmes were community based and emphasised experiential learning and 12-steps principal
Outcomes	Twelve-step involvement Helping Substance use outcomes
Notes	Procedures of randomizations not described

Risk of bias

Bias	Authors' judgement	Support for judgement
Allocation concealment?	Unclear risk	B - Unclear

AA: Alcohol Anonymous
AAI: Alcoholic Anonymous Affiliation Index
AA-NA:
AANI:
ABCT: Alcohol behavioral couples therapy

DSM III:
N: No of participants
RPT: Relapse prevention techniques

Characteristics of excluded studies *[ordered by study ID]*

Study	Reason for exclusion
Bond 2003	Study design: cross sectional study Objective: to describe the role of AA in obtaining abstinence Interventions: interview at intake and at 1 year Participants: people attending 10 public and private centres for alcohol users Outcomes: alcohol consumption Exclusion: for the study design not in the inclusion criteria
Bradley 2004	Study design: Objectives: to test whether scores on brief alcohol screening questionnaires and patient reports of prior alcohol treatment reflect the severity of recent problems due to drinking Intervention: brief questionnaires on alcohol problems Allocation: not applicable Participants: Veterans Affairs general medicine outpatients who screened positive for at-risk drinking Outcomes: positive predictive value of the brief questionnaire Exclusion: objectives not in the inclusion criteria
Campos 2004	Study design: qualitative survey Objective: to describe self-perception of a group of alcohol users Interventions: unstructured interview Participants: members of AA in the neighbourhood of Sao Paulo Outcomes: personal feelings about alcoholism and its management in the self-help group. Excluded because design did not meet the inclusion criteria
Gossop 2003	Study design: longitudinal study Objective: impact of attending AA meeting prior, during and after leaving treatment. Allocation: inapplicable Participants: 150 inpatients meeting ICD-10 criteria for alcohol dependence Outcomes: drinking behaviour, psychological problems and quality of life. Exclusion: study design not meeting the inclusion criteria.
Graham 1996	Study design: randomised controlled study Objective: to assess effectiveness of a relapse prevention intervention in group or individually provided after 12-Step 26-day residential program Intervention: relapse prevention intervention in group or individually provided after 12-Step 26-day residential program. Allocation: random Outcomes: drinking behaviour Exclusion: intervention not meeting the inclusion criteria.
Humphreys 2004	Study design: narrative review Objective: a consensus of expert upon possible indication for policy makers Interventions: Self-help group, mutual help organizations, twelve steps. Allocation: not applicable Participants not applicable Exclusion for study design not in the inclusion criteria
Karno 2003	Study design: prognostic study nested in a Randomized Controlled Trial Objectives: to assess the interaction between depressive symptoms (measured before the interventions) and the outcomes Interventions: Beck Depression Inventory

Study	Reason for exclusion
	Allocation: patient were selected on the basis of availability of tapes of therapy (provided in the randomised controlled study) Participants: alcohol users attending Providence Clinical Research Unit enrolled in the Project MATCH Outcomes: interaction between pre-treatment depression and Percentage of Heavy Drinking Days (PHDD) and Percentage Days Abstinent (PDA). Exclusion for: Outcomes not in the inclusion criteria
Keso 1990	Study design: randomised controlled trial Objectives: to assess the effectiveness of Hazelden-type vs traditional treatment for alcohol dependent client in in-patients setting Interventions: Hazelden-type is an inpatients treatment inspired partially by AA philosophy vs traditional inpatients treatment Allocation: random Participants: employed alcohol dependents referred by their occupational health agency Outcomes: abstinence, duration of abstinence Exclusion: for the intervention not in the inclusion criteria
Lloyd 2002	Study design: Longitudinal study Objectives: to observe recovery and to find association with attendance of the North West Doctors and Dentist Group and Alcoholics Anonymous Interventions: round of questionnaires Allocation: not applicable Participants: first consecutive 100 alcoholic doctors becoming members of North West Doctors and Dentist Group (a self-help association to help doctors with substance abuse problems) between 1980-88 Outcomes: Duration of abstinence; Duration of recovery; Relapse Exclusion: study design not in the inclusion criteria for the review
Longabaugh 1998	Study design: Randomized controlled trial Objective: to test the hypothesis that TSF is more effective than MET for alcohol dependent clients with network highly supportive for drinking 3 years after treatment Intervention: Twelve Steps Facilitation Therapy, Motivational Enhancement Therapy, Cognitive Behavioural Coping Skills Therapy Allocation: random Participants: outpatient alcohol dependent clients Outcomes: percentage of days abstinent and drinks per drinking day Excluded for objectives not in the inclusion criteria
Masudomi 2004	Study design: cohort studies of patients who had completed Alcoholic Treatment Program and choose to participate to AA or not Objective: to see whether having chosen to participate in AA is a prognostic factor for mortality Intervention: Self help group participation versus non self help group participation Participants: people with a diagnosis ICD-10 of alcoholism Allocation: patients freely decided whether they were interested in participating in Self-Help Group or not Outcomes: mortality Exclusion: outcomes not meeting the inclusion criteria for this review
McKellar 2003	Study design: Comparisons of inventories obtained at baseline, 1 year and 2 years after discharge. Objective: Assess whether AA involvement is a cause, consequence or merely a correlate of better alcohol-related outcomes Intervention: AA involvement Participants: male veterans seeking treatment at Veteran Affairs centres for alcohol related problems (subset of patients enclosed in Moos 1997-1999) Allocation: not applicable Exclusion for: study design not in the inclusion criteria

Study	Reason for exclusion
McLatchie 1988	Study design: cohort controlled study Objectives: to evaluate the effects of experimentally manipulated aftercare availability to assess the relationship between aftercare and treatment outcome Intervention: aftercare presented as mandatory, aftercare presented as voluntary, no aftercare offered Allocation: not specified Participants: people who had completed 4-week residential treatment programme for alcoholism Outcomes: attendance to aftercare programs, abstinence at three months, relapse rate Exclusion: for the intervention not in the inclusion criteria
Moos 2004	Study design: survey Objectives: influence of duration and intensity of treatment on previously untreated individuals with alcohol use disorders Intervention: detoxification centers Allocation: not applicable Participants: alcoholic individuals (N = 473) Outcomes: alcohol-related, psychological and social problems Exclusion: study design not in the inclusion criteria
Morgan 2004	Study design: open, multicenter, prospective study Objectives: to observe outcome in dependent drinkers treated for 6 months with acamprosate and psychosocial support Intervention: acamprosate and psychosocial support Allocation: not applicable Participants: dependent on alcohol people Outcomes: quality of life Exclusion: Intervention and outcomes not in the inclusion criteria
Ouimette 1997	Study design: naturalistic design Objectives: compare the effectiveness of 12-step and C-B treatment for substance abuse Intervention: 12-step and C-B programs Allocation: observational Outcomes: substance use, psychiatric, legal, employment and residential Exclusion: for study design and objectives not in the inclusion criteria. The study is aimed at assessing overall substance abuse rather than alcoholism.
Staines 2003	Study design: Uncontrolled cohort study Objectives: identify predictors of post-treatment drinking frequency at two follow-up interview (3-12 months post-baseline) Intervention: 1)regular outpatient (1.5 hours 2 evening per weeks, 10-12 weeks); 2) intensive outpatient (3.5 hours day, 3 weeks-3 months); 3) inpatient rehabilitation (maximum 28 days). Allocation: by indication Participants: dependent/abusing patients (DSMIV) Outcomes: Predictors measured with: Addiction Severity Index, Treatment Motivation Questionnaire, Beck Depression Inventory, Hamilton Depression Scale, 12-step participation scale. Exclusion: design not in the inclusion criteria for the review
Thomassen 2002	Study design: longitudinal study Objectives: to assess the AA subsequent attendance by patients introduce to AA during outpatients treatment. Intervention: multidimensional questionnaire to assess effective participation in AA meetings Allocation: the self-administered surveys were given to the outpatient clients six months after entry into the program. Participants: 55 people with work, health, interpersonal or law-enforcement problems. Outcomes: types of involvement in the AA meetings Exclusion: for intervention and study design not in the inclusion criteria
Timko 2002	Study design: Unclear

Study	Reason for exclusion
	Objectives: to compare initially untreated women and men problem drinkers on help-utilization and outcomes over 8 years Intervention: no help, Alcoholics Anonymous (AA) only, formal treatment only or formal treatment plus AA. Allocation: self chosen Participants: N=466, 49% female Outcomes: gender differences in AA participation and drinking results Exclusion: objectives and design not meeting the inclusion criteria
Timko 2004	Study design: Objectives: To study dual diagnosis patients and the associations of the intensity of acute care services and 12-step self-help group attendance with substance use and mental health outcomes Intervention: residential treatments centres Allocation: not applicable Participants: dual diagnosed patients Outcomes: substance use and family/social outcomes Exclusion: participants and outcomes not meeting the inclusion criteria
Tucker 2004	Study design: survey Objectives: to investigate variables associated with help-seeking for drinking problems and with long-term drinking outcomes Intervention: interview about their seeking experience history Allocation: not applicable Participants: N = 167 problem drinkers Outcomes: association between types of drinking problems and seeking help Exclusion: objectives, interventions and outcomes not in the inclusion criteria
Verinis 1994	Study design: randomised controlled trial (in two phases) Objectives: to assess 2 different strategies to facilitate patients' aftercare attendance Intervention: One group was invited to attend the weekly group therapy in the aftercare clinic, the second group was invited to invited to attend an additional inpatient group therapy. Allocation: random Participants: 100 consecutive patients in a inpatients rehabilitation program Outcomes: average number of visits in 6 months follow-up Exclusion: for interventions not in the inclusion criteria.

ADDITIONAL TABLES

Table 1. Studies and interventions and comparisons

Author	12-step	AA	Other self-help	Total comparisons
Brown 2002	°		°	1
Cloud 2004	°		°	1
Davis 2002		°	°	1
Kahler 2004	°			1

Table 1. Studies and interventions and comparisons *(Continued)*

MATCH 1998	°	°	2
McCrady 1996	°	°	2
Walsh 1991	°	°	2
Zemore 2004	°		1

Table 2. Studies by intervention, comparison and aim

Study	Intervention	Intervention	Intervention	Comparison	Aim	Outcomes	Notes
Cloud 2004	Cognitive behavioural skills	12-step facilitation	motivational enhancement treatment	three intervention are compared on 2 groups of patients N=952 outpatients; N=774 aftercare inpatients	to assess if Alcoholic Anonymous affiliation predicts posttreatment outcomes	Mean proportion of days abstinent	Secondary analysis of MATCH
Kahler 2004	Brief Advice to attend Alcoholic Anonymous	motivational enhancement for 12-steps involvement			to test the hypothesis that patients in ME-12 would results in better involvement in AA and better alcohol outcome	Percentage days abstinent (PDA) and Drink per drinking day (DDD) measured and Alcoholics Anonymous attendance measured with Timeline Followback questionnaire	
Zemore 2004	Hospital based hybrid model blending professional medical behavioural science with 12-step principles	two community-based programs including both genders	community-based program for women only			12-step involvement; helping others; substance use	
Brown 2002	Relapse prevention	12-steps facilitation	-	-	To quantify the change in self-efficacy process in RP;	utilization of AA's principle in TSF	
Davis 2002	group and individual therapy, emphasis on AA	weekly alcohol education movies	-	-	To examine the effectiveness of the standard outpatients treatment in US	Proportion of abstinent days; reduction in number of days drinking (during 6 months study period); reduction in overall quantity of alcohol consumed; length of abstinence at 6-month follow-up	
MATCH 1998	Motivational Enhancement Therapy	Cognitive-behavioural Therapy	Twelve-steps facilitation		To test a priori client treatment matching hypothesis	PDA DDD	

Table 2. Studies by intervention, comparison and aim *(Continued)*

McCrady 1996	Alcohol behavioural marital therapy (ABMT)	ABMT plus AA/ alanon	ABMT plus relapse prevention	-	To assess within treatment behaviour	Drinking during treatment, patterns of AA/ABMT condition
Walsh 1991	Compulsory in-patients treatment	Compulsory attendance at AA meetings	choice between options	-	To assess the effectiveness of mandatory in-patients treatment vs mandatory AA attendance	Drinking at follow-up

Table 3. Included studies by intervention and outcomes

Outcome	12-step	AA
ASI	2 studies	-
Drop-out	2 studies	3 studies
Reduction of drinking	3 studies	3 studies
Abstinence	1 study	1 study
DrInC	1 study	-
Total	4 studies	4 studies

APPENDICES

Appendix 1. CENTRAL search strategy

ALCOHOL-RELATED DISORDERS:ME
2.DRINKING BEHAVIOR:ME
3.Alcoholism
4.Alcohol
5.#1 or #2 or #3 or #4
6.SELF-HELP GROUPS:ME
7."self-help group*"
8.alcoholic* near/2 anonymou*
9. #6 or #7 or #8
10. #5 and #9

Appendix 2. MEDLINE search strategy

1.exp Alcohol-related disorders/
2.exp Drinking behavior/
3.(drug or substance$) adj2 (abuse$ or misuse or dependen$ or addict$).ti,ab
4.Alcoholism.ti,ab
5.(alcohol adj2 abuse).ti,ab
6.exp Alcohol abstinence/
7.Alcohol.ti,ab
8.1 or 2 or 3 or 4 or 5 or 6
9.exp Self-help Groups/
10.(self adj2 help adj2 group$).ti,ab
11.(alcoholic* adj2 anonymou$).ti,ab
12.(twelve adj2 step).ti,ab
13.7 or 8 or 9 or 10
14.8 and 13

Appendix 3. EMBASE search strategy

1.exp alcohol abuse/
2.exp alcoholism/
3.alcoholism.ti,ab
4.exp alcoholic intoxication/
5.exp Drinking behavior/
6.(drug or substance$) adj2 (abuse or misuse$ or addict$ or dependen$).ti,ab
7.detoxification/
8.exp drug detoxification/

9.exp drug withdrawal/
10. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
11. alcohol.ti,ab
12. 10 or 11
13. exp self-help
14. (self adj2 help adj2 group$).ti,ab.
15. (twelve adj2 step).ti,ab.
16. 12-step.ti,ab.
17. exp alcoholics anonymous/
18. (alcoholic$ adj anonymou$).ti,ab.
19. exp Behavior therapy/
20. 13 or 14 or 15 or 16 or 17 or 18 or 19
21. 12 and 20

Appendix 4. CINAHL search strategy

1.exp alcohol abuse/
2.(drug or substance$) adj2 (abuse or misuse$ or addict$ or dependen$).ti,ab
3.exp alcoholism/
4.exp Drinking behavior/
5.alcohol$ti,ab
6.1 or 2 or 3 or 4 or 5
7.exp Alcohol Rehabilitation Programs/
8.(self-help adj2 group$).ti,ab.
9.(twelve adj2 step).ti,ab.
10. 12-step.ti,ab.
11. exp alcoholics anonymous/
12. (alcoholic$ adj anonymou$).ti,ab
13. 7 or 8 or 9 or 10 or 11 or 12
14. 6 and 13

WHAT'S NEW

Date	Event	Description
8 May 2009	Amended	Contact details updated.

HISTORY

Protocol first published: Issue 4, 2004
Review first published: Issue 3, 2006

Date	Event	Description
10 April 2008	Amended	little changes in the text
21 March 2008	Amended	Converted to new review format.
20 March 2006	New citation required and conclusions have changed	Substantive amendment

CONTRIBUTIONS OF AUTHORS

Marica Ferri conducted the initial literature searches, reviewed and coded the papers. Studies were evaluated for methodological quality and discussed by all reviewers.

DECLARATIONS OF INTEREST

None

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Internal sources

- Dipartimento di Epidemiologia ASL RME, Italy.

External sources

- No sources of support supplied

INDEX TERMS

Medical Subject Headings (MeSH)

*Program Evaluation; *Self-Help Groups; Alcoholics Anonymous; Alcoholism [*rehabilitation]; Randomized Controlled Trials as Topic

MeSH check words

Adult; Humans