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[Intervention Review]

Alcoholics Anonymous and other 12-step programs for alcohol use disorder

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ABSTRACT

Background

Alcohol use disorder (AUD) confers a prodigious burden of disease, disability, premature mortality, and high economic costs from lost productivity, accidents, violence, incarceration, and increased healthcare utilization. For over 80 years, Alcoholics Anonymous (AA) has been a widespread AUD recovery organization, with millions of members and treatment free at the point of access, but it is only recently that rigorous research on its effectiveness has been conducted.

Objectives

To evaluate whether peer-led AA and professionally-delivered treatments that facilitate AA involvement (Twelve-Step Facilitation (TSF) interventions) achieve important outcomes, specifically: abstinence, reduced drinking intensity, reduced alcohol-related consequences, alcohol addiction severity, and healthcare cost offsets.

Search methods

We searched the Cochrane Drugs and Alcohol Group Specialized Register, Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Embase, CINAHL and PsycINFO from inception to 2 August 2019. We searched for ongoing and unpublished studies via ClinicalTrials.gov and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) on 15 November 2018. All searches included non-English language literature. We handsearched references of topic-related systematic reviews and bibliographies of included studies.

Selection criteria

We included randomized controlled trials (RCTs), quasi-RCTs and non-randomized studies that compared AA or TSF (AA/TSF) with other interventions, such as motivational enhancement therapy (MET) or cognitive behavioral therapy (CBT), TSF treatment variants, or no treatment. We also included healthcare cost offset studies. Participants were non-coerced adults with AUD.

Data collection and analysis

We categorized studies by: study design (RCT/quasi-RCT; non-randomized; economic); degree of standardized manualization (all interventions manualized versus some/none); and comparison intervention type (i.e. whether AA/TSF was compared to an intervention with a different theoretical orientation or an AA/TSF intervention that varied in style or intensity). For analyses, we followed Cochrane methodology calculating the standard mean difference (SMD) for continuous variables (e.g. percent days abstinent (PDA)) or the relative risk (risk ratios (RRs)) for dichotomous variables. We conducted random-effects meta-analyses to pool effects wherever possible.

Main results

We included 27 studies containing 10,565 participants (21 RCTs/quasi-RCTs, 5 non-randomized, and 1 purely economic study). The average age of participants within studies ranged from 34.2 to 51.0 years. AA/TSF was compared with psychological clinical interventions, such as MET and CBT, and other 12-step program variants.

We rated selection bias as being at high risk in 11 of the 27 included studies, unclear in three, and as low risk in 13. We rated risk of attrition bias as high risk in nine studies, unclear in 14, and low in four, due to moderate (> 20%) attrition rates in the study overall (8 studies), or in study treatment group (1 study). Risk of bias due to inadequate researcher blinding was high in one study, unclear in 22, and low in four. Risks of bias arising from the remaining domains were predominantly low or unclear.

AA/TSF (manualized) compared to treatments with a different theoretical orientation (e.g. CBT) (randomized/quasi-randomized evidence)

RCTs comparing manualized AA/TSF to other clinical interventions (e.g. CBT), showed AA/TSF improves rates of continuous abstinence at 12 months (risk ratio (RR) 1.21, 95% confidence interval (CI) 1.03 to 1.42; 2 studies, 1936 participants; high-certainty evidence). This effect remained consistent at both 24 and 36 months.

For percentage days abstinent (PDA), AA/TSF appears to perform as well as other clinical interventions at 12 months (mean difference (MD) 3.03, 95% CI -4.36 to 10.43; 4 studies, 1999 participants; very low-certainty evidence), and better at 24 months (MD 12.91, 95% CI 7.55 to 18.29; 2 studies, 302 participants; very low-certainty evidence) and 36 months (MD 6.64, 95% CI 1.54 to 11.75; 1 study, 806 participants; very low-certainty evidence).

For longest period of abstinence (LPA), AA/TSF may perform as well as comparison interventions at six months (MD 0.60, 95% CI -0.30 to 1.50; 2 studies, 136 participants; low-certainty evidence).

For drinking intensity, AA/TSF may perform as well as other clinical interventions at 12 months, as measured by drinks per drinking day (DDD) (MD -0.17, 95% CI -1.11 to 0.77; 1 study, 1516 participants; moderate-certainty evidence) and percentage days heavy drinking (PDHD) (MD -5.51, 95% CI -14.15 to 3.13; 1 study, 91 participants; low-certainty evidence).

For alcohol-related consequences, AA/TSF probably performs as well as other clinical interventions at 12 months (MD -2.88, 95% CI -6.81 to 1.04; 3 studies, 1762 participants; moderate-certainty evidence).

For alcohol addiction severity, one study found evidence of a difference in favor of AA/TSF at 12 months ($P < 0.05$; low-certainty evidence).

AA/TSF (non-manualized) compared to treatments with a different theoretical orientation (e.g. CBT) (randomized/quasi-randomized evidence)

For the proportion of participants completely abstinent, non-manualized AA/TSF may perform as well as other clinical interventions at three to nine months follow-up (RR 1.71, 95% CI 0.70 to 4.18; 1 study, 93 participants; low-certainty evidence).

Non-manualized AA/TSF may also perform slightly better than other clinical interventions for PDA (MD 3.00, 95% CI 0.31 to 5.69; 1 study, 93 participants; low-certainty evidence).

For drinking intensity, AA/TSF may perform as well as other clinical interventions at nine months, as measured by DDD (MD -1.76, 95% CI -2.23 to -1.29; 1 study, 93 participants; very low-certainty evidence) and PDHD (MD 2.09, 95% CI -1.24 to 5.42; 1 study, 286 participants; low-certainty evidence).

None of the RCTs comparing non-manualized AA/TSF to other clinical interventions assessed LPA, alcohol-related consequences, or alcohol addiction severity.

Cost-effectiveness studies

In three studies, AA/TSF had higher healthcare cost savings than outpatient treatment, CBT, and no AA/TSF treatment. The fourth study found that total medical care costs decreased for participants attending CBT, MET, and AA/TSF treatment, but that among participants with worse prognostic characteristics AA/TSF had higher potential cost savings than MET (moderate-certainty evidence).

Authors' conclusions

There is high quality evidence that manualized AA/TSF interventions are more effective than other established treatments, such as CBT, for increasing abstinence. Non-manualized AA/TSF may perform as well as these other established treatments. AA/TSF interventions, both manualized and non-manualized, may be at least as effective as other treatments for other alcohol-related outcomes. AA/TSF probably produces substantial healthcare cost savings among people with alcohol use disorder.

PLAIN LANGUAGE SUMMARY

Alcoholics Anonymous (AA) and other 12-step programs for alcohol use disorder

Review question

This review summarized research comparing the Alcoholics Anonymous (AA) and similarTwelve-Step Facilitation (TSF) programs (AA/TSF) to other treatments to see if they help people with drinking problems to stay sober, or reduce alcohol consumption and drinking-related consequences. We also examined whether AA/TSF reduces healthcare costs relative to other treatments.

Background

Alcohol use disorder (i.e. alcoholism) is a concerning individual and public health problem worldwide. Treatment is expensive. AA is a widespread and free mutual-help fellowship that helps people to recover from alcoholism and to improve their quality of life.

Search date

The evidence is current to 2 August 2019.

Study characteristics

We identified 27 relevant studies that had included 10,565 participants. The studies varied in design; and whether treatments were delivered according to standardized procedures (i.e. manualized); and whether AA/TSF was compared to a treatment that had a different theoretical basis (e.g. cognitive behavioral therapy (CBT)), or to a different type of TSF (i.e. one that varied in style or intensity from the AA TSF).

Study funding sources

The Included studies were funded through one or more grants from the United States National Institutes of Health (18 studies), the USA Department of Veterans Affairs (8 studies), and other organizations (e.g. private foundations or academic institutions; 8 studies). Two studies did not report their source of funding.

Key results

Manualized AA/TSF interventions usually produced higher rates of continuous abstinence than the other established treatments investigated. Non-manualized AA/TSF performed as well as other established treatments.

AA/TSF may be superior to other treatments for increasing the percentage of days of abstinence, particularly in the longer-term. AA/TSF probably performs as well as other treatments for reducing the intensity of drinking (of alcohol). AA/TSF probably performs as well as other treatments for alcohol-related consequences and addiction severity. Four of the five economics studies found substantial cost-saving benefits for AA/TSF, which indicate that AA/TSF interventions probably reduce healthcare costs substantially.

In conclusion, clinically-delivered TSF interventions designed to increase AA participation usually lead to better outcomes over the subsequent months to years in terms of producing higher rates of continuous abstinence. This effect is achieved largely by fostering increased AA participation beyond the end of the TSF intervention. AA/TSF will probably produce substantial healthcare cost savings while simultaneously improving alcohol abstinence.

Certainty of evidence

Our certainty in the evidence ranged from very low to high for the different outcomes. Most of the high-certainty evidence was based on the results from studies with reliable study designs (randomized controlled trials) and good measurement methods. We considered some evidence to be of low certainty, partly because of inadequate methods for deciding which treatment each person in the study was to receive, which can allow factors other than the treatments to affect the results.There was some inconsistency in the evidence across studies that could be due to variation in the clinical characteristics of the participants, times of follow-up, error in participant recall of certain outcomes, and differences in intervention durations, or therapist effects. Some studies had small sample sizes, which led to less precise estimates of the longest periods of abstinence, and high variability around estimates of drinks per drinking day.