Meta-analysis of randomized control trials addressing brief interventions in heavy alcohol drinkers

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Authors' objectives
To assess the effectiveness of brief interventions in heavy drinkers.

Searching
MEDLINE and PsycLIT were searched from 1966 to 1995. MeSH terms are listed. Bibliographies of relevant articles and of research experts in the field were reviewed. Only English language articles were retrieved.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were included. The control group received no alcohol-related treatment or intervention. The sample size was greater than 30.

Specific interventions included in the review
Brief interventions of less than one hour incorporating simple motivational counselling techniques much like outpatient smoking cessation programmes, including feedback and education in the harm of heavy drinking and advice to moderate drinking to low-risk, problem-free levels. Some sessions were 10-15 minutes and some as much as 60 minutes. Follow-up sessions after the initial intervention varied from 0 to 3 sessions. The control group received no alcohol-related treatment or intervention.

Participants included in the review
The less severely alcohol-affected population, or those classed as 'problem drinkers', aged 19 to 65 years. Some studies included people who were drinking more than 2 to 35 units per week. Other inclusion criteria were elevated GGT levels, a positive Cut-down/Annoyed/Guilty/Eye-opener (CAGE) (greater than or equal to 2) or Michigan Alcoholism Screening Test (MAST) questionnaire, and scales of alcohol-related problems. People with severe alcohol dependence were excluded from some trials, as were people with a previous history of advice to change drinking patterns and people with serious medical and psychiatric disorders. Two trials excluded people who were homeless.

Outcomes assessed in the review
The primary outcome was moderation of drinking levels.

How were decisions on the relevance of primary studies made?
A single reviewer screened the titles and abstracts for relevance.

Assessment of study quality
Validity was assessed according to Chalmers et al (see Other Publications of Related Interest no.1). Categories included were selection criteria, rejection log, randomisation, blinding, biological equivalents, statistical analyses, handling of withdrawals, data presentation. The authors do not state how papers were assessed for validity, or how many of the reviewers performed the validity assessment.

Data extraction
The authors do not state how data were extracted for the review, or how many of the reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
A Peto odds ratio (OR), with 95% confidence intervals (CIs), was calculated for achieving alcohol moderation 6 to 12 months after intervention. All ORs and combined ratios were verified using the Mantel-Haenszel technique.

How were differences between studies investigated?
Subgroup analyses of gender, number of intervention sessions, type of clinical setting (outpatient vs inpatient) and high-quality clinical trials were conducted. The Chi-square test for heterogeneity was performed for all summary OR estimates. The Z statistic was used to test the differences between different subgroups of data.

Results of the review
Twelve RCTs (n=3,948) were included.

The average quality score for the 12 RCTs was 0.49 (out of a possible 1.00).

Pooled OR of decreasing and moderating drinking after intervention compared to no intervention (8 RCTs) = 1.95 (95% CI: 1.66, 2.30). No significant heterogeneity was detected. A subanalysis of the 6 high quality RCTs showed little difference in the summary OR (1.91, 95% CI: 1.61, 2.27).

Calculated ORs suggest a greater likelihood of alcohol moderation with greater intensity of intervention (OR 2.12 for >1 session compared with OR 1.83 for 1 session), female gender (OR 2.42 for women compared with OR 1.90 for men) and the intervention in the inpatient setting (OR 2.41 for inpatient compared with OR 1.91 for outpatient) although none of these comparisons were significant by Z statistic (p values 0.37, 0.24, 0.43, respectively).

Authors' conclusions
Heavy drinkers who received a brief intervention were twice as likely to moderate their drinking 6 to 12 months after an intervention when compared with heavy drinkers who received no intervention. Brief intervention is a low cost effective preventive measure for heavy drinkers in outpatient settings.

CRD commentary
The review question is clear and simple and inclusion criteria are clearly stated. The search strategy is reasonable although restriction to the English language may have resulted in studies being missed. A validity assessment was undertaken and the results presented. Statistical pooling should probably have used the relative risk rather than the odds ratio as the summary estimate due to high event rates in both groups. Heterogeneity was assessed and subgroup analyses were undertaken to account for possible sources of heterogeneity. Study details are presented although more details of the trial participants would have been useful. The authors’ conclusions do seem to follow from the results presented.

Implications of the review for practice and research
The authors state that generalisability of the results must be limited to less severely affected drinkers who exhibit little or no alcohol dependence. They state that in future RCTs should include supporting outcome measures such as the CAGE questionnaire and confirmatory reports by close contacts as well as standardised outcome measures that include function and quality of life over 5-10 years after treatment manouvers.

Bibliographic details

PubMedID
9159696
Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Alcoholism /rehabilitation /therapy; Evaluation Studies as Topic; Female; Humans; Male; Odds Ratio; Prognosis; Randomized Controlled Trials as Topic; Statistics as Topic; Time Factors; Treatment Outcome

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.