Alcohol use disorders module - evidence profile ALC2: Psychosocial interventions for adults with alcohol dependence

WHO mhGAP guideline update: Mental Health Gap Action Programme (mhGAP) guideline for mental, neurological and substance use disorders

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Contents

Mental Health Gap Action Programme (mhGAP) guideline for mental, neurological and substance use disorders, available at: https://www.who.int/publications/i/item/9789240084278

1. Background

Harmful use of alcohol is accountable for 5.1% of the global burden of disease . Furthermore, it is one of the biggest risks to health worldwide as it is associated with oesophageal cancer, liver disease, epilepsy, motor vehicle accidents, homicide and other intentional injuries. Alcohol is the leading risk factor for premature mortality and disability among those aged 15 to 49 years, accounting for 10 percent of all deaths in this age group. Disadvantaged and especially vulnerable populations have higher rates of alcohol-related death and hospitalization. Alcohol Use Disorders (AUD) and alcohol-related impairments belong to the most widespread psychiatric disorders, leading to specific physical, mood, learning and memory problems and consequences for overall well-being and health.

A considerable need exists for the management of patients with alcohol dependence. Psychosocial interventions including cognitive behavioural therapy (CBT), couples therapy, psychodynamic therapy, behavioural therapies, social network therapy, contingency management and motivational interventions, and twelve-step facilitation have been considered for the treatment of alcohol dependence. However, the quality of evidence confirming the efficacy of psychosocial interventions remains low with many studies reporting no response to treatment or with those responding to be unable to stay alcohol-free in the long term. Recent research has reported some positive outcomes from interventions such as mindfulness and clinical exercise programs and other psychosocial interventions targeted specifically at the population in need of treatment. For example, female-specific CBT shows promise in treating females with alcohol dependence and parent-specific interventions (including parenting skills) have shown promise in treating parents with AUD. Certain psychosocial interventions have also shown initial promise in reducing alcohol consumption in additional subgroups such as those with HIV and chronic liver disease and those in low- and middle-income countries.

The present work is aimed at updating the 2015 review on this PICO by systematically evaluating research from 2015 until 2022 for evidence relating to psychosocial interventions for people with moderate and severe AUD and dependence. This will provide a systematic integration of the available evidence for health decision-makers, therapists, and patients, and aims to offer illustrative measures for estimating the therapeutic benefits and risks of the various psychosocial intervention while indicating gaps in knowledge and methodological demands for future clinical research.

To our present knowledge, there are no systematic reviews published addressing our specific PICO. Thus, we decided that the most appropriate approach will be to conduct a new systematic review of randomized controlled trials from January 2015 until June 2022.

Note: This methodology and report template is intended to provide a structured approach for evidence review teams in 1) outlining the methods that they will use and; 2) preparing a report detailing the results.
The same document can be used for both purposes with the methodology sections first completed and submitted as v1.0 and then a v2.0 completed with the results included.

The process for evidence retrieval and synthesis is fully outlined in chapter 8 of the WHO handbook for guideline development https://apps.who.int/iris/handle/10665/145714. A summary of the process is also available in the process note in Appendix I: mhGAP process note.
This document suggests that one of three main categories of evidence review will apply to each PICO under consideration:

1) Existing systematic reviews are sufficient to prepare the evidence summaries
2) An update of an existing systematic review is required before the evidence summaries can be prepared
3) A new systematic review is required before the evidence summaries can be prepared
4)

2. Methodology

The current (2022) systematic review was conducted in parallel with the previous systematic review which was conducted in 2015. Both reviews were mandated by the WHO for the purposes of updating the mhGAP guideline PICO for psychosocial treatment for alcohol dependence and aimed to answer the following PICO questions. The 2015 review included a review of RCTs and systematic reviews published between 1988 and 2014. The present study reviewed RCTs published between 2015 and 2022.

2.1. PICO question

Population (P): Adults diagnosed with alcohol dependence (ICD 9, 10, 11 & DSM 4) or moderate or severe alcohol use disorder (DSM 5).

Intervention (I): *Psychosocial interventions

- cognitive behavioural therapy (CBT),
- couples therapy,
- psychodynamic therapy,
- behavioural therapies,
- social network therapy,
- contingency management,
- motivational interviewing,
- twelve-step facilitation,
- mutual help groups,
- mindfulness-based therapies
- clinical exercise
- housing first

*The interventions are not listed in order of priority and the interventions are not mutually exclusive

Comparator (C): Treatment as usual, wait list, no treatment, head to head comparison

Outcomes (O):

List critical outcomes:

- Abstinence, measured as: proportion of individuals who are continuously abstinent, longest period of abstinence , percentage days abstinent
- Relapse: return to any drinking, measured by the number of people who had returned to any drinking at the end of the study and at follow-up.
- Frequency of use: measured as percentage abstinent days (ratio of the total sum of days with abstinence, related to the entire duration of the study, multiplied by the factor 100; or percentage of heavy drinking days.
- Amount of use: number of drinks per drinking day or drinking occasion.
- Adverse events: measured by number of people with at least one adverse event, both subjectively or objectively assessed.
- Dropouts from treatment: number of participants who did not complete the study.
- Dropout from treatment due to adverse events

List important outcomes:

- Alcohol-related consequences, measured as: self-reports of physical, social, and psychological sequelae resulting from alcohol use (e.g. Drinker Inventory of Consequences (DRINC) (Miller 1995), Short Inventory of Problems (SIP) (Miller 1995), or similar measures
- Alcohol addiction severity, measured by: the Addiction Severity Index (ASI; McLellan 1980); or similar measures

Subgroups: No subgroups were analysed.

2.2. Search strategy

After having conducted a non-systematic search of reviews addressing this PICO, six reviews have been judged as potentially relevant. These systematic reviews assessed whether psychosocial interventions

are effective in reducing alcohol consumption during pregnancy (Gomez et al., 2021), in parents (McGovern et al., 2022), in sub-Saharan African settings (Sileo et al., 2021), in low-and middle-income countries (Preusse et al., 2020) and in people living with HIV/AIDS (Madhombiro et al., 2019). Lardier et al. (2021) assessed whether exercise is able to reduce alcohol consumption in people with AUD and Kelly at al. (2020) assessed the effectiveness of Twelve-Step Facilitation interventions in treating adults with alcohol use disorder. These reviews address certain aspects of our inclusion criteria yet are not specific to our PICO; they address specific populations and interventions and are not specific to moderate and severe AUD.

We decided that the most appropriate approach would be to update the evidence published since the last version of mhGAP (2015). We searched for randomized controlled trials on psychosocial interventions for alcohol dependence on MEDLINE, CINAHL, PsycInfo, PsychArticles, ScienceDirect, Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews from 2015 to 2022. The detailed search strategy for each database is provided in Appendix 2.

Table 1. Search Strategy

Type of studies	**Systematic reviews of RCTs and RCTs**
Type of participants	Adults, men and women > 18 years with alcohol dependence or moderate or severe AUD. Include- populations with medical and psychiatric comorbidities Exclude- populations with comorbid illicit or other substance use
Type of interventions	Psychosocial interventions including (including Twelve Step Facilitation, Cognitive Behavioural Therapy, Motivational Enhancement and Screening, Brief Intervention, Mindfulness, Housing First, clinical exercise) Exclude: Joint pharmacotherapy and psychosocial interventions, interventions delivered on digital platforms
Types of outcome measures	Abstinence, measured as: proportion of individuals who are continuously abstinent, longest period of abstinence , percentage days abstinent Relapse: return to any drinking, measured by the number of people who had returned to any drinking at the end of the study and at follow-up. Frequency of use: measured as percentage abstinent days (ratio of the total sum of days with abstinence, related to the entire duration of the study, multiplied by the factor 100; or percentage of heavy drinking days. Amount of use: number of drinks per drinking day or drinking occasion. Adverse events: measured by number of people with at least one adverse event, both subjectively or objectively assessed. Dropouts from treatment: number of participants who did not complete the study. Dropout from treatment due to adverse events
Published language of study	*English
Date range	2015-2022
Databases searched	MEDLINE, CINAHL, PsycInfo, PsychArticles, ScienceDirect, Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews
Search terms	See Appendix

*Although we decided to include studies only in English, we did not limit our search to English language only. However, our search revealed only one article (Korean) that was not in English

2.3. Data collection and analysis

All identified records from the listed bibliographic databases and other sources were imported into COVIDENCE. First, titles and abstracts were recorded and reviewed to assess eligibility against the inclusion and exclusion criteria as outlined in Table 1. Each record was assessed by at least two reviewers. Second, full texts were retrieved and examined by a minimum of two reviewers. A third reviewer resolved any disagreements occurred in any of these two stages. Reviewers extracted information relating to the characteristics of the study design and of the population, intervention, comparator, and outcomes.

2.4. Selection and coding of identified records

The review team used the Mendeley reference management software. References were compiled and imported into Covidence.

2.5. Quality assessment

We used the Cochrane Risk of Bias tool to appraise the quality of RCTs. The strength of the recommendations was evaluated using the GRADE approach.

2.6. Analysis of subgroups or subsets

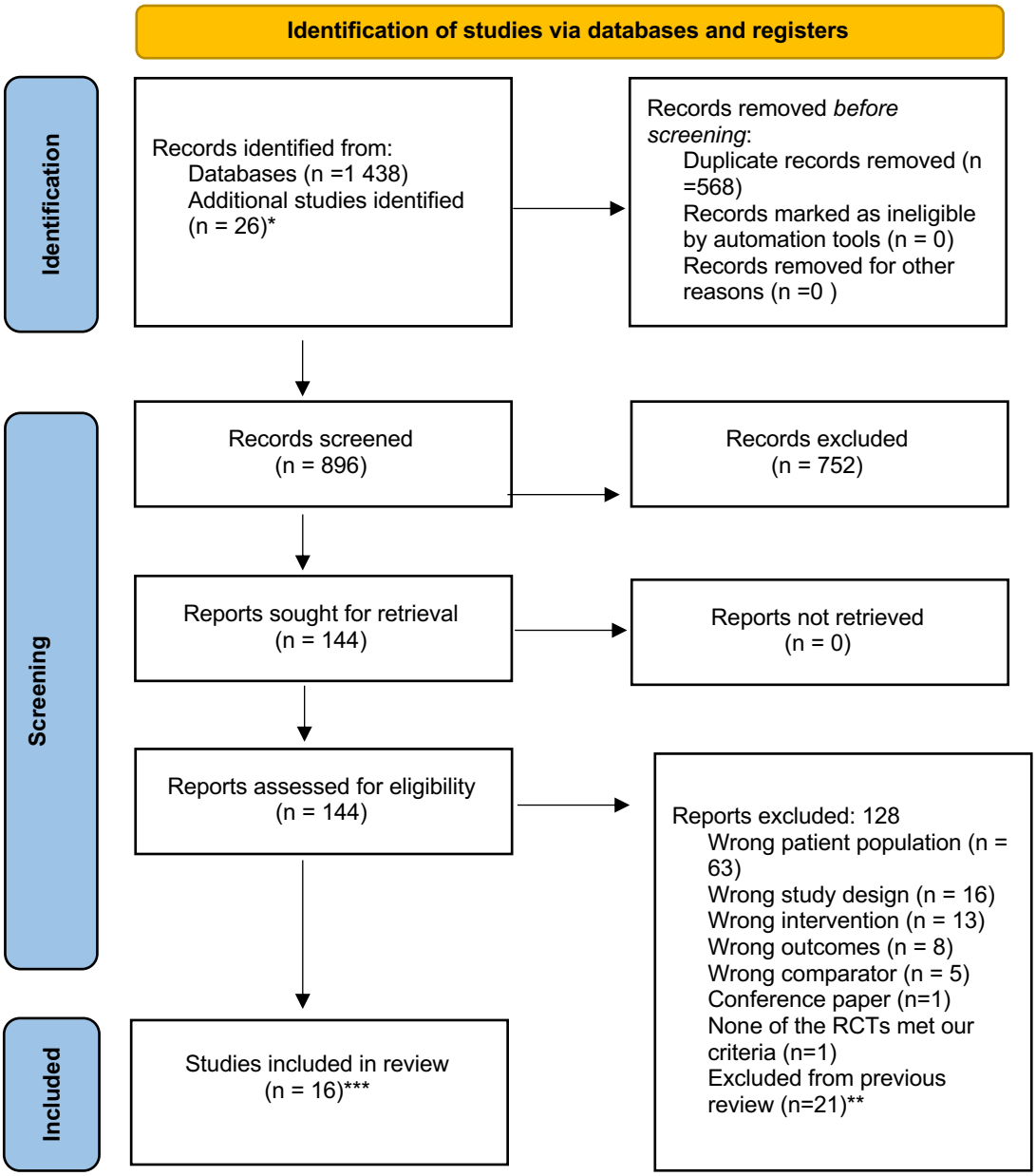
No subgroup analysis was undertaken.

3. Results

3.1. Systematic reviews and/or studies identified by the search process

We identified 1 438 studies through the literature search. We also examined the references of previous systematic reviews, including the 2015 mhGAP ALC2 review. Five hundred and sixty-eight duplicates were removed. The title and abstracts of 896 studies were screened for eligibility leading to the further removal of 752 records. One hundred and forty-four studies were judged as potentially relevant and acquired in full text. One hundred and twenty-eight studies were excluded as they did not meet the inclusion criteria. This was predominantly because the population was not alcohol dependent and there were no subgroup analyses for alcohol dependence in the sample of patients with AUD (n = 63). Other primary reasons for exclusion included: study design (n = 16); interventions (n = 13) where two similar psychosocial interventions were compared against each other instead of against treatment as usual (TAU); outcomes (n = 8); comparator (n = 5); type of publication (e.g. conference paper; n = 1); RCTs which did not meet our overall eligibility criteria (n = 1) or those excluded from previous review (n = 21). The 2015's mhGAP ALC2 review, which included 23 studies for grading evidence, was screened. We excluded 6 studies from the previous review because there were no published studies between 2015 and 2022 examining the effectiveness of MET, behaviour therapy, twelve-step facilitation, and counselling. Therefore, including those studies from the 2015 review to the present systematic review would not have changed the recommendations on these individual interventions. We did not include the other 15 RCTs from the previous review because these studies had different comparison groups than the studies published between 2015 and 2022. Therefore, the study results could not be pooled. Hence, the recommendation of the 2015's review wound not change. Overall, 15 studies were used in the meta-analysis and 16 studies were included in the narrative synthesis.
See figure 1.

Fig. 1. PRISMA 2020 flow diagram for RCTs which included searches of databases and registers only



* This includes all studies from the 2015 review
**Findings for these 21 studies could not be pooled in this review as either no new studies with these interventions were identified or these studies used different comparison groups. The 2015 mhGAP recommendations for these interventions remain unchanged.
***15 studies were used in the meta-analysis and 16 studies were used in the narrative review

3.2. List of studies included and excluded

3.2.1. Included in GRADE tables/footnotes

Burtscheidt W, Wolwer W, Schwarz R, Strauss W, Gaebel W (2001). Out-patient behaviour therapy in alcoholism: treatment outcome after 2 years. Acta Psychiatrica Scandinavica.106(3):227–232.

Coriale, G., De Rosa, F., Battagliese, G., Gencarelli, S., Fiore, M., Ferraguti, G., Vitali, M., Rotondo, C., Messina, M.P. and Attilia, M.L., 2019. Motivational enhancement therapy versus cognitive behavioral therapy in a cohort of men and women with alcohol use disorder. Biomedical Reviews, 30, pp.125-135.

Harada, T., Aikawa, Y., Takahama, M., Yumoto, Y., Umeno, M., Hasegawa, Y., Ohsawa, S., & Asukai, N. (2022). A 12-session relapse prevention program vs psychoeducation in the treatment of Japanese alcoholic patients: A randomized controlled trial. Neuropsychopharmacology reports, 42(2), 205–212.

Jirapramukpitak, T., Pattanaseri, K., Chua, K. C., & Takizawa, P. (2020). Home-Based Contingency Management Delivered by Community Health Workers to Improve Alcohol Abstinence: A Randomized Control Trial. Alcohol and alcoholism (Oxford, Oxfordshire), 55(2), 171–178.

Litt, M. D., Kadden, R. M., Tennen, H., & Kabela-Cormier, E. (2016). Network Support II: Randomized controlled trial of Network Support treatment and cognitive behavioral therapy for alcohol use disorder. Drug and alcohol dependence, 165, 203–212.

Manning, V., Staiger, P. K., Hall, K., Garfield, J. B., Flaks, G., Leung, D., Hughes, L. K., Lum, J. A., Lubman, D. I., & Verdejo-Garcia, A. (2016). Cognitive Bias Modification Training During Inpatient Alcohol Detoxification Reduces Early Relapse: A Randomized Controlled Trial. Alcoholism, clinical and experimental research, 40(9), 2011–2019.

McDonell, M. G., Hirchak, K. A., Herron, J., Lyons, A. J., Alcover, K. C., Shaw, J., Kordas, G., Dirks, L. G., Jansen, K., Avey, J., Lillie, K., Donovan, D., McPherson, S. M., Dillard, D., Ries, R., Roll, J., Buchwald, D., & HONOR Study Team (2021). Effect of Incentives for Alcohol Abstinence in Partnership With 3 American Indian and Alaska Native Communities: A Randomized Clinical Trial. JAMA psychiatry, 78(6), 599–606.

Monti PM, Rohsenow DJ, Rubonis AV, Niaura RS, Sirota AD, Colby SM, Goddard P, Abrams DB (1993). Cue exposure with coping skills treatment for alcoholics: a preliminary investigation. Journal of Consulting and Clinical Psychology.61(6):1011–1019.

Nadkarni, A., Weiss, H. A., Velleman, R., McCambridge, J., McDaid, D., Park, A. L., Murthy, P., Weobong, B., Bhat, B., & Patel, V. (2019). Feasibility, acceptability and cost-effectiveness of a brief, lay counsellor-delivered psychological treatment for men with alcohol dependence in primary care: an exploratory randomized controlled trial. Addiction (Abingdon, England), 114(7), 1192–1203.

Owens, L., Kolamunnage-Dona, R., Owens, A., Perkins, L., Butcher, G., Wilson, K., Beale, S., Mahon, J., Williamson, P., Gilmore, I., & Pirmohamed, M. (2016). A Randomized Controlled Trial of Extended Brief Intervention for Alcohol-Dependent Patients in an Acute Hospital Setting. Alcohol and alcoholism (Oxford, Oxfordshire), 51(5), 584–592.

Proeschold-Bell, R. J., Evon, D. M., Yao, J., Niedzwiecki, D., Makarushka, C., Keefe, K. A., Patkar, A. A., Mannelli, P., Garbutt, J. C., Wong, J. B., Wilder, J. M., Datta, S. K., Hodge, T., Naggie, S., Fried, M. W., & Muir, A. J. (2020). A Randomized Controlled Trial of an Integrated Alcohol Reduction Intervention in Patients With Hepatitis C Infection. Hepatology (Baltimore, Md.), 71(6), 1894–1909.

Satyanarayana, V. A., Nattala, P., Selvam, S., Pradeep, J., Hebbani, S., Hegde, S., & Srinivasan, K. (2016). Integrated Cognitive Behavioral Intervention Reduces Intimate Partner Violence Among Alcohol Dependent Men, and Improves Mental Health Outcomes in their Spouses: A Clinic Based Randomized Controlled Trial from South India. Journal of substance abuse treatment, 64, 29–34.

Synowski, J., Weiss, H. A., Velleman, R., Patel, V., & Nadkarni, A. (2021). A lay-counsellor delivered brief psychological treatment for men with comorbid Alcohol Use Disorder and depression in primary care: Secondary analysis of data from a randomized controlled trial. Drug and alcohol dependence, 227, 108961.

Thapinta, D., Skulphan, S., Kitsumban, V., & Longchoopol, C. (2017). Cognitive Behavior Therapy Self-Help Booklet to Decrease Depression and Alcohol Use among People with Alcohol Dependence in Thailand. Issues in mental health nursing, 38(11), 964–970.

Zgierska, A. E., Burzinski, C. A., Mundt, M. P., McClintock, A. S., Cox, J., Coe, C. L., Miller, M. M., & Fleming, M. F. (2019). Mindfulness-based relapse prevention for alcohol dependence: Findings from a randomized controlled trial. Journal of substance abuse treatment, 100, 8–17.

3.2.2. Excluded from GRADE tables/footnotes

Coates, J. M., Gullo, M. J., Feeney, G., Young, R. M., & Connor, J. P. (2018). A Randomized Trial of Personalized Cognitive-Behavior Therapy for Alcohol Use Disorder in a Public Health Clinic. Frontiers in psychiatry, 9, 297

Table 2. Example PICO Table

Population: People with alcohol dependence					
Intervention	**Comparison**	**Outcome**	**Included Studies**	**Justification for inclusion**	**Relevant GRADE table**
Any psychosocial intervention	TAU/ Active comparator	Abstinence rate	Jirapramukpitak et al. (2020) Manning et al. (2016) McDonnell et al. (2021) Nadkarni et al. (2019) Proeschold-Bell et al. (2020) Synowski et al. (2021) Zgierska et al. (2019) Monti et al. (1993) Burtscheidt et al. (2002)	Met inclusion criteria	Table 1
		Quantity of drinks	Coriale et al. (2019) Manning et al. (2016) Nadkarni et al. (2019) Thapinta et al. (2017) Zgierska et al. (2019)		
		Frequency of drinking	Manning et al. (2016) Proeschold-Bell et al. (2020)		
		% abstinence days	Coriale et al. (2019) Nadkarni et al. (2019)		
		Left treatment early	Jirapramukpitak et al. (2020) McDonnell et al. (2021) Nadkarni et al. (2019) Proeschold-Bell et al. (2020)		

Intervention	Comparison	Outcome	Included Studies	Justification for inclusion	Relevant GRADE table
			Synowski et al. (2021) Zgierska et al. (2019) Monti et al. (1993) Burtscheidt et al. (2002) Satyanarayana et al. (2016)		
CBT	TAU	Abstinence rate Severity of alcohol dependence	Nadkarni et al. (2019) Proeschold-Bell et al. (2020) Monti et al. (1993) Burtscheidt et al. (2002) Satyanarayana et al. (2016)	Met inclusion criteria	Table 2
Contingency management	TAU/Financial incentive	Abstinence rate	Jirapramukpitak et al. (2020) McDonell et al. (2021)	Met inclusion criteria	Table 3
Brief interventions	TAU	Severity of alcohol dependence	Owens et al. (2016)	Met inclusion criteria	Table 4
Mindfulness- based relapse prevention	TAU	Percentage of participants with ANY drinking	Zgierska et al. (2019)	Met inclusion criteria	Table 5
Relapse prevention program	Psychoeducation	Relapse risk	Harada et al. (2022)	Met inclusion criteria	Table 6
Network Support (AA attendance)	CBT	Abstinence rate	Litt et al. (2016)	Met inclusion criteria	Table 7

3.3. Narrative description of studies that contributed to GRADE analysis

This review was based on 2,735 participants. Males outnumbered females by comprising 76.7 % of the sample. The mean age of the participants in the Intervention group was 44.1 years, and that of the control group was 43.9 years.

Six studies conducted in Asia, five in the USA and three in Europe and two from Oceania.

The mean number of the sessions delivered was 11 (range 4-40), whereas each of them lasted for 56.5 minutes (range 10-120 minutes). Twelve studies of these studies used individual sessions, two group sessions, and one delivered both individual and group sessions. One did not report the mode of delivery.

Two studies were conducted in in-patient settings (Harada et al., 2022; Manning et al., 2016). The rest were conducted either in outpatient or community settings.

Eight (Nadkarni et al., 2019; Proeschold-Bell et al., 2020; Satyanarayana et al., 2016; Thapinta et al., 2017; Coriale et al., 2019; Coates et al., 2019; Burtscheidt et al. 2002; Monti et al., 1993) of the 16 studies were either based on CBT or used components of CBT (e.g. skill training). There were two studies (MacDonell et al., 2021; Jirapramukpitak et al., 2020) which were based on contingency management, one each on mindfulness-based relapse prevention (Zgierska et al., 2019) and brief intervention (Owens et al., 2016). One study examined network support therapy against CBT (Litt et al., 2016), and another compared relapse prevention programs with psychoeducation (Harada et al., 2022). There was a single study examining the effects of cognitive bias modification (Manning et al., 2016), and motivational interviewing (added to the enhanced usual care) (Synowski et al., 2021).

The most common comparison group was treatment-as-usual (TAU). Some studies used enhanced TAU (e.g. Nadkarni et al., 2019; Synowski et al., 2021), Screening, brief intervention, and referral to treatment (SBIRT) (e.g. Proeschold-Bell et al., 2020), or financial incentives (e.g. McDonell et al., 2021).

Four studies (Nadkarni et al., 2019; Synowski et al., 2021; Thapinta et al., 2017; Jirapramukpitak et al., 2020) reported psychiatric comorbidities, whereas one study was conducted in participants with hepatitis C infection (Proeschold-Bell et al., 2020).

The narrative table below describes individual study characteristics and types of psychosocial interventions.

Table 3. Individual study characteristics and types of psychosocial interventions

Study name	Study design	Participants enrolled	Intervention – Group 1	Intervention – Group 2	Intervention – Group 3 / 4
Litt et al. (2016)	RCT Unblinded	193	Group 1 96 Network support: facilitation of AA attendance, social, and family networks	Group2 Control 97 Cognitive behaviour therapy: inter and intra-personal coping skills	-
Harada et al. (2022)	RCT Unblinded	48	Group1 24 Group Relapse prevention program: identification and management of triggers, coping skill training, cognitive restructuring, stress-, anger-management, alternative activities	Group 2 24 Control Group Psychoeducation	-
Jirapramukpitak et al. (2020)	RCT Unblinded	161	Group 1 37 Home-based contingency management with high-value contingency	Group 2 42 Home-based contingency management with low-value contingency	Group 3 80 TAU Home visits
Manning et al. (2016)	RCT Single-blind	83	Group 1 44 Cognitive bias modification TAU	Group 2 43 Control Sham training TAU	-
Proeschold-Bell et al. (2020)	RCT Unblinded	181	Group 1 95 Screening, brief intervention, referral to treatment (SBIRT) and integrated HCV-alcohol treatment (CBT, motivational enhancement therapy)	Group2 86 Control TAU- SBIRT alone	-
Synowski et al. (2021)	RCT Single-blind	241	Group 1 121 Motivational interviewing, coping skill training, and enhanced usual care (EUC)	Group 2 120 Control EUC	-

Study name	Study design	Participants enrolled	Intervention – Group 1	Intervention – Group 2	Intervention – Group 3 / 4
Satyanarayana et al. (2016)	RCT Unblinded	177	Group 1 88 Integrated cognitive behavioural intervention	Group 2 89 Control TAU	Satyanarayana et al. (2016)
Thapinta et al. (2017)	RCT Single-blind	350	Group 1 175 Supervised engagement with CBT self-help booklet	Group 2 175 Control TAU	Thapinta et al. (2017)
Nadkarni et al. (2019)	RCT Single-blind	135	Group 1 69 counselling following MhGAP guidelines	Group 2 66 EUC	Nadkarni et al. (2019)
Owens et al. (2016)	RCT Single blind	267	Group 1 134 brief intervention	Group 2 133 TAU	Owens et al. (2016)
Coates et al (2019)	RCT Single blind	379	Group 1 193 Targeted CBT	Group 2 186 TAU-incl MI, psychoed, relaxation etc	Coates et al (2019)
Zgierska et al (2019)	RCT Single blind	112	Group 1 64 Mindfulness-based relapse prevention	Group 2 59 TAU-inpatient and outpatient groups	
Coriale et al. (2019)	RCT Single blind	90	Group 1 43 CBT	Group 2 47 MI/MET	
McDonell 2021	RCT	158	Group 1 75 Contingency management (abstinence required)	Group 2 83 Financial incentive with no abstinence requirement	
Burtscheidt et al. (2001)	RCT	120	Group 1 40 CBT	Group 2 40 Coping Skill Training	Group 3 40 TAU

Study name	Study design	Participants enrolled	Intervention – Group 1	Intervention – Group 2	Intervention – Group 3 / 4
Monti et al. (1993)	RCT	40	Group 1 22 Cue exposure integrated coping skill therapy (CBT)	Group 2 18 TAU	

Synthesis of included studies:
People receiving any psychosocial interventions, including cognitive-behavioural therapy, contingency management, motivational interviewing, and coping skill training had a 28% increase in the relative risk of remaining abstinent from alcohol [n = 9, RR = 1.28, 95% Confidence Interval (CI): 1.10-1.49, P = 0.01] than those who received treatment-as-usual (TAU). Heterogeneity was minimal, I^2 = 17%, and there was no indication of publication bias (P = 0.51). Our preliminary univariable meta-regression analyses examining the role of socioeconomic status (1 = high, 2 = low; P = 0.89), gender (1 = male, 2 = female, 3 = equal; P = 0.60), setting (1 = outpatient, 2 = inpatient, 3 = mixed, p = 1.00), comorbid conditions (1 = no, 2 = yes, P = 0.63), delivery method (1 = individual, 2 = group, 3 = mixed, P = 0.79), number of sessions (1 = 1-8, 2 = 9-16, 3 = more than 17, P = 0.77), level of experience (1 = professional, 2 = other, P = 0.97), and supervision received from those delivering the psychosocial interventions (1 = yes, 2 = no, P = 0.88) showed no significant findings. However, the number of comparisons was modest, and these results should be interpreted with caution.

Psychosocial interventions were not effective in reducing the quantity of drinks when compared to motivational enhancement therapy and TAU. The effect size was small and non-significant (n = 5, Hedge's g = -0.10, 95% CI:-0.37 to 0.16, p = 0.43). The results did not change when we removed the study of Coriale (2019) which contained an active control group (MET) (n = 4, Hedge's g = -0.10, 95% CI:-0.37 to 0.16). Heterogeneity was moderate, I^2 = 60.5. Hence, a random effect model was used.

Two studies provided data on any psychosocial interventions in reducing drinking frequency in adults but their pooled effect size was non-significant (n = 2, Hedge's g = -0.10, 95% CI: -0.46 to 0.26, P= 0.57). Two studies, one based on CBT and the other on counselling, provided data on increasing the percentage of abstinent days. The pooled effect size also was non-significant (n = 2, Hedge's g = 0.03, 95% CI: -0.32 to 0.38, P = 0.88).

Four studies compared the proportion of abstinent participants between CBT and treatment-as-usual groups. CBT increased the relative risk of the proportion of abstinent participants by 19%; however, the outcomes were not statistically significant [n = 4, RR = 1.19, 95% Confidence Interval (CI): 0.89-1.61]. Two studies compared the proportion of abstinent participants between Contingency management (CM) and treatment-as-usual/financial incentive groups. Although CM increased the relative risk of abstinence rates in the CM group, these findings were not significant [n = 2, RR = 1.18, 95% Confidence Interval (CI): 0.74-1.88]. See Appendix 3.

Quality Assessment:
We used Cochrane's Risk of Bias 2 tool for assessing the study quality. One of the included studies had a high risk of bias (6.6%), six of these had some concerns (40%), and eight had a low risk of bias (53.3%). See Appendix 4.

3.4. Grading the Evidence

Measures adopted by the meta-analyses conducted to evaluate the effectiveness of psychosocial interventions for alcohol dependence

CI: Confidence interval (measure of uncertainty of the estimate; when narrow, uncertainty is smaller, when wider, uncertainty is greater)[Higgins et al., 2021]

Hedges' g*: SMD (see below) in social science; according to this value, effects are ranked as "small" (0.2), "medium" (around 0.5) or "large" (above 0.8)[Higgins et al., 2021]

MD*: Mean difference of continuous outcomes (e.g. drinks per day); 0 = no difference between treatments; values > 0 and < 0 indicate changes compared to control[Higgins et al., 2021]

RR*: Risk ratio or relative risk of dichotomous outcomes (e.g. number of abstinent participants); 1 = no difference between treatments; values > 1 and < 1 indicate the increase and/or reduction of the risk (e.g. RR = 3, the event with medication is 3 times more likely than with control; RR = 0.25, medication decreases the risk of events by 75%)[Higgins et al., 2021]

SD: Standard deviation (measure of variability around the mean; low SD indicate all values close to the mean; high SD values indicate high variability)[Higgins et al., 2021]

SMD*: Standardized mean difference of continuous outcomes (MD/pooled SD) used to pool data when the studies assess the same outcome using different instruments[Higgins et al., 2021]

*Expressed with a measure of uncertainty[Higgins et al., 2021]

3.5. Evidence Summary

Table 3. Psychosocial Interventions vs. Treatment-As-Usual or Active Comparator

Question: Any Psychosocial Intervention compared to Treatment-as-Usual (TAU) for Alcohol Dependence
Setting: Outpatient/Inpatient
Bibliography:

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Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Any Psychosocial Intervention	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
Proportion of Abstinent Participants (follow-up: range 2 weeks to 24 weeks)												
9	randomized trials	serious[a]	not serious[b]	not serious	not serious	none	258/543 (47.5%)	187/496 (37.7%)	**RR 1.28** (1.10 to 1.49)	**106 more per 1 000** (from 38 more to 185 more)	⊕⊕⊕◯ Moderate	CRITICAL
Quantity of Drinks (follow-up: range 2 weeks to 12 weeks)												
5	randomized trials	not serious	not serious	not serious	not serious	none	385	378	-	SMD **0.1 SD lower** (0.37 lower to 0.16 higher)	⊕⊕⊕⊕ High	IMPORTANT
Frequency of Drinking (follow-up: range 2 to 12 weeks)												
2	randomized trials	not serious	not serious	not serious	not serious	none	106	100	-	SMD **0.1 SD lower** (0.46 lower to 0.26 higher)	⊕⊕⊕⊕ High	IMPORTANT
Percent Abstinence Days (follow-up: mean 12 weeks)												

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Any Psychosocial Intervention	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
2	randomized trials	not serious	serious[c]	not serious	serious[d]	none	255	259	-	SMD **0.03 SD higher** (0.32 lower to 0.28 higher)	⨁⨁◯◯ Low	IMPORTANT
Left Treatment Early (follow-up: range 8 weeks to 24 weeks)												
9	randomized trials	not serious	serious[e]	not serious	not serious	none	141/925 (15.2%)	125/871 (14.4%)	**RR 1.05** (0.70 to 1.58)	**7 more per 1000** (from 43 fewer to 83 more)	⨁⨁⨁◯ Moderate	IMPORTANT

CI: confidence interval; **RR:** risk ratio; **SMD:** standardized mean difference

a. McDonnel (2021) did per-protocol analysis and had a high missing outcome

b. McDonnel (2021) had high odds ratio and when it was removed the overall effect of any psychosocial intervention reduced significantly

c. The SMD and 95% CI varied substantially between the two included studies

d. The 95% CI for Coriale (2019) was very wide

e. Satyanarayana (2016) has different results

Table 5. Cognitive Behaviour Therapy (CBT) compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Setting: Outpatient

Bibliography:

Nadkarni, A., Weiss, H. A., Velleman, R., McCambridge, J., McDaid, D., Park, A. L., Murthy, P., Weobong, B., Bhat, B., & Patel, V. (2019). Feasibility, acceptability and cost-effectiveness of a brief, lay counsellor-delivered psychological treatment for men with alcohol dependence in primary care: an exploratory randomized controlled trial. Addiction (Abingdon, England), 114(7), 1192–1203.

Proeschold-Bell, R. J., Evon, D. M., Yao, J., Niedzwiecki, D., Makarushka, C., Keefe, K. A., Patkar, A. A., Mannelli, P., Garbutt, J. C., Wong, J. B., Wilder, J. M., Datta, S. K., Hodge, T., Naggie, S., Fried, M. W., & Muir, A. J. (2020). A Randomized Controlled Trial of an Integrated Alcohol Reduction Intervention in Patients With Hepatitis C Infection. Hepatology (Baltimore, Md.), 71(6), 1894–1909.

Burtscheidt W, Wolwer W, Schwarz R, Strauss W, Gaebel W (2001). Out-patient behaviour therapy in alcoholism: treatment outcome after 2 years. Acta Psychiatrica Scandinavica.106(3):227–232.

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Satyanarayana, V. A., Nattala, P., Selvam, S., Pradeep, J., Hebbani, S., Hegde, S., & Srinivasan, K. (2016). Integrated Cognitive Behavioral Intervention Reduces Intimate Partner Violence Among Alcohol Dependent Men, and Improves Mental Health Outcomes in their Spouses: A Clinic Based Randomized Controlled Trial from South India. Journal of substance abuse treatment, 64, 29–34.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cognitive Behaviour Therapy (CBT)	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
Percentage Abstinent Participants (follow-up: mean 24 weeks)												
4	randomized trials	Serious [a]	not serious	not serious	not serious	none	67/206 (32.5%)	54/199 (27.1%)	**RR 1.19** (0.89 to 1.61)	**52 more per 1000** (from 30 fewer to 166 more)	⨁⨁⨁◯ Moderate	NOT IMPORTANT
Severity of Alcohol Dependence (follow-up: mean 12 weeks)												

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cognitive Behaviour Therapy (CBT)	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
1	randomized trials	not serious	not serious	Serious [b]	not serious	none	88	89	-	SMD **0.08 SD lower** (0 to 0)	⨁⨁⨁◯ Moderate	NOT IMPORTANT

CI: confidence interval; **RR:** risk ratio; **SMD:** standardized mean difference

a. Two of the 4 included studies (Burtscheidt 2002 and Monti 1993) have "some concerns" about the Risk of bias assessment.
b. No direct measurement of abstinence or consumption

Table 6. Contingency Management (CM) compared to Treatment-As-Usual (TAU)/Active Control for Alcohol Dependence

Setting: Outpatient

Bibliography:

Jirapramukpitak, T., Pattanaseri, K., Chua, K. C., & Takizawa, P. (2020). Home-Based Contingency Management Delivered by Community Health Workers to Improve Alcohol Abstinence: A Randomized Control Trial. Alcohol and alcoholism (Oxford, Oxfordshire), 55(2), 171–178.

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Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Contingency Management (CM)	Treatment-As-Usual (TAU)/Active Control	Relative (95% CI)	Absolute (95% CI)		
Percentage Abstinent Participants (follow-up: mean 12 weeks)												
2	randomized trials	not serious	not serious	not serious	not serious	none	26/114 (22.8%)	30/163 (18.4%)	**RR 1.18** (0.74 to 1.88)	**33 more per 1000** (from 48 fewer to 162 more)	⨁⨁⨁⨁ High	NOT IMPORTANT

CI: confidence interval; **RR:** risk ratio

Table 7. Brief Intervention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Setting: Inpatient

Bibliography:

Owens, L., Kolamunnage-Dona, R., Owens, A., Perkins, L., Butcher, G., Wilson, K., Beale, S., Mahon, J., Williamson, P., Gilmore, I., & Pirmohamed, M. (2016). A Randomized Controlled Trial of Extended Brief Intervention for Alcohol-Dependent Patients in an Acute Hospital Setting. Alcohol and alcoholism (Oxford, Oxfordshire), 51(5), 584–592.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Brief Intervention	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
Severity of Alcohol Dependence (follow-up: mean 24 weeks)												
1	randomized trials	not serious	not serious	serious[a]	serious[b]	none			-	MD **1.02 higher** (0.38 higher to 2.75 higher)	⨁⨁◯◯ Low	

CI: confidence interval; **MD:** mean difference

a. Severity of alcohol dependence was measured by a questionnaire. No measures of drinking or abstinence were considered.

b. Wide 95% CI

Table 8. Mindfulness-based Relapse Prevention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Setting: Outpatient

Bibliography:

Zgierska, A. E., Burzinski, C. A., Mundt, M. P., McClintock, A. S., Cox, J., Coe, C. L., Miller, M. M., & Fleming, M. F. (2019). Mindfulness-based relapse prevention for alcohol dependence: Findings from a randomized controlled trial. Journal of substance abuse treatment, 100, 8–17.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Mindfulness-based Relapse Prevention	Treatment-as-Usual (TAU)	Relative (95% CI)	Absolute (95% CI)		
Percentage of Participants ANY Drinking (follow-up: mean 26 weeks)												
1	randomized trials	not serious	not serious	not serious	not serious	none	20/57 (35.1%)	20/55 (36.4%)	**RR 0.96** (0.59 to 1.59)	**15 fewer per 1000** (from 149 fewer to 215 more)	⊕⊕⊕⊕ High	NOT IMPORTANT

CI: confidence interval; **RR:** risk ratio

Table 9. Relapse Prevention Program compared to Psychoeducation for Alcohol Dependence

Setting: Outpatient

Bibliography:

Harada, T., Aikawa, Y., Takahama, M., Yumoto, Y., Umeno, M., Hasegawa, Y., Ohsawa, S., & Asukai, N. (2022). A 12-session relapse prevention program vs psychoeducation in the treatment of Japanese alcoholic patients: A randomized controlled trial. Neuropsychopharmacology reports, 42(2), 205–212.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Relapse Prevention Program	Psychoeducation	Relative (95% CI)	Absolute (95% CI)		
Relapse Risk (follow-up: mean 12 weeks)												
1	randomized trials	very serious[a]	not serious	not serious	not serious	none	6/15 (40.0%)	7/18 (38.9%)	**RR 1.03** (0.44 to 2.40)	**12 more per 1000** (from 218 fewer to 544 more)	⨁⨁◯◯ Low	NOT IMPORTANT

CI: confidence interval; **RR:** risk ratio

a. The concern was high because of the selection of reported results; there ware some concerns with the randomization process, missing outcome data, and measurement of outcomes

Table 10. Network Support (AA attendance) compared to CBT for Alcohol Dependence

Setting: Outpatient

Bibliography:

Litt, M. D., Kadden, R. M., Tennen, H., & Kabela-Cormier, E. (2016). Network Support II: Randomized controlled trial of Network Support treatment and cognitive behavioral therapy for alcohol use disorder. Drug and alcohol dependence, 165, 203–212.

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Network Support (AA attendance)	CBT	Relative (95% CI)	Absolute (95% CI)		
Proportion of Abstinent Participants (follow-up: mean 3 months)												
1	randomized trials	serious[a]	not serious	not serious	not serious	none	96	97	-	SMD **0.33 SD higher** (0 to 0)	⨁⨁⨁◯ Moderate	

CI: confidence interval; **SMD:** standardized mean difference

a. Some concerns in the measurement of the outcome

4. From Evidence to Recommendations

4.1. Summary of findings

Table 11. Summary of findings: Any Psychosocial Intervention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient/Inpatient
Intervention: Any Psychosocial Intervention
Comparison: Treatment-as-Usual (TAU)

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with Treatment-as-Usual (TAU)	**Risk with Any Psychosocial Intervention**				
Proportion of Abstinent Participants follow-up: range 2 weeks to 24 weeks	377 per 1,000	**483 per 1 000** (415 to 562)	**RR 1.28** (1.10 to 1.49)	1 039 (9 RCTs)	⨁⨁⨁◯ Moderate[a,b]	Any psychosocial intervention, compared to the treatment-as-usual, increases the abstinence rate
Quantity of Drinks follow-up: range 2 weeks to 12 weeks	-	SMD **0.1 SD lower** (0.37 lower to 0.16 higher)	-	763 (5 RCTs)	⨁⨁⨁⨁ High	Any psychosocial intervention does not decrease the quantity of drinks
Frequency of Drinking follow-up: range 2 to 12 weeks	-	SMD **0.1 SD lower** (0.46 lower to 0.26 higher)	-	206 (2 RCTs)	⨁⨁⨁⨁ High	Any psychosocial intervention does not decrease the frequency of drinking
Percent Abstinence Days follow-up: mean 12 weeks	-	SMD **0.03 SD higher** (0.32 lower to 0.28 higher)	-	514 (2 RCTs)	⨁⨁◯◯ Low[c,d]	Any psychosocial intervention possibly does not increase the percent abstinence days

Table 11. Summary of findings: Any Psychosocial Intervention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient/Inpatient
Intervention: Any Psychosocial Intervention
Comparison: Treatment-as-Usual (TAU)

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with Treatment-as-Usual (TAU)	**Risk with Any Psychosocial Intervention**				
Left Treatment Early follow-up: range 8 weeks to 24 weeks	144 per 1 000	**151 per 1 000** (100 to 227)	**RR 1.05** (0.70 to 1.58)	1 796 (9 RCTs)	⨁⨁⨁◯ Moderate[e]	The proportion of patients left treatment early does not differ between any psychosocial intervention and treatment-as-usual

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **RR:** risk ratio; **SMD:** standardized mean difference

GRADE Working Group grades of evidence
High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.
Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

a. McDonnel (2021) did per-protocol analysis and had a high missing outcome
b. McDonnel (2021) had high odds ratio and when it was removed the overall effect of any psychosocial intervention reduced significantly
c. The SMD and 95% CI varied substantially between the two included studies
d. The 95% CI for Coriale (2019) was very wide
e. Satyanarayana (2016) has different results

Table 12. Summary of findings: Cognitive Behaviour Therapy (CBT) compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient
Intervention: Cognitive Behaviour Therapy (CBT)
Comparison: Treatment-as-Usual (TAU)

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with Treatment-as-Usual (TAU)	**Risk with Cognitive Behaviour Therapy (CBT)**				
Percentage Abstinent Participants follow-up: mean 12 weeks	271 per 1,000	**323 per 1 000** (242 to 437)	**RR 1.19** (0.89 to 1.61)	405 (4 RCTs)	⊕⊕⊕◯ Moderate	CBT, compared to the treatment-as-usual does not increase the abstinence rate
Severity of Alcohol Dependence follow-up: mean 12 weeks	-	SMD **0.08 SD lower** (0 to 0)	-	177 (1 RCT)	⊕⊕⊕◯ Moderate [a]	CBT possibly does not reduce the severity of alcohol dependence

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **RR:** risk ratio; **SMD:** standardized mean difference

GRADE Working Group grades of evidence
High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.
Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

a. No direct measurement of abstinence or consumption

Table 13. Contingency Management (CM) compared to Treatment-As-Usual (TAU)/Active Control for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient
Intervention: Contingency Management (CM)
Comparison: Treatment-As-Usual (TAU)/Active Control

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	What happens?
	Risk with Treatment-As-Usual (TAU)/Active Control	**Risk with Contingency Management (CM)**				
Percentage Abstinent Participants follow-up: mean 12 weeks	184 per 1,000	**217 per 1 000** (136 to 346)	**RR 1.18** (0.74 to 1.88)	277 (2 RCTs)	⊕⊕⊕⊕ High	CM does not increase abstinence rate

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **RR:** risk ratio

Table 14. Brief Intervention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Inpatient
Intervention: Brief Intervention
Comparison: Treatment-as-Usual (TAU)

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	What happens?
	Risk with Treatment-as-Usual (TAU)	**Risk with Brief Intervention**				
Severity of Alcohol Dependence follow-up: mean 24 weeks	The mean severity of Alcohol Dependence was **0**	MD **1.02 higher** (0.38 higher to 2.75 higher)	-	(1 RCT)	⨁⨁◯◯ Low[a,b]	Brief intervention possibly does not reduce the severity of alcohol dependence

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **MD:** mean difference

Table 15. Mindfulness-based Relapse Prevention compared to Treatment-as-Usual (TAU) for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient
Intervention: Mindfulness-based Relapse Prevention
Comparison: Treatment-as-Usual (TAU)

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	What happens?
	Risk with Treatment-as-Usual (TAU)	**Risk with Mindfulness-based Relapse Prevention**				
Percentage of Participants ANY Drinking follow-up: mean 26 weeks	364 per 1,000	**349 per 1 000** (215 to 578)	**RR 0.96** (0.59 to 1.59)	112 (1 RCT)	⨁⨁⨁⨁ High	Mindfulness-based relapse prevention does not reduce % ANY drinking

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **RR:** risk ratio

Table 16. Relapse Prevention Program compared to Psychoeducation for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient
Intervention: Relapse Prevention Program
Comparison: Psychoeducation

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	What happens?
	Risk with Psychoeducation	**Risk with Relapse Prevention Program**				
Relapse Risk follow-up: mean 12 weeks	389 per 1,000	**401 per 1 000** (171 to 933)	**RR 1.03** (0.44 to 2.40)	33 (1 RCT)	⨁⨁◯◯ Low[a]	Relapse prevention program does not decrease relapse risk compared to psychoeducation

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **RR:** risk ratio

Table 17. Network Support (AA attendance) compared to CBT for Alcohol Dependence

Patient or population: Alcohol Dependence
Setting: Outpatient
Intervention: Network Support (AA attendance)
Comparison: CBT

Outcomes	**Anticipated absolute effects*** (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	What happens?
	Risk with CBT	**Risk with Network Support (AA attendance)**				
Proportion of Days of Abstinence follow-up: mean 3 months	-	SMD **0.33 SD higher** (0 to 0)	-	193 (1 RCT)	⨁⨁⨁◯ Moderate[a]	Network support increase % days of abstinence compared to CBT

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **SMD:** standardized mean difference

4.2. Evidence to decision

Table 18. Evidence to decision table

Please note * indicates evidence from overarching qualitative review by Gronholm et al, 2023

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
Priority of the problem	Is the problem a priority? The more serious a problem is, the more likely it is that an option that addresses the problem should be a priority (e.g. diseases that are fatal or disabling are likely to be a higher priority than diseases that only cause minor distress). The more people who are affected, the more likely it is that an option that addresses the problem should be a priority.			
	• Are the consequences of the problem serious (that is, severe or important in terms of the potential benefits or savings)? • Is the problem urgent? • Is it a recognized priority (such as based on a political or policy decision)? [Not relevant when an individual patient perspective is taken]	☐ No ☐ Probably no ☐ Probably yes ☒ **Yes** ☐ Varies ☐ Don't know	AUD and alcohol-related impairments belong to the most widespread psychiatric disorders, leading to specific physical, mood, learning and memory problems and consequences for overall well-being and health	
Desirable Effects	How substantial are the desirable anticipated effects? The larger the benefit, the more likely it is that an option should be recommended.			
	• Judgements for each outcome for which there is a desirable effect • How substantial (large) are the desirable anticipated effects (including health and other benefits) of the option (taking into account the severity or importance of the desirable consequences and the number of people affected)?	☐ Trivial ☒ **Small** ☐ Moderate ☐ Large ☐ Varies ☐ Don't know	**Any Psychosocial Intervention Vs. Treatment-As-Usual (up-to 12 weeks post-treatment):** (Any psychosocial intervention includes cognitive-behaviour therapy, contingency management, brief intervention, combined CBT and MET, cognitive bias modification, and mindfulness-based interventions) Small Effect: Possibly increases abstinence rates (106 more per 1000; moderate certainty) No effect: • Quantity of drink (High certainty)	**Meta-regression analysis Any Psychosocial Intervention Vs. Treatment-As-Usual (up-to 12 weeks post-treatment)** • No effect of sex, settings of treatment (inpatient vs. outpatient), presence or absence of comorbidities, number of sessions of psychosocial intervention, level of experience of the person delivering the intervention, and whether or not person delivering the intervention were supervised

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
			• Percentage of abstinent days (Low certainty) • Frequency of drinking (High certainty) **Cognitive Behaviour Therapy vs. Treatment As Usual** No effect: Abstinent rates, Severity of alcohol dependence **Contingency Management vs. Treatment-As-Usual** No effect: Abstinence rate **Mindfulness vs. Treatment-As -usual** No effect: Any drinking **Network Support Vs. Cognitive Behaviour Therapy** Small effect: Possibly Network support increases abstinence days (0.33 SD higher)	
Undesirable Effects	How substantial are the undesirable anticipated effects? The greater the harm, the less likely it is that an option should be recommended.			
	• Judgements for each outcome for which there is an undesirable effect • How substantial (large) are the undesirable anticipated effects (including harms to health and other harms) of the option (taking into account the severity or importance of the adverse effects and the number of people affected)?	☐ Large ☐ Moderate ☐ Small ☒ **Trivial** ☐ Varies ☐ Don't know	**Any Psychosocial Intervention Vs. Treatment-As-Usual (up-to 12 weeks post-treatment):** Treatment drop-out does not differ between intervention and treatment-as-usual groups (moderate certainty).	**Sub-group analysis** None

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
Certainty of evidence	What is the overall certainty of the evidence of effects? The less certain the evidence is for critical outcomes (those that are driving a recommendation), the less likely that an option should be recommended (or the more important it is likely to be to conduct a pilot study or impact evaluation, if it is recommended).			
	• What is the overall certainty of this evidence of effects, across all of the outcomes that are critical to making a decision? • See GRADE guidance regarding detailed judgements about the quality of evidence or certainty in estimates of effects	☐ Very low ☒ **Low** ☐ Moderate ☐ High ☐ No included studies	See above: • Small effect (low certainty) of any psychosocial intervention in increasing the abstinent rate • Small effect (moderate certainty) of the higher effect of Network Support (than CBT) for increasing days of abstinence	None
Values	Is there important uncertainty about or variability in how much people value the main outcomes? The more likely it is that differences in values would lead to different decisions, the less likely it is that there will be a consensus that an option is a priority (or the more important it is likely to be to obtain evidence of the values of those affected by the option). Values in this context refer to the relative importance of the outcomes of interest (how much people value each of those outcomes). These values are sometimes called "utility values".			
	• Is there important uncertainty about how much people value each of the main outcomes? • Is there important variability in how much people value each of the main outcomes?	☐ Important uncertainty or variability ☒ **Possibly important uncertainty or variability** ☐ Probably no important uncertainty or variability ☐ No important uncertainty or variability	Gronholm et al 2023. The review very briefly outlined the perceived benefits and attitudes of patients towards health outcomes. Some patients reported such incentives/benefits as improvement in health and positive perception of health along with positive changes in family. However, some of the factors that contributed to the uncertainty were stigma, costs of services, limited availability and confidentiality concerns.	

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
Balance of effects	Does the balance between desirable and undesirable effects favour the intervention or the comparison? The larger the desirable effects in relation to the undesirable effects, taking into account the values of those affected (i.e. the relative value they attach to the desirable and undesirable outcomes) the more likely it is that an option should be recommended.			
	• Judgements regarding each of the four preceding criteria • To what extent do the following considerations influence the balance between the desirable and undesirable effects: - How much less people value outcomes that are in the future compared to outcomes that occur now (their discount rates)? - People's attitudes towards undesirable effects (how risk averse they are)? - People's attitudes towards desirable effects (how risk seeking they are)?	☐ Favours the comparison ☐ Probably favours the comparison ☐ Does not favour either the intervention or the comparison ☒ **Probably favours the intervention** ☐ Favours the intervention ☐ Varies ☐ Don't know	The comparison group for any psychosocial intervention was treatment-as-usual; however, some of the TAU is enhanced usual care (e.g. Nadkarni et al., 2019; Synowski et al., 2021), and some have included SBIRT (e.g. Proeschold-Bell et al., 2020), and others used financial incentives (e.g. McDonell et al., 2021). The standard and quality of the control intervention may explain the small effect size of the experimental psychosocial intervention.	None
Resources required	How large are the resource requirements (costs)? The greater the cost, the less likely it is that an option should be a priority. Conversely, the greater the savings, the more likely it is that an option should be a priority.			
	• How large is the difference in each item of resource use for which fewer resources are required? • How large is the difference in each item of resource use for which more resources are required? • How large an investment of resources would the option require or save?	☐ Large costs ☐ Moderate costs ☐ Negligible costs and savings ☐ Moderate savings ☐ Large savings ☒ **Varies** ☐ Don't know	Delivering psychosocial intervention is resource intensive	

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
Certainty of evidence of required resources	What is the certainty of the evidence of resource requirements (costs)?			
	• Have all-important items of resource use that may differ between the options being considered been identified? • How certain is the evidence of differences in resource use between the options being considered (see GRADE guidance regarding detailed judgements about the quality of evidence or certainty in estimates)? • How certain is the cost of the items of resource use that differ between the options being considered? • Is there important variability in the cost of the items of resource use that differ between the options being considered?	☐ Very low ☐ Low ☐ Moderate ☐ High ☒ **No included studies**	There was no study that had estimated the cost of intervention	
Cost effectiveness	Does the cost-effectiveness of the intervention favour the intervention or the comparison? The greater the cost per unit of benefit, the less likely it is that an option should be a priority.			
	• Judgements regarding each of the six preceding criteria • Is the cost effectiveness ratio sensitive to one-way sensitivity analyses? • Is the cost effectiveness ratio sensitive to multivariable sensitivity analysis? • Is the economic evaluation on which the cost effectiveness estimate is based reliable? • Is the economic evaluation on which the cost effectiveness estimate is based applicable to the setting(s) of interest?	☐ Favours the comparison ☐ Probably favours the comparison ☐ Does not favour either the intervention or the comparison ☐ Probably favours the intervention ☐ Favours the intervention ☐ Varies ☒ **No included studies**	No studies examining cost effectiveness identified	

	CRITERIA, QUESTIONS	JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
Health equity, equality and non-discrimination	What would be the impact on health equity, equality and non-discrimination? (WHO INTEGRATE) Health equity and equality reflect a concerted and sustained effort to improve health for individuals across all populations, and to reduce avoidable systematic differences in how health and its determinants are distributed. Equality is linked to the legal principle of non-discrimination, which is designed to ensure that individuals or population groups do not experience discrimination on the basis of their sex, age, ethnicity, culture or language, sexual orientation or gender identity, disability status, education, socioeconomic status, place of residence or any other characteristics. All recommendations should be in accordance with universal human rights standards and principles. The greater the likelihood that the intervention increases health equity and/or equality and that it reduces discrimination against any particular group, the greater the likelihood of a general recommendation in favour of this intervention.			
	• How are the condition and its determinants distributed across different population groups? Is the intervention likely to reduce or increase existing health inequalities and/or health inequities? Does the intervention prioritize and/or aid those furthest behind? • How are the benefits and harms of the intervention distributed across the population? Who carries the burden (e.g. all), who benefits (e.g. a very small sub-group)? • How affordable is the intervention for individuals, workplaces or communities? • How accessible - in terms of physical as well as informational access - is the intervention across different population groups? • Is there any suitable alternative to addressing the condition, does the intervention represent the only available option? Is this option proportionate to the need, and will it be subject to periodic review?	☐ Reduced ☐ Probably reduced ☐ Probably no impact ☒ **Probably increased** ☐ Increased ☐ Varies ☐ Don't know	Our meta-regression analysis did not suggest any effect of sex. Six studies were from Asia and four from low-middle income countries. The number of sessions, expertise of those who delivered the intervention did not change the effect of any psychosocial intervention. It suggests that even smaller number of sessions can also be effective. Therefore, psychosocial interventions can be delivered in resource-limited settings (Nadkarni et al., 2019; Manning et al., 2016; McDonell et al., 2021; Proeschold-Bell et al., 2020; Zgierska et al., 2019; Synowski et al., 2021; Jirapramukpitak et al., 2020)	
Feasibility	Is the intervention feasible to implement? The less feasible (capable of being accomplished or brought about) an option is, the less likely it is that it should be recommended (i.e. the more barriers there are that would be difficult to overcome).			
	• Can the option be accomplished or brought about? • Is the intervention or option sustainable? • Are there important barriers that are likely to limit the feasibility of implementing the intervention (option) or require consideration when implementing it?	☐ No ☐ Probably no ☒ **Probably yes** ☐ Yes ☐ Varies	The highest number (~40%) of studies are from Asia.	

CRITERIA, QUESTIONS		JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
		☐ Don't know		
Human rights and sociocultural acceptability	Is the intervention aligned with human rights principles and socio-culturally acceptable? (WHO INTEGRATE) This criterion encompasses two distinct constructs: The first refers to an intervention's compliance with universal human rights standards and other considerations laid out in international human rights law beyond the right to health (as the right to health provides the basis of other criteria and sub-criteria in this framework). The second, sociocultural acceptability, is highly time-specific and context-specific and reflects the extent to which those implementing or benefiting from an intervention as well as other relevant stakeholder groups consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention. The greater the sociocultural acceptability of an intervention to all or most relevant stakeholders, the greater the likelihood of a general recommendation in favour of this intervention.			
	• Is the intervention in accordance with universal human rights standards and principles? • Is the intervention socio-culturally acceptable to patients/beneficiaries as well as to those implementing it? To which extent do patients/beneficiaries value different non-health outcomes? • Is the intervention socioculturally acceptable to the public and other relevant stakeholder groups? Is the intervention sensitive to sex, age, ethnicity, culture or language, sexual orientation or gender identity, disability status, education, socioeconomic status, place of residence or any other relevant characteristics? • How does the intervention affect an individual's, population group's or organization's autonomy, i.e. their ability to make a competent, informed and voluntary decision? • How intrusive is the intervention, ranging from low intrusiveness (e.g. providing information) to intermediate intrusiveness (e.g. guiding choices) to high intrusiveness (e.g. restricting or eliminating choices)? Where applicable, are high intrusiveness and/or impacts on the privacy and dignity of concerned stakeholders justified?	☐ No ☐ Probably no ☐ Probably yes ☐ Yes ☒ **Varies** ☐ Don't know	Gronholm et al 2023 A number of considerations were noted which would impact the right to health and access to health care. For example stigma and discrimination were identified as barriers that affect the help-seeking among service users. Lack of confidentiality is another factor that can deter people from accessing care or receiving confidential and safe mental health care. A range of stigma-related concerns were flagged up: • Social stigma and exclusion due to substance use • Fear of being seen in designated health facilities • Facing discrimination by other members of society • Concerns around being tracked by law enforcement	

CRITERIA, QUESTIONS		JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
			• Mitigating steps proposed by the review: • Awareness activities to reduce the stigma towards those with substance use disorders • Training health personnel to obtain additional skills and empower them to provide care Care for a patients with substance use disorder to also include provision of empathetic support and supportive communication. Training on communication and professional factors of service delivery (like confidentiality, positive outlook of future, linkages of care) would probably reduce the stigma and make a health care system more palatable. Financial issues around the treatment can also be a barrier that limits access to those who need to seek help. More details on financial barriers in health equity, equality and non-discrimination" section. Mitigating steps proposed by the review: low-cost scalable solutions to make treatment available to different parts of the country would be helpful to make	

CRITERIA, QUESTIONS		JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
			care accessible to a more people. Using telemedicine and telehealth as one of the options. draw attention of the administrators to the need to allocate sufficient resources and funding for substance use disorder services, so that the individuals with substance use, their families and the society can benefit and access the treatments.	

4.3. Summary of judgements

Table 19: Summary of judgements

Priority of the problem	- Don't know	- Varies		- No	- Probably No	- Probably Yes	✓ **Yes**
Desirable effects	- Don't know	- Varies		- Trivial	✓ **Small**	- Moderate	- Large
Undesirable effects	- Don't know	- Varies		- Large	- Moderate	- Small	✓ **Trivial**
Certainty of the evidence	- No included studies			- Very low	✓ **Low**	- Moderate	- High
Values				- Important uncertainty or variability	✓ **Possibly important uncertainty or variability**	- Probably no important uncertainty or variability	- No important uncertainty or variability
Balance of effects	- Don't know	- Varies	- Favours comparison	- Probably favours comparison	- Does not favour either	✓ **Probably favours intervention**	- Favours intervention
Resources required	- Don't know	✓ **Varies**	- Large costs	- Moderate costs	- Negligible costs or savings	- Moderate savings	- Large savings
Certainty of the evidence on required resources	✓ **No included studies**			- Very low	- Low	- Moderate	- High
Cost–effectiveness	✓ **No included studies**	- Varies	- Favours comparison	- Probably favours comparison	- Does not favour either	- Probably favours intervention	- Favours intervention
Equity, equality and non-discrimination	- Don't know	- Varies	- Reduced	Probably reduced	- Probably no impact	✓ **Probably increased**	- Increased
Feasibility	- Don't know	- Varies		- No	- Probably No	✓ **Probably Yes**	- Yes
Human rights and sociocultural acceptability	- Don't know	✓ **Varies**		- No	- Probably No	- Probably Yes	- Yes

✓Indicates category selected, -Indicates category not selected

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Appendix I: mhGAP process note

mhGAP Guideline Update: Notes on process for identifying level of evidence review required v2_0 (13/12/2021)

This document is intended to provide guidance to focal points on the level of evidence review required as part of the evidence retrieval process for the mhGAP guideline update process. As a general rule, the update process should be informed by existing high quality systematic reviews.

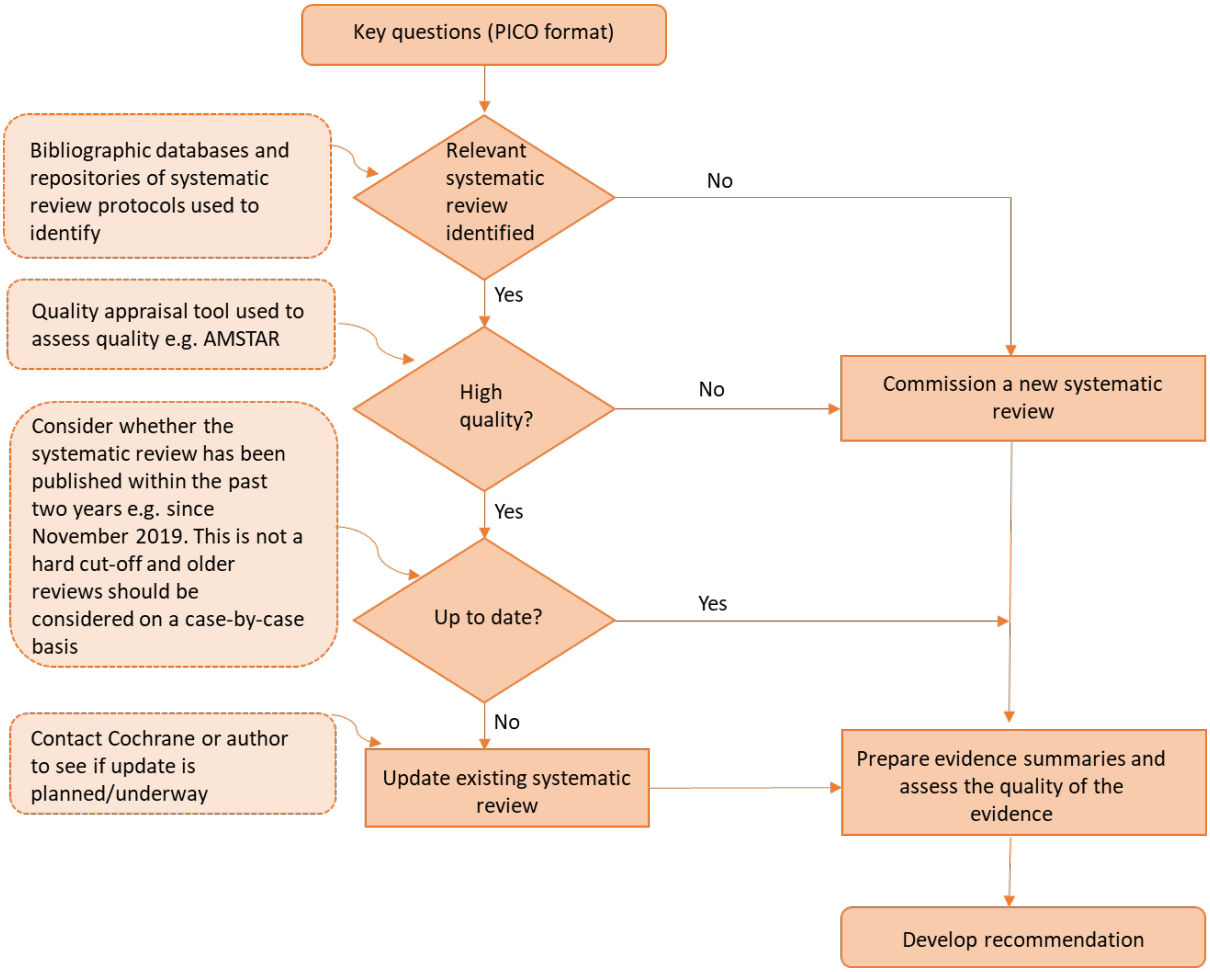
The process for evidence retrieval and synthesis is fully outlined in chapter 8 of the WHO handbook for guideline development https://apps.who.int/iris/handle/10665/145714.

Three main categories of evidence review are proposed in this document:

1) Existing relevant, up to date, high quality systematic review(s) provide the evidence required. **An existing systematic review is sufficient to prepare the evidence summaries**. It may be possible to include more than one systematic review for the same PICO, as different reviews may match different outcomes of a PICO. However, if more than one systematic review is available for the same PICO outcome, one review should be selected, based on quality, relevance, search comprehensiveness and date of last update. The selection process should be transparently reported, with justification of choices.
2) Existing high quality systematic reviews are either out of date or do not fully address the PICO, though it is considered that the review can be updated to meet these requirements. **An update of an existing systematic review is required before the evidence summaries can be prepared**. The update process may require addition of new studies published after the review, or inclusion of outcomes not covered by the existing reviews.
3) Existing systematic reviews are either not of sufficiently high quality or cannot be updated to fully address the PICO. **A new systematic review is required before the evidence summaries can be prepared**

Figure 2 below details the process to identify which level of evidence review is required to support the evidence retrieval process for a PICO.

Fig. 2. Is a new systematic review needed



All key questions are currently in PICO format as presented in the Appendix of the planning proposal PICOs. Subsequent steps include the following:

1. **Identify and evaluate existing systematic reviews**: Identify one or more systematic review(s) to address each PICO question. Existing systematic reviews will inform the guideline development process, whether or not a new systematic review or an update of an existing review is required, and the evidence review team will detail existing systematic reviews in each case. The method for identifying existing systematic reviews should be fully detailed in the evidence summary and include the following sources:
    a. Search of bibliographic databases, such as PubMed/MEDLINE, Embase, PsycInfo, Cochrane Central Register of Controlled Trials (CENTRAL), CINAHIL, Scopus, African Index Medicus, Index Medicus for the Eastern Mediterranean Region, Index Medicus for the South-East Asian Region, Latin American and Caribbean Health Sciences Literature, and Western Pacific Region Index Medicus.
    b. Search of repositories of systematic reviews protocols, including PROSPERO, Open Science Framework (OSF), and Cochrane.
2. **Assess if systematic review is up to date:** It is preferred that identified systematic reviews have been published within the past two years e.g. since November 2019. This is not a hard cut-off and older reviews should be considered on a case-by-case basis, particularly those covering the time period since the last update of the mhGAP guideline in 2015. It is acknowledged that COVID has led to a pausing of many mental health research activities over the past two years, and this may also impact the availability of systematic reviews within the preferred two year

period. For any reviews that fall outside the two year period, the guideline methodologist will advise on suitability.

3. **Appraise quality of systematic review:** Use the AMSTAR-2 quality appraisal tool to assess the quality of the identified systematic review(s) https://amstar.ca/docs/AMSTAR-2.pdf . This includes consideration of the extent to which the PICO is fully addressed by the systematic review(s) identified.

By following the process outlined in figure 1, and steps 1-3 above, the FP and evidence review team will have sufficient evidence to assess which of the three main categories of evidence review apply to each PICO under consideration:

1) Existing systematic reviews are sufficient to prepare the evidence summaries
2) An update of an existing systematic review is required before the evidence summaries can be prepared
3) A new systematic review is required before the evidence summaries can be prepared

Appendix 2. Search terms

Embase < 1980 to 2022 Week 23 >

1. (Cognitive Behavio*r Therapy or Cognitive behavi*ral Therapy or Cognit*Behavio* Therap* or Cognit*Therap* or Behavio*Therap* or CBT or cbt or Second Wave CBT or Second Wave cbt or Third Wave CBT or Third Wave cbt).mp
2. (Cognitive Behavio*r Interventions or Cognitive behavi*ral Interventions or Cognit*Behavio* Interv*).mp
3. (Behavioural Interventions or Behavioral Interventions or behavio*ral Interventions or Behaviour Therapy or Behavior Therapy or Behavio*r Therapy).mp
4. (ACT or mindfulness or mindful* or Third Wave Behavioural Treatments or Third Wave Behavioral Treatments or Third Wave Behavi* Treatmen*).mp
5. (Contingency Management or Contingen* Managem*).mp
6. (Cue Exposure or Cue Expos*).mp
7. Counselling or Counceling or Councel*).mp
8. (Motivational Therapy or Motivational Interviewing or Motivational Enhancement or Motivational Therap* or Motivational Intervention or Motivational Inteven* or Motivation*Interview* or Motivation*Enhanc*).mp 9984
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. Cognitive Behavior Therapy/
11. Contingency Management/
12. Counselling/
13. Motivational interviewing/
14. 10 or 11 or 12 or 13
15. 9 or 14.
16. (Randomised Control Trial or Randomized Control Trial or Random* Control Trial or RCT or Randomised Trial or Randomized Trial or Random* Trial).mp
17. (Experimental Research Design or Experim* Research Design or Experimental Study or Experim* Study).mp
18. randomized controlled trial/
19. 16 or 17 or 18
20. (Alcohol Abuse or Alcohol Misuse or Alcohol Prevention or Alcohol Prevent* or Alcohol Recovery or Alcohol Recov* or Alcohol Relapse).mp. 47709
21. alcohol abuse/
22. alcohol abstinence/
23. alcohol dependence/
24. Alcohol Use Disorders.mp. or alcoholism/
25. or/20-24
26. 15 and 19 and 25
27. limit 26 to yr = "2015 -Current"

EBSCO (CINAHL) < 1980 to 2022 Week 23 >

1. “Cognitive Behavio*r Therapy” or “Cognitive behavi*ral Therapy” or “Cognit*Behavio* Therap*” or “Cognit*Therap*” or “Behavio*Therap*” or “CBT” or “cbt” or “Second Wave CBT” or “Second Wave cbt” or “Third Wave CBT” or “Third Wave cbt”
2. “Cognitive Behavio*r Interventions” or “Cognitive behavi*ral Interventions” or “Cognit*Behavio* Interv*”
3. “Behavioural Interventions” or “Behavioral Interventions” or “behavio*ral Interventions” or “Behaviour Therapy” or “Behavior Therapy” or2 Behavio*r Therapy”
4. “ACT” or “mindfulness” or “mindful*” or “Third Wave Behavioural Treatments” or “Third Wave Behavioral Treatments” or “Third Wave Behavi* Treatmen*”
5. “Contingency Management” or “Contingen* Managem*”
6. “Cue Exposure” or “Cue Expos*”

7. Counselling or Counceling or Councel*).mp
8. “Motivational Therapy” or “Motivational Interviewing” or “Motivational Enhancement” or “Motivational Therap*” or “Motivational Intervention” or “Motivational Inteven*” or “Motivation*Interview*” or “Motivation*Enhanc*”
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. Cognitive Behavior Therapy/
11. Contingency Management/
12. Counselling/
13. Motivational interviewing/
14. 10 or 11 or 12 or 13
15. 9 or 14.
16. “Randomised Control Trial” or “Randomized Control Trial” or “Random* Control Trial” or “RCT” or “Randomised Trial” or “Randomized Trial” or “Random* Trial”
17. “Experimental Research Design” or “Experim* Research Design” or “Experimental Study” or “Experim* Study”
18. randomized controlled trial/
19. 16 or 17 or 18
20. “Alcohol Abuse” or “Alcohol Misuse” or “Alcohol Prevention” or “Alcohol Prevent*” or “Alcohol Recovery” or “Alcohol Recov*” or “Alcohol Relapse”
21. alcohol abuse/
22. alcohol abstinence/
23. alcohol dependence/
24. “alcohol use disorders” or “alcoholism”
25. or/20-24
26. 15 and 19 and 25
27. limit 26 to yr = "2015 -Current"

Appendix 3. Any psychosocial intervention vs. TAU

Fig. 1. Proportion of abstinent participants

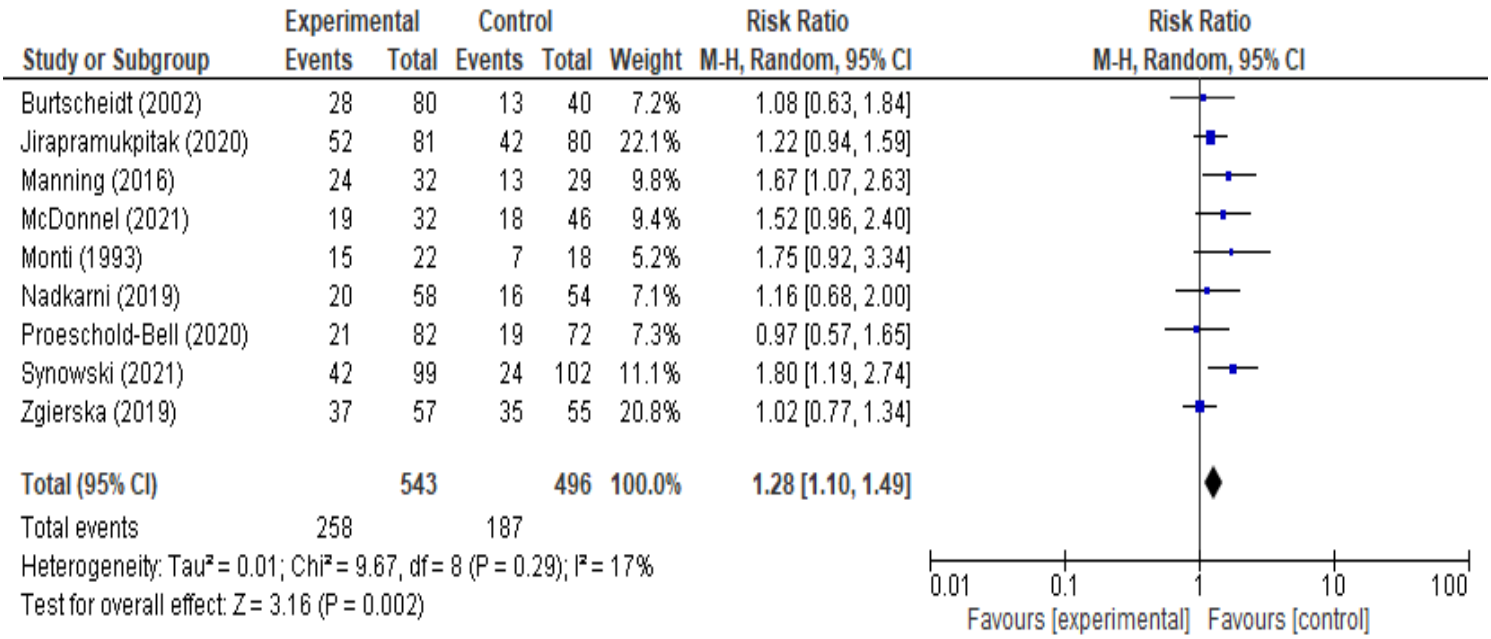


Fig. 2. Quantity of drinks

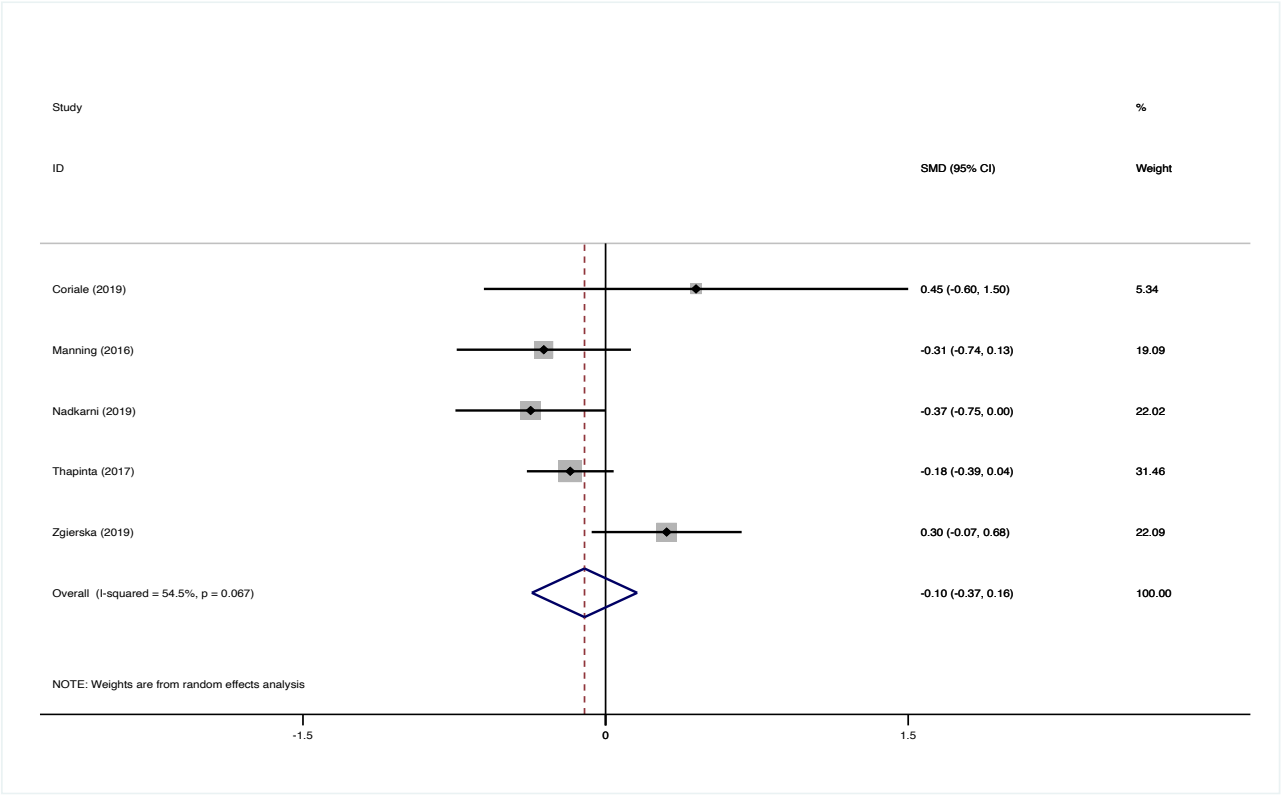


Fig. 3. Frequency of drinking

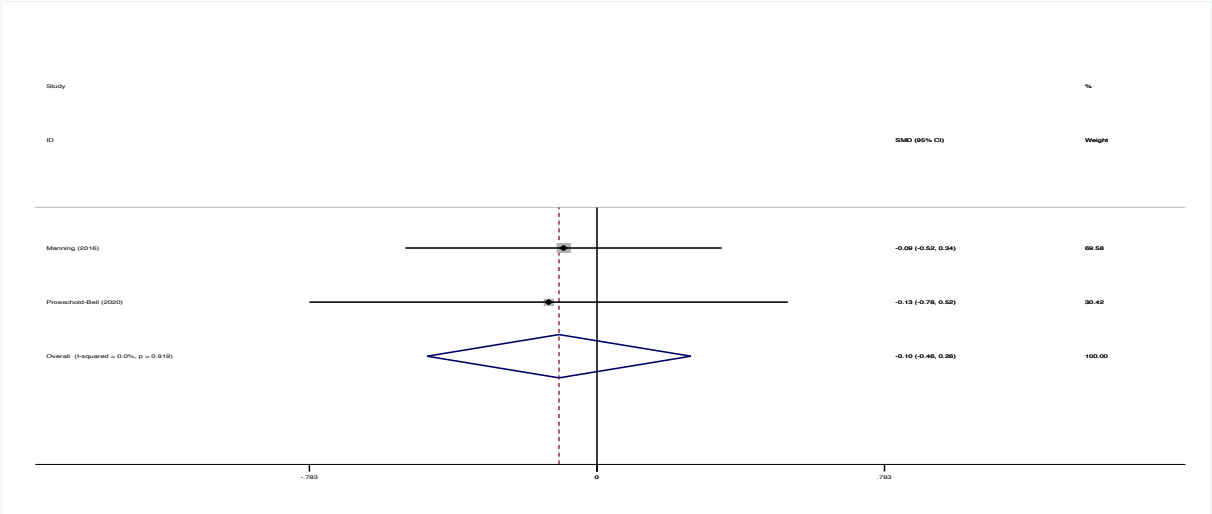


Fig. 4. Percentage abstinence days

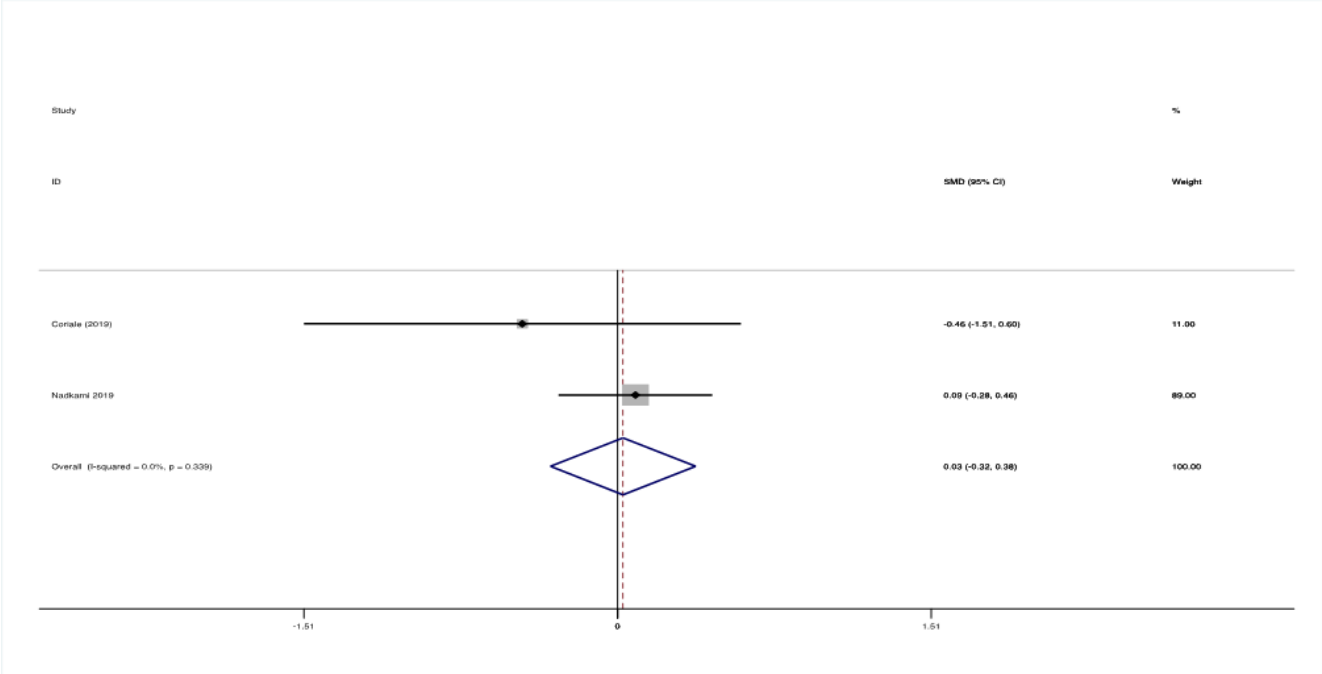


Fig. 5. Left treatment early

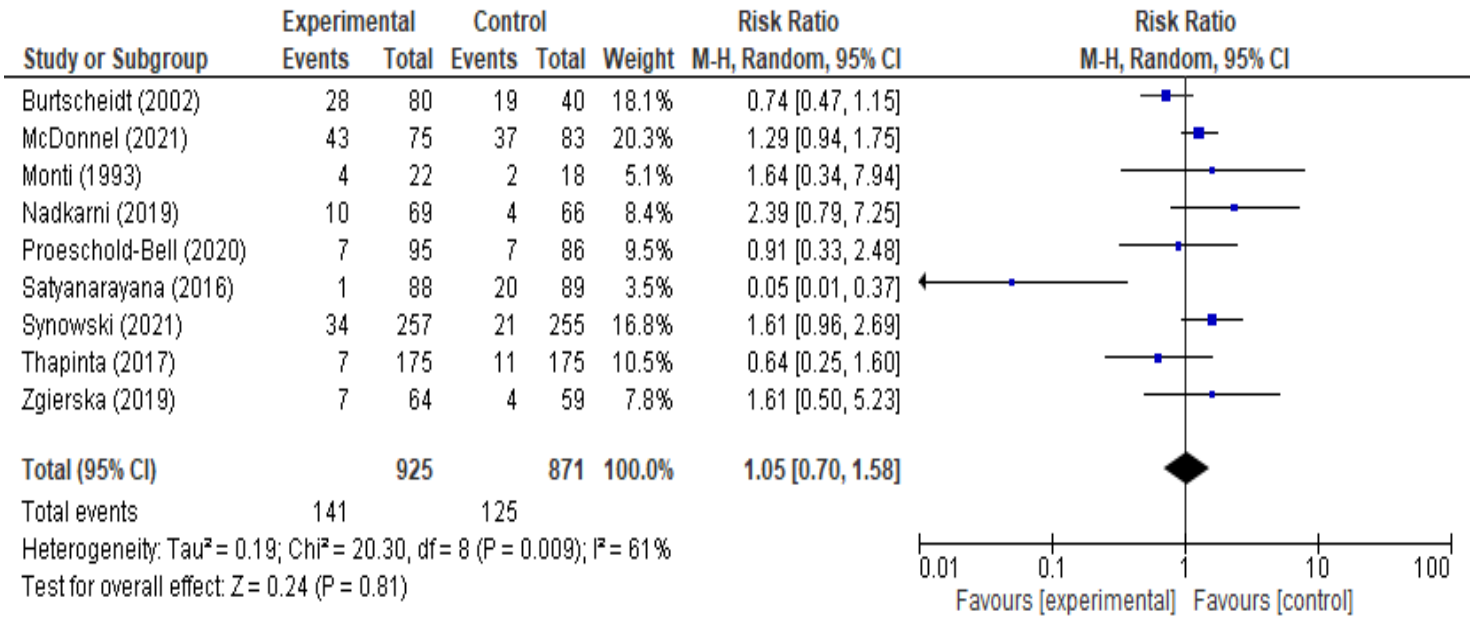


Fig. 6. Proportion of abstinent participants. CBT vs. TAU

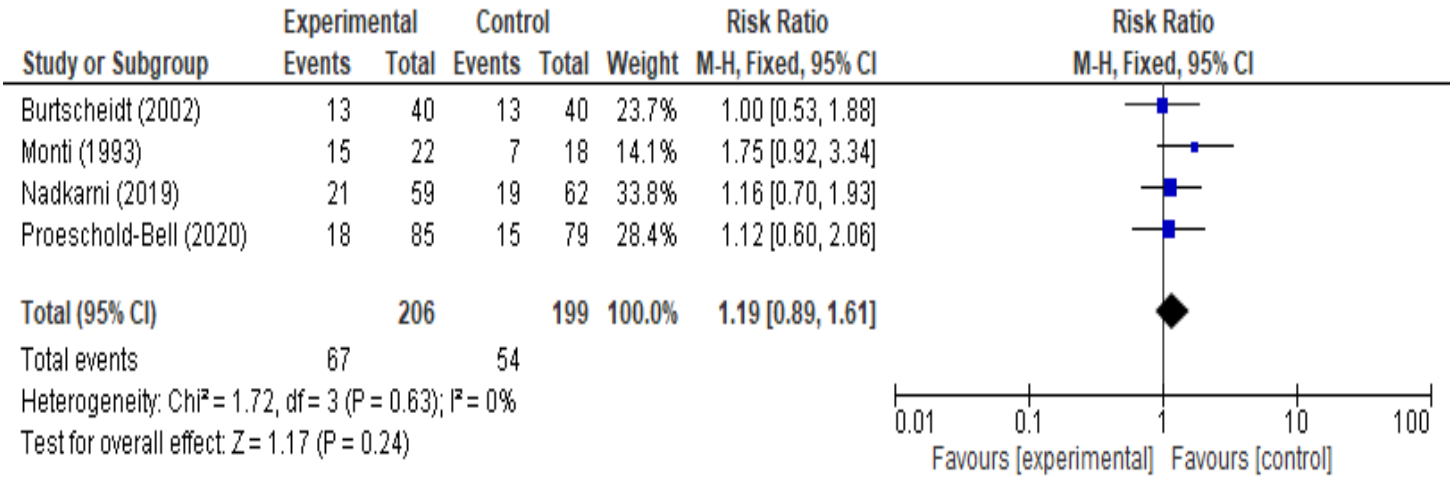
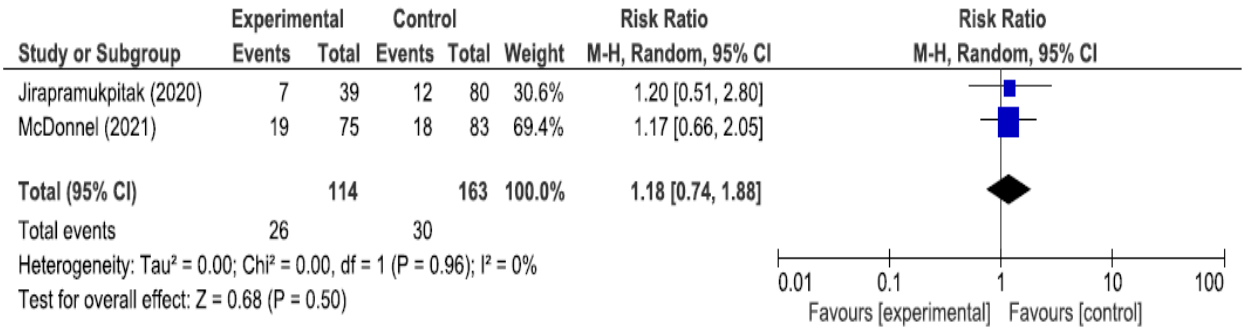


Fig. 7. Proportion of abstinent participants. CM vs. TAU/Financial support



Appendix 4. Risk of Bias Assessment by Cochrane Risk of Bias Assessment Tool, version 2

Study	1. Randomization process	2. Deviations from intended interventions	3. Missing outcome data	4. Measurement of the outcome	5. Selection of the reported result	6. Overall Bias
Harada, 2022	Some concerns	Low	Some concerns	Some concerns	High	High
Litt, 2016	Low	Low	Low	Some concerns	Low	Some Concerns
Coriale, 2019	Some concerns	Low	Low	Low	Some concerns	Some concerns
Jirapramukpitak, 2020	Low	Low	Low	Low	Some concerns	Some concerns
Zgierska, 2019	Low	Low	Low	Low	Some concerns	Some concerns
Nadkarni, 2019	Low	Low	Low	Low	Low	Low
Owens, 2016	Low	Low	Low	Low	Low	Low
McDonell, 2021	Low	Low	Low	Low	Low	Low
Manning, 2016	Low	Low	Low	Low	Low	Low
Proeschold-Bell 2020	Low	Low	Low	Low	Low	Low
Synowski 2021	Low	Low	Low	Low	Low	Low
Satyanarayana 2016	Low	Some concerns	Low	Low	Low	Low
Thapinta 2017	Low	Some concerns	Low	Low	Low	Low
Burtscheidt 2002	Some concerns	Low	Low	Low	Low	Some concerns
Monti 1993	Low	Some concerns	Low	Low	Low	Some concerns