Few interventions support the affected other on their own: A systematic review of individual level psychosocial interventions to support those harmed by others' alcohol use

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ORIGINAL ARTICLE

Few Interventions Support the Affected Other on Their Own: a Systematic Review of Individual Level Psychosocial Interventions to Support Those Harmed by Others' Alcohol Use

G. W. Shorter[1,2] · K. B. D. Campbell[1,2] · N. M. Miller[3] · T. Epton[4] · L. O'Hara[2,5] · S. Millen[1,2] · K. Ulfsdotter Gunnarsson[6] · E. Berry[1] · M. Bendtsen[6]

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Abstract
Over 100 million individuals worldwide experience negative outcomes as a function of a family member or loved one's substance use. Other reviews have summarized evidence on interventions; however, success often depends on the behavior of the individual causing harm, and they may not be ready or able to change. The aim of this study was to identify and describe evaluations of psychosocial interventions which can support those affected by alcohol harm to others independent of their drinking relative or friend. A systematic review/narrative synthesis of articles from 11 databases pre-registered on PROSPERO (CRD42021203204) was conducted. Those experiencing the harm were spouses/partners or adult children/students who have parents with alcohol problems. Studies ($n=7$) were from the UK, the USA, Korea, Sweden, Mexico, and India. Most participants were female (71–100%). Interventions varied from guided imagery, cognitive behavioral therapy, motivational interviewing, and anger management. Independent interventions may support those affected by another's alcohol use, although there was considerable variation in outcomes targeted by the intervention design. Small-scale studies suggest psychosocial interventions ease suffering from alcohol's harm to others, independent of the drinking family member. Understanding affected others' experience and need is important given the impact of alcohol's harm to others; however, there is a lack of quality evidence and theoretical underpinning informing strategies to support these individuals.

Keywords Affected other · Alcohol · Psychosocial intervention · Systematic review · Family · Harm to others

Over 100 million individuals worldwide experience negative health and social outcomes as a function of a family member's substance use (Orford et al., 2013). The cost of this harm to others is both substantial and underestimated (Navarro et al., 2011). Karriker-Jaffe et al. (2018) recognize the cost of this harm to others as both a public health issue and a concern at the individual level. We will refer to those affected by harms as "affected others." Other reviews have summarized evidence on interventions to support affected

✉ G. W. Shorter
g.shorter@qub.ac.uk

Extended author information available on the last page of the article

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others; however, the intervention success often is affected by the change in the behavior of the individual causing the harm. This is the first paper to isolate those interventions which are independent of the drinker's behavior who is causing the harm to the affected other. As the drinkers may not be willing or able to change, it is important to summarize evidence which can support affected others independent of their drinking relative or loved one. This independence is important. It empowers the affected other to heal without requiring their loved one to change (Copello et al., 2000).

The impact of alcohol use on an affected other can be wide ranging (Laslett et al., 2010; Room et al., 2016), occurring at the individual, group, or at societal level (Karriker-Jaffe et al., 2018; Wilkinson et al., 2014). For this review, the focus is on the individual level. For affected others, worry is common (Orford et al., 2013) and can lead to long-term impact on physical and mental health (Ray et al., 2009; Timko et al., 2019). Other negative consequences include physical harms (e.g., injuries; traffic accidents; harm from interpersonal violence, aggression and crime; harm to families, including domestic violence and harm to a developing fetus), psychological harms (e.g., psychological distress, marital disharmony), and changes in other aspects of life (e.g., separation and divorce, child or household neglect; finance, work, parenting, and the meeting of other obligations) (Navarro et al., 2011; Room et al., 2017). The harm can result from a single event or multiple occasions (McClatchley et al., 2014; Room et al., 2017).

Several high-quality reviews exist which summarize the nature and effectiveness of interventions for family members affected by an adult relative's substance use. For example, McGovern et al. (2021) summarized the findings in a systematic narrative review of sixty-five trials which aggregated both those which include family members in the intervention and those that do not, and with those who use alcohol, and those who use other drugs. Overall, they summarized behavioral interventions delivered with the substance user and the affected other could improve outcomes, but the complex "multidimensional adversities" experienced by the drinker and affected other(s) are rarely addressed effectively. We do not know if or how affected others' experience might differ depending on whether alcohol or drugs were used. Similarly, they concluded that interventions which are solely designed for the affected other but contain some components of behavioral modification directed at the person who is causing the harm rarely served the needs of the affected other (McGovern et al., 2021). In another recent systematic review with meta-analysis, Merkouris et al. (2022) explored affected other interventions across different addictions, demonstrating some effectiveness in improving some characteristics of the experience of harm to others, such as depression, life satisfaction, and coping. Although the aim was to understand affected other interventions, there was some focus on the drinker causing the harm in some of the synthesized work and this expansion facilitated some meta-analysis across addictions. The authors highlighted limitations in the evidence base in terms of capacity and methodological issues.

In acknowledgment that harm to others differs internationally (Wilsnack et al., 2018), and that low- and middle-income countries (LMIC) are often under-represented in reviews, Rane et al. (2017), in their systematic narrative review, focused on interventions for affected others in the LMIC setting. They summarized four articles; some evidence of positive benefit for affected others from alcohol and drugs, but only one reflected an intervention which was independently targeting the affected other (de los Angeles Cruz-Almanza et al., 2006).

The evidence base for interventions which can support an affected other individual without another individual having to change is unclear. Other high-quality reviews have provided evidence for affected other interventions; however, some include interventions which have some roles in changing the drinker causing the harm or combine their findings

with other substances/addictive behaviors beyond just alcohol. For those who wish to change on their own, independent of the drinker causing harm, there is a need for a clear evidence base. This evidence base, with a focus only on alcohol, can help us understand if existing interventions are effective and assess the gaps that inform the development of novel psychosocial interventions to address the harm (England et al., 2015). There are no current systematic reviews of this nature. The review provided evidence for the following questions: (1) What is the nature of psychosocial interventions to support adults harmed by others' drinking? (2) What is the evidence of their efficacy or effectiveness? and (3) What are the outcome measures (primary, secondary, or undefined outcomes) used to show efficacy or effectiveness and how are these measured?

Method

We registered the review protocol in advance on PROSPERO (CRD42021203204) and produced a write-up that followed PRISMA guidelines (Page et al., 2021), with the checklist included in Supplementary Material A. Materials relating to the interim steps of the systematic review are available on the open science framework https://osf.io/fsn9a/. OVID (Medline, EMBASE, PsycINFO, PsycARTICLES, HMIC), EBSCO (CINAHL, ERIC), Cochrane Library, Scopus, Web of Science,[1] and SciELO were the databases searched. Other sources were ongoing and registered trials at Clinicaltrials.gov, WHO International Clinical Trials Registry Platform (ICTRP), and the Open Science Framework.[2] We identified grey literature through CADTH Grey Matters tool, OpenSIGLE (http://www.opengrey.eu), MedNar, and citation and reference searches of included papers. There were no date restrictions. Searches were run in May 2021. Included papers evaluated an intervention which targets the person(s) affected by the alcohol use (affected others) only and did not target the drinker perceived to be causing the harm. Core search concepts related to three domains: alcohol use, psychosocial interventions, and longitudinal quantitative design. The PICO (population, intervention, comparator, outcomes) framework informed the eligibility criteria as outlined below. Terms were coupled with relevant Medical Subject Headings (MeSH)/thesaurus terms; truncated and variant spellings were used to identify useful records. All search terms and results are available on the open science framework. Eligible studies were randomized controlled trials, controlled trials, randomized trials, quasi-experimental trials, and pre-post evaluations of interventions where individuals were evaluated at baseline before intervention and followed up after intervention. For this review, all included studies will report on quantitative outcomes.

Population

The population are adults who are experiencing or have experienced harm as a function of another adult's unhealthy alcohol use. The harm may have occurred when the person was a child, but they must be currently an adult in their respective publication.

[1] Includes Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Conference Proceedings Citation Index and Emerging Sources Citation Index.

[2] Note two protocol amendments: (1) remove Google Scholar as a database as records cannot be downloaded for processing, and (2) AMED was not searched as the lead institution no longer has access to this database.

Intervention

The intervention should be psychosocial, that is non-pharmacological in nature, and an intervention which aims to improve health and wellbeing. It should only target the affected other. Interventions which include the drinker or include the affected other adult in the drinker's treatment will not be included. Interventions which target groups (including families or couples) or at a societal level will be excluded.

Comparator

Comparators could be any active or control intervention or a pre-post design using baseline measures as the comparator.

Outcomes

Description of the interventions according to the elements of the TIDieR (Template for Intervention Description and Replication) framework (Hoffmann et al., 2014).

Improvement in the affected person's physical, psychological, or social wellbeing however defined by the outcomes of the project and the target of the intervention. Where possible, we will code interventions for behavior change techniques (Michie et al., 2011, 2014).

Search results were downloaded to EndNote Version X7 (Clarivate, Philadelphia, PA) and de-duplicated. All titles and abstracts were entered in Rayyan software with GWS screening all titles and abstracts, and one of MB, EB, NMM, KUG, SM, and LOH blind second screening results. Discrepancies were resolved by discussion. All full-text versions of potentially eligible articles were reviewed by GWS, and all double-screened by one of MB, EB, NMM, KUG, SM, and LOH; discussion resolved discrepancies. Extraction forms were piloted by GWS and KBDC. All data were extracted by GWS and blind double extracted by KBDC. Two reviewers (GWS/KBDC) independently assessed the quality of the eligible studies using the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). The checklist is in Supplementary Material B. Each intervention was coded for Behavior Change Techniques (BCT) by two reviewers (GWS/TE). Where there was a discrepancy in BCT or MMAT coding, these were resolved by discussion amongst both coders.

Results

Searches identified 6230 articles (after de-duplication) for eligibility screening by title and abstract. Exclusion at title and abstract stage reflected unambiguous violation of the above PICO criteria based on topic area (i.e., not alcohol), not a quantitative intervention evaluation (e.g., interviews), nor an individual level intervention targeting the affected other (e.g., family or dyadic therapies). Any unclear matches were referred to full-text assessment for closer inspection; 26 articles were retrieved for full-text evaluation against PICO criteria, and 7 were eligible (see Fig. 1 for PRISMA flow chart). The seven included articles contained data on 421 participants, from India, Korea, the USA, the UK, Sweden, and Mexico (Table 1). Three studies were randomized trials (Hansson et al., 2006, 2007; Rychtarik et al., 2015), two were pre-post designs (Aarti et al., 2020; Howells & Orford, 2006), and the rest were quasi-experimental group designs. Two papers were the same population reporting on 12- and 24-month follow-up

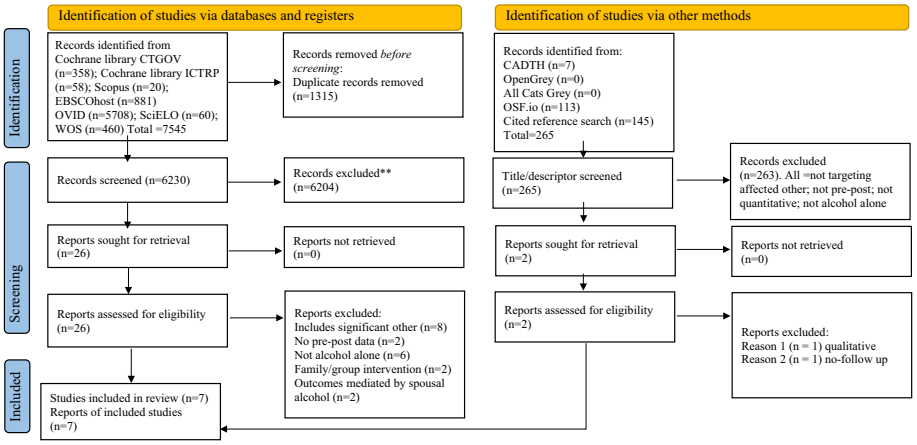

Fig. 1 Prisma 2020 flow diagram for systematic review of interventions targeting alcohol harm experienced by affected others

(Hansson et al., 2006, 2007), and one paper analyzed their sample in two ways: a pre-post case study design and with a quasi-experimental study with a convenience control group (Howells & Orford, 2006). Most papers focused on partners or spouses of people experiencing drinking problems ($n=4$); two were adult children of those with alcohol problems (Hansson et al., 2006, 2007), and one was a family member of patients with AUD (Son & Choi, 2010).

Outcomes measured were diverse, the most common were stress, coping, and anger outcomes, although there was little use of similar questionnaires to measure these or other outcomes (Table 1). Other outcomes included affected other's alcohol use, relational factors with the person drinking, and mental health. Regarding the findings, all but two reported a significant difference in outcomes in a pre-post (Son & Choi, 2010) and quasi-experimental design (de los Angeles Cruz-Almanza et al., 2006). Several reported within-group differences but not between-group differences (de los Angeles Cruz-Almanza et al., 2006; Hansson et al., 2006, 2007). There was some evidence that affected other interventions reduced stress (Aarti et al., 2020; Hansson et al., 2006, 2007; Howells & Orford, 2006), alcohol problems (Hansson et al., 2006, 2007; Howells & Orford, 2006), alcohol use (Hansson et al., 2006, 2007), life being affected (Howells & Orford, 2006), depression (Rychtarik et al., 2015), and anger (Rychtarik et al., 2015); and that interventions increased coping (Aarti et al., 2020; Howells & Orford, 2006), self-esteem (Howells & Orford, 2006), and independence (Howells & Orford, 2006).

The nature of the interventions varied (Table 2). Some interventions used guided imagery (Aarti et al., 2020), rational emotive behavioral therapy (de los Angeles Cruz-Almanza et al., 2006), motivational interviewing (Hansson et al., 2006, 2007), cognitive behavioral models (de los Angeles Cruz-Almanza et al., 2006; Hansson et al., 2006, 2007), anxiety management (Howells & Orford, 2006), coping skills (Hansson et al., 2006, 2007; Rychtarik et al., 2015), and anger management, cultural care theories, or social control theory (Son & Choi, 2010) as the underpinning mechanism. Those studies with control groups or waiting list controls did not detail the nature of what occurred during the wait or in the control group. As some researchers have outlined previously, there can be active ingredients for change in the control group and this may contribute to effects arising from research participation, including that enrolling in a study is a precursor to change for all enrolled (Bendtsen & McCambridge, 2021; Jecks, 2021; Shorter, Bray, et al., 2019).

Table 1 Characteristics of the seven studies included in the review of individual level psychological intervention designed to reduce alcohol's harm to others in the affected drinker

Study	Country	*N*	Study design	Affected other	Demographic characteristics	Active intervention(s)	Control	Summary of outcomes	Reported outcomes	Reported measures	Follow-up
Aarti et al. (2020)	India	33	One group pre-post design	Wives of alcoholics	100% F Age 18–60 years	Guided imagery intervention	N/A	Significantly reduced stress and maladaptive coping Significantly increased adaptive coping	**Stress** Adaptive coping Maladaptive coping	Modified perceived stress scale* Brief COPE scale* Brief COPE scale*	Baseline 8 days
de los Angeles Cruz-Almanza et al. (2006)	Mexico	35	Quasi-experimental design	Wife of person who is a problem drinker	100% F Age 25–50 years	Rational emotive behavioral therapy (REBT)	Those who dropped out	No comparison between control/REBT groups (Self-esteem, assertiveness, coping significantly increased in pre-post intervention group; no change in control except likelihood of being assertive)	Self-esteem Coping Likelihood of being assertive Degree of discomfort differences	Self-esteem Inventory (Coopersmith, 1981) Birmingham Coping Inventory (Orford et al., 1998) Assertion inventory (Gambrill & Richey, 1975) Assertion inventory (Gambrill & Richey, 1975)	Baseline Post-test 3, 6, 18 months 2 years
Hansson et al. (2006)	Sweden	78	Randomized trial	Adult children of parents with alcohol problems	71.8% F 28.2% M Mean age = 25.6 (4.9) years	Alcohol intervention program; Coping intervention program; Combination of both	None	SIP, AUDIT, and eBAC were significantly better in the two alcohol intervention groups compared to the coping group	Social interaction Mental health Standardized difference score alcohol Alcohol problems Alcohol use/related problems Blood alcohol concentration Coping parental abuse	Interview schedule for social interaction (Unden & Orth-Gomer, 1989) SCL-90 (Derogatis, 1977) Mean standardized differences of AUDIT/eBAC/SIP. Mean divided by standard deviation baseline to follow-up SIP (Feinn et al., 2003) AUDIT (Saunders et al., 1993) eBAC (US Department of Transportation, 1994) Coping behavior scale (Orford et al., 1975)	Baseline 1 year

Table 1 (continued)

Study	Country	*N*	Study design	Affected other	Demographic characteristics	Active intervention(s)	Control	Summary of outcomes	Reported outcomes	Reported measures	Follow-up
Hansson et al. (2007)	Sweden	77	Randomized trial	Adult children of parents with alcohol problems	71.8% F 28.2% M Mean age = 25.6 (4.9) years	Alcohol intervention program; Coping intervention program; Combination of both	None	AUDIT and eBAC significantly lower in combination compared to coping or alcohol intervention; many interactions are changed within groups rather than between groups	Social interaction	Interview schedule for social interaction (Unden & Orth-Gomer, 1989)	Baseline 2 years
									Psychological symptoms	SCL-90 (Derogatis, 1977)	
									Standardized difference score alcohol	Mean standardized differences of AUDIT/eBAC/SIP. Mean divided by standard deviation baseline to follow-up	
									Alcohol problems	SIP (Feinn et al., 2003)	
									Alcohol use/related problems	AUDIT (Saunders et al., 1993)	
									Blood alcohol concentration	eBAC (US Department of Transportation, 1994)	
									Coping parental abuse	Coping behavior scale (Orford et al., 1975)	

Table 1 (continued)

Study	Country	*N*	Study design	Affected other	Demographic characteristics	Active intervention(s)	Control	Summary of outcomes	Reported outcomes	Reported measures	Follow-up
Howells & Orford (2006)	UK	20	Quasi-experimental design	Partners of problem drinkers	NS	Intervention for the partners of problem drinkers, in their own right	Waiting list control	Stress, sacrificing coping, and self-esteem significant at 6 months but not at 1 year between groups Independence significantly different at 6 months and 1 year between groups	Stress	Symptom Rating Test (Kellner et al., 1968)	Baseline 6 weeks 3 months
									Engaged coping	Amended Short Coping Questionnaire (Orford et al., 1992)	
									Sacrificing coping	Amended Short Coping Questionnaire (Orford et al., 1992)	
									Life affected	Self-generated*	
									Self-esteem	Self-esteem and independence questionnaire (self generated)*	
									Independence		
									Drinking related behavior	Adapted from Perceptions of Alcohol Problems Questionnaire (Velleman & Orford, 1990)	
	UK	37	Case study design	Partners of problem drinkers	NS	Intervention for the partners of problem drinkers in their own right	None	Stress, sacrificing coping, life affected significantly different between baseline and 3 months, and 3 months and 6 months. Self-esteem and independence between baseline and 3 months significant only and drinking related behavior and engaged coping significantly different between 3 and 6 months	Stress	Symptom Rating Test (Kellner et al., 1968)	Baseline 3 months 6 months 12 months
									Engaged coping	Amended Short Coping Questionnaire (Orford et al., 1992)	
									Sacrificing coping	Amended Short Coping Questionnaire (Orford et al., 1992)	
									Life affected	Self-generated*	
									Self-esteem	Self-esteem and independence questionnaire (self-generated)*	
									Independence		
									Drinking related behavior	Adapted from Perceptions of Alcohol Problems Questionnaire (Velleman & Orford, 1990)	

Table 1 (continued)

Study	Country	*N*	Study design	Affected other	Demographic characteristics	Active intervention(s)	Control	Summary of outcomes	Reported outcomes	Reported measures	Follow-up
Rychtarik et al (2015)	USA	88	Randomized trial	Spouse	100% F Age NS	Coping skills training (CST)	8-week delayed treatment control (DTC)	Depression, state anger significantly lower in CST vs DTC; participants in CST had greater post intervention skill acquisition. Anger and anxiety were non-significant, and the prevalence of partner treatment, self-help, or IPV was too low for data analysis	Depression	Beck Depression Inventory II (Beck et al., 1996)	Baseline 8 weeks
									Anxiety	Depression, Anxiety, Stress Scales (Lovibond & Lovibond, 1995)	
									Stress	Depression, Anxiety, Stress Scales (Lovibond & Lovibond, 1995)	
									Anger expression index	State-Trait Anger Expression Inventory (STAXI-2; Spielberger, 1999)	
									State anger	State-Trait Anger Expression Inventory (STAXI-2; Spielberger, 1999)	
									% of days abstinent past week	TLFB (Sobell & Sobell, 1996)	
									# standard drinks per drinking day/ past week	TLFB (Sobell & Sobell, 1996)	
									Skill acquisition	Spouse situation inventory A&B; Rychtarik & McGillicuddy, 1997)	
Son & Choi (2010)	Korea	53	Quasi-experimental design	Family of patients with AUD	92.5% F 7.5% M Mean age 49.47 (SD = NS)	Anger management program	Control group not specified	No comparison between experimental and control groups (Significant decrease in anger in experimental group pre-post)	Anger	Korean Anger Expression Inventory (Chon, 1996)	Baseline 1 months

Outcomes in bold are primary outcomes

AUD alcohol use disorder, *SD* standard deviation, *M* male, *F* female, *NS* not specified

*Scale author/origin not clear

Table 2 Nature of the interventions included in the review of interventions targeting the affected other using TIDieR ($n=7$)

Study	Brief name	Why, rationale	What, materials and procedures	Who, provided	How, modes of delivery	Where, locations of intervention	When, how much, time period	Tailoring to individual patient	Modifications	(a) How well, planned (b) How well, actual
Aarti et al. (2020)	Guided imagery intervention	Guided imagery for stress management	Sessions: (1) natural guiding for individual; (2) natural guiding with loved ones; (3) spiritual guiding; (4) deep relaxation guiding; (5) meditation guiding (on negative thoughts); (6) individual choice Each session was 30 min including 5 min deep breathing as a warm up, 20 min of guiding, 5 min deep breathing at the end	Researcher provided guided imagery	Face to face	In a de-addiction center in India	Daily delivery for 6 days on days 2–7; each session 30 min long	Individuals can choose the sixth day focus	Unclear	No assessment planned or reported
de los Angeles Cruz-Almanza et al. (2006)	Rational Emotive Behavioral Therapy (REBT)	Exploring cognitive biases in personal interaction and assertiveness	Aims: (1) identify and correct cognitive biases/defective information; (2) establish emotional regulation strategies; (3) acquire assertive interpersonal skills. Discuss effects of emotions on human function. Take turns to identify/give examples of own emotional reactions/analyze emotions. Therapist prompt other participants' comments on similarities/differences with personal cases. Practice deep diaphragmatic breathing and progressive muscle relaxation	Trained therapist provided	Face to face in groups	Community center office	18 150-min weekly sessions	Sessions tailored by therapist to individual's experience in confines of the model	Therapist was trained and expected to use manual	Deviations from manual were to be noted; none reported
	Refused	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear

Table 2 (continued)

Study	Brief name	Why, rationale	What, materials and procedures	Who, provided	How, modes of delivery	Where, locations of intervention	When, how much, time period	Tailoring to individual patient	Modifications	(a) How well, planned (b) How well, actual
Hansson et al., (2006, 2007)	Alcohol intervention program	Motivational interviewing	Aims: (1) identify high-risk drinking situations; (2) provide accurate information on alcohol; (3) identify personal risk factors; (4) challenge myths/ positive expectations; (5) establish appropriate and safer drinking goals; (6) manage high-risk drinking situations; (7) learn from mistakes Discuss AUDIT scores/alcohol expectations with feedback. Discuss Swedish facts, myths, drinking patterns. Learn to calculate blood alcohol level (BAC). Plan use including drinks, moderation strategy, drink refusal, peer influence, assertive behavior, high-risk situation identification, manage negative emotional states. Consumption diary/BAC between intervention sessions. 2nd session, topics repeated. Homework (diary) discussed in detail	Manualized individually presented discussion by one therapist a few years older than the respondents	Face to face and self-complete	University setting	An individual 1 h baseline assessment, two individual 2-h sessions	Feedback on AUDIT scores and alcohol use expectations; plan party alcohol consumption; discuss drinking diary/BAC	Follow manual strictly, flexible in approach, aware of empathy, warmth, acceptance, or support of risk taking, single therapist for all data points	No assessment planned or reported
	Coping intervention program	Cognitive behavioral coping intervention	Aims: (1) Feedback from coping assessment on student's experience of living with person, relations with non-alcoholic family members/ social network; (2) information on common coping patterns/strategies in families. Focus on relationship, emotion, problem coping. Discuss ability to express emotions, handle discord, or not use avoidance; (3) discuss better coping strategies Diary of coping strategies used in trying situations during the month between the sessions, rating situation severity on an analogue visual scale (1–100). Read/reflect on books in Swedish, "Become my mother again" and "If you really loved me." Second intervention session repeats first session topics. Homework (diary) also discussed in detail					Diary of coping strategies used in trying situations in daily life during the intervention		
	Combination of both	Combination of both	Both above. All individual parts remained; BAC/coping strategies discussed at less detailed level					Less BAC/coping strategies than 1 and 2		

Table 2 (continued)

Study	Brief name	Why, rationale	What, materials and procedures	Who, provided	How, modes of delivery	Where, locations of intervention	When, how much, time period	Tailoring to individual patient	Modifications	(a) How well, planned (b) How well, actual
Howells & Orford (2006)	Intervention for partners of problem drinkers, in their own right	Anxiety management techniques, problem solving, role playing	Sessions explored, expectations of change, areas of power, independence of finances, non-confrontational communication, how other family members were affected, and the role of the drinker Portfolio of 15 items with a 2-page rationale and 4-page protocol. Listening sympathetically to the family member. Discussion of development of own interests, and role playing of assertive and clear communication. Appointment with a counselor	Trained counselors	Face to face counseling service	In non-hospital based National Health Service (UK) addiction team	Mean number of appointments was 4 (range 1–12) lasting approximately 1 h	Tailoring includes integration of client experience, if violence has occurred there may be an intervention or use of a contingency plan for safety	Unclear	Supervised by author, structured record sheets and tape recorded sessions; none reported
Rychtarik et al. (2015)	Internet-administered coping skills training program	Coping skills training	StopSpinningMyWheels.org, online skill training website, and randomization to one of two site coaches (professional counselors) who could, at the participant's discretion, be consulted either by phone, secure email, or chat. Participants were phoned at the outset with contact at weeks 1, 3, and 6 to trouble shoot any problems. Participants had 8 weeks to access the program — sequentially presented sessions averaged 17 min (range 4–32 min)	Online program + support on site coaches who were professional counselors	Online intervention of individual sequential sessions. Coach was by telephone one on one	Online and on phone	24 sessions; mean = 20.38 completed in 7.04 weeks. Coach contacts administrative mean (SD) = 4.73 (2.96), technical 2.58 (2.58), clinical 1.18 (2.16)	Self-paced via instructional narration, animated presentations, quizzes, personal journaling, fidelity assessed by competence scale	Not applicable	Inter-rater reliability of coach content/type notes (20%), coach competence Kappa .82 content, .87 type/competence median 3–4 (good–v. good)
Son & Choi (2010)	Anger management program	Hwa-Byung or Korean anger syndrome cultural care theory; social control theory; cognitive behavioral therapy	Eight sessions: (1) sharing experience of anger, (2) purposes of anger management, (3) causes and strategies of anger, (4) appeasing and changing anger, (5) expressing anger positively, (6) coping with anger, (7) anger and family, (8) program completion ceremony Program based on the anger management manual for patients with substance dependence and/or mental health problems. Relaxation therapy began each session, and worksheets were used to support session activity. Goal to express, ventilate, cope with anger using CBT	Psychiatric–mental health nurse practitioners trained for 3 + years	Face to face delivery by group	Nurse led, but location unclear	8 sessions once a week for 2 h; 3 experimental groups over 2 months	Individual experiences feed into content delivered	Unclear	Program reflection/field notes were used to monitor; none reported
	Control	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear

Interventions were mostly face to face; all had multiple sessions ranging from 3 to 24 sessions. Where time periods were specified, interventions varied from an intensive week of six daily sessions, up to a session a week for 18 weeks. All sessions had some elements of tailoring, which included participants choosing activities on their own, automatic tailoring based on responses to questionnaires, and tailoring of intervention content by therapists. The behaviors targeted by the intervention were alcohol use behavior of the affected other (Hansson et al., 2006, 2007), behaviors arising from anger (Son & Choi, 2010), assertive interpersonal or other communication behaviors (de los Angeles Cruz-Almanza et al., 2006), adaptive coping strategies (Hansson et al., 2006, 2007; Howells & Orford, 2006), and meditation practice (Aarti et al., 2020). Regarding behavior change techniques (BCT), in the seven papers with 11 interventions, two control groups did not describe the details to determine these BCTs (Table 3) (de los Angeles Cruz-Almanza et al., 2006; Son & Choi, 2010). Of the nine with details of interventions, there were 48 BCTs identified, ranging from two in Son and Choi's anger management program intervention (Son & Choi, 2010) to nine in the Hansson and colleagues' alcohol intervention and combined interventions (Hansson et al., 2006, 2007). All interventions except Hanssons' and colleagues coping intervention program (Hansson et al., 2006, 2007) contained 4.1 instruction on how to perform the behavior. Other popular BCTs included 1.2 problem solving (six times), and 6.1 demonstration of the behavior, 8.1 behavioral practice/rehearsal, and 4.2 information about antecedents which appeared four times each.

Discussion

This review aimed to identify psychosocial interventions for affected others in their own right; the evidence base is limited. Only seven studies worldwide were identified, and these were mostly exploratory studies with small sample sizes and of varying qualitiy with MMAT risk of bias scores ranging from 40% to 100%. A more liberal inclusion criteria may have broadened the findings if we included papers which support affected others' where the substance is a drug other than alcohol such as Carpenter et al. (2020), Copello et al. (2000), Copello et al. (2009), and Velleman et al. (2011). These were deliberately excluded here given the additional complication of substance use and legal matters. Undoubtably, the harm associated with both alcohol and drugs is substantial (Orford et al., 2013) and there is some overlap in harms.

The studies included in this review showed a positive effect of interventions on affected others; however, the use of a diverse range of outcomes limited quantitative synthesis, which appears common in the addiction field (Shorter et al., 2021; Shorter, Heather, et al., 2019). The summary of the findings showed a reduction in psychological and physical distress, reduced anger, and better coping and more assertive behavior. This review found only 16/93 BCTs were used in interventions, and this may be in part due to the lack of detail in the description of some interventions. Many of the interventions evaluated here were modeled on intervention modalities designed for general population mental health (e.g., cognitive behavioral therapy) or used in treatment services (e.g., motivational interviewing) rather than being designed for affected others directly. It may also be worth exploring how the alcohol use of the affected other intersects with intervention effectiveness. We also found a predominance of female affected others (Rane et al., 2017; Templeton et al., 2010), which may reflect the excessive burden

Table 3 Behavior change techniques used in all seven studies with 11 interventions

Study	Brief name of intervention	Aim or behavior	Behavior change techniques
Aarti et al. (2020)	Guided imagery intervention	Meditation practice	4.1 Instruction on how to perform the behavior 6.1 Demonstration of the behavior 8.1 Behavioral practice/rehearsal 11.2 Reduce negative emotions
de los Angeles Cruz-Almanza et al. (2006)	Rational Emotive Behavioral Therapy (REBT)	Increase assertive interpersonal behavior	4.1 Instruction on how to perform the behavior 6.1 Demonstration of the behavior 8.1 Behavioral practice/rehearsal 11.2 Reduce negative emotions
	Refused the intervention but were followed up at 2 years	Unclear	Unclear
Hansson et al., (2006, 2007)	The alcohol intervention program	Reduce alcohol consumption	1.2 Problem solving 2.2 Feedback on behavior 2.3 Self-monitoring of behavior 2.4 Self-monitoring of outcomes of behavior 2.7 Feedback on outcome(s) of behavior 4.1 Instruction on how to perform the behavior 4.2 Information about antecedents 6.2 Social comparison 15.3 Focus on past success
	The coping intervention program	Increase adaptive coping strategy behaviors	1.2 Problem solving 2.2 Feedback on behavior 2.3 Self-monitoring of behavior 2.4 Self-monitoring of outcomes of behavior 2.7 Feedback on outcome(s) of behavior 4.2 Information about antecedents
	Combination of the alcohol and coping intervention programs	Reduce alcohol consumption and increase adaptive coping strategy behaviors	1.2 Problem solving 2.2 Feedback on behavior 2.3 Self-monitoring of behavior 2.4 Self-monitoring of outcomes of behavior 2.7 Feedback on outcome(s) of behavior 4.1 Instruction on how to perform the behavior 4.2 Information about antecedents 6.2 Social comparison 15.3 Focus on past success

Table 3 (continued)

Study	Brief name of intervention	Aim or behavior	Behavior change techniques
Howells & Orford (2006)	Intervention for the partners of problem drinkers, in their own right and then waiting list control 6 weeks after enrollment	Increase adaptive coping strategy behaviors	1.2 Problem solving 3.2 Social support (practical) 4.1 Instruction on how to perform the behavior 8.1 Behavioral practice/rehearsal 11.2 Reduce negative emotions 12.1 Restructure physical environment
Rychtarik et al. (2015)	Internet administered coping skills training program	Increase adaptive coping behaviors	1.2 Problem solving 4.1 Instruction on how to perform the behavior 6.1 Demonstration of the behavior
	Internet administered coping skills training program 8 weeks delayed	Increase adaptive coping behaviors	1.2 Problem solving 4.1 Instruction on how to perform the behavior 6.1 Demonstration of the behavior
Son & Choi (2010)	Anger management program	Manage behaviors arising from feeling angry	4.2 Information about antecedents 8.1 Behavioral practice/rehearsal
	Control	Unclear	Unclear

carried by females. However, males also experience harm from others' drinking (Sundin et al., 2021) and are too deserving of intervention. Those from white ethnic origin, where ethnicity was reported, also predominated the landscape (Templeton et al., 2010).

There were notable omissions from this review that are commonly considered to be interventions independent of the drinker; however, they did not meet the inclusion criteria of this review. For example, the "pressure to change" model by Barber and colleagues (Barber & Crisp, 1995; Barber & Gilbertson, 1996, 1998) provides assessment and feedback to the affected other but works with them to develop skills to improve the consumption behaviors of the drinker. Notable other exceptions such as Tiburcio Sainz and Natera Rey (2003) or Osilla et al. (2018) also focus on coping independently of the drinker, but the intervention is designed with added outcomes/activities related to the behavior of the drinker. These and other interventions were excluded here,as even if the drinker is not directly involved, the intervention changes their behavior specifically. Group interventions directly working with individuals, such as Al Anon, were also excluded, as they rely on other people for the therapeutic benefit. We also excluded interventions which have a family orientation; others have noted family being important in certain cultures for health change and behavioral interventions (Rane et al., 2017). Whilst there has been criticism leveled at the alcohol treatment field and its commissioners for not adequately including family members in service delivery (Orford et al., 2013), the health and wellbeing of the affected individual cannot depend on the change of behavior of another, and it has been suggested that increasing the treatment engagement of the drinker may not benefit the affected other (McGovern et al., 2021).

Despite an increase in attention on alcohol's harm to others, there has been little attention on interventions which support affected others, regardless of what the drinker who may cause harm is doing. There are several implications for this in practice. First, there is some evidence supporting individuals who are experiencing harm can improve their stress, quality of life, mental health, coping, self-esteem, social support, and independence. Anger was also reduced in some interventions. Second, we must support individuals who wish to improve their psychological wellbeing, so that their chances of improving their health do not depend on another person to change. Third, more research in this area is required, and the field should integrate to allow for comparable interventions and outcomes to create a high-quality body of evidence. Larger scale trials, with due attention to risk of bias, are also required to improve the quality of the evidence. Fourth, the diversity of outcomes and behavioral targets in interventions is of concern; international and synthesized qualitative work may help to prioritize targets for intervention; however, it must be cautious to cultural diversity in international works. There were six countries included in this review, who have diverse populations, and more attention could be paid to intersectional identities and how personal characteristics might influence outcomes for affected others. Co-designed approaches to interventions may support the acceptability and uptake in future trials (Giebel et al., 2022). Finally, the target population may also need to be diversified; non-white, and non-female populations are under-represented, yet still experience harm from others' alcohol. This is not to say we should not survey white or female identifying populations, but that we should expand our samples to represent the populations who may also experience this kind of harm.

Individuals and society carry a substantial burden from alcohol's harms to others. Despite this, interventions which could reduce this burden are severely under researched. More work is required to improve the evidence base and intervention development (Public Health England, 2019) particularly to help and support those who experience the harm from others' alcohol use without the drinker having to change. The field is in its infancy and needs urgent attention of researchers and policy makers, exploring mechanisms of

change and developing a consensus on which outcomes are important, such as for other ABI interventions (Shorter et al., 2021; Tiburcio et al., 2022). We need to do more work to establish the cost-effectiveness of interventions and to understand how an intervention can ease some of the cost of alcohol's harm to others. Navarro et al. (2011) also emphasized this. This would make the case for investment in interventions to support others and tackle the costs associated with other people's alcohol use in line with a wider public health perspective. In summary, whilst there is some early evidence that interventions can be successful in supporting the affected other independent of the drinker, new interventions are warranted, which are carefully designed, theoretically informed, appropriately powered, in diverse samples representing the populations from which they are drawn, and appropriately evaluated including effectiveness and cost-effectiveness.

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Data Availability All data is available in the article, the supplementary materials, or on the Open Science Framework at https://osf.io/fsn9a/.

Declarations

Conflict of Interest MB owns a private company (Alexit AB) which develops and distributes digital lifestyle interventions to the general public and for health care settings. Alexit AB had no part in funding, planning, or execution of this study. All others have no conflict of interest.

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Authors and Affiliations

G. W. Shorter[1,2] · K. B. D. Campbell[1,2] · N. M. Miller[3] · T. Epton[4] · L. O'Hara[2,5] · S. Millen[1,2] · K. Ulfsdotter Gunnarsson[6] · E. Berry[1] · M. Bendtsen[6]

1 Centre for Improving Health Related Quality of Life, School of Psychology, Queen's University Belfast, David Keir Building, 18-30 Malone Rd, Belfast BT9 5BN, UK

2 Drug and Alcohol Research Network, Queen's University Belfast, Belfast, UK

3 School of Human and Social Sciences, University of West London, London, UK

4 Manchester Centre for Health Psychology, University of Manchester, Oxford Road, Manchester, UK

5 Centre for Public Health, Queen's University Belfast, Belfast, UK

6 Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden