



Alcohol reduction interventions for transgender and non-binary people: A PRISMA-ScR-adherent scoping review

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ABSTRACT

Introduction: Transgender and non-binary people use more alcohol and report a greater need for help to reduce their consumption than their cisgender counterparts. They experience anticipated and enacted discrimination when seeking alcohol reduction healthcare. This study aimed to identify any alcohol reduction interventions for trans and non-binary people.

Methods: A systematic scoping review was completed according to PRISMA-ScR guidelines. Following an extensive search across five databases, two independent reviewers carried out abstract screening, full-text screening, data extraction and quality assessment. Findings were synthesised narratively.

Results: The search generated 1399 unique records. Ten texts were reviewed in full, and the final sample comprised six studies of moderate quality. Included records all reported adaptations of various psychosocial interventions including individual therapies, group therapy, a *trans*-affirmative clinical environment, and a specialist inpatient rehabilitation service. Four interventions resulted in alcohol reduction with modest effect size. However, the change in alcohol consumption was not statistically significant in two studies. Trans women were disproportionately investigated through the lens of HIV risk reduction.

Conclusion: Interventions developed for one population cannot be presumed effective in another, particularly those as heterogeneous as trans and non-binary communities. There is some suggestion that psychosocial interventions adapted for the needs of the trans community are effective in achieving alcohol reduction. However, it is unclear how these will fare with trans men and non-binary people and specialist interventions may be needed.

1. Introduction

Gender identity describes how a person understands themselves as female, male, both, or neither (American Psychologist, 2015). Transgender (trans) is an adjective describing people whose gender identities do not correspond to their sex registered at birth (American Psychologist, 2015). Some, but not all, trans people identify within the gender binary (e.g., trans men and trans women). Non-binary people, who may or may not identify as trans, are individuals with gender identities outside the gender binary (e.g., agender; American Psychologist, 2015).

A considerable body of evidence suggests that, relative to cisgender (gender identity corresponds to birth-registered sex; cis) people, trans and non-binary people collectively report more concerning patterns of alcohol use (Connolly et al., 2022; Tupler et al., 2017; Williams et al., 2021). Although several studies have found that trans and non-binary people are less likely than their cis counterparts to report any alcohol

use, those who drink typically score higher on the Alcohol Use Disorders Identification Test (AUDIT) and report more frequent binge drinking (Azagba et al., 2019; Christian et al., 2018; Connolly et al., 2022; Kcomt et al., 2020; Keuroghlian et al., 2015; Williams et al., 2021). This pattern of use has been associated with a greater prevalence of alcohol use disorders and associated sequelae, such as alcohol-related blackouts, suicidal ideation, and sexual violence victimization (Connolly et al., 2021, 2022; Dermody et al., 2022; Hughto et al., 2021; Tupler et al., 2017).

These differences in alcohol use may be attributable, in part, to the significance of alcohol-serving venues in LGBTQ+ communities (Cerezo et al., 2020). While bars and clubs are now fewer in number in receding “gay neighbourhoods” (Brown, 2014; Nash, 2013), they have a long history of providing a safe space for political gathering and celebration of minoritised sexual and gender identities (Cerezo et al., 2020; Tensley, 2019). For many, these spaces are “home turf” and have provided the

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only possibility for meeting other queer people (Hunt et al., 2018). In recent qualitative work, one participant reported “there is a lot of acceptance of people like [me]...and people that have had to deal with similar things”, reinforcing the sense of safety and belonging offered by these LGBTQ + bars and clubs (Hunt et al., 2018). While such spaces may foster community connectedness, reliance on venues where drinking, particularly binge drinking, is commonplace might contribute to reported alcohol harm.

Excess alcohol use in these communities is more commonly viewed as a response to various types of discrimination (Hendricks & Testa, 2012). Trans and non-binary people are a small and vulnerable minority group (0.5–1.2% of the global adult population) whose experiences of violence have steadily increased both in frequency and severity in recent years (De La Cretaz, 2021; Winter et al., 2016). Considering London as an example, there has been an almost 2000% increase in reported and confirmed transphobic hate crimes since 2001 (Transphobic hate crime data from September 2001 to February 2022, 2022). Gender Minority Stress Models propose that trans and non-binary people use greater amounts of alcohol to cope with the psychological distress brought about by anticipation or experience of these and other acts of transphobic discrimination as well as additional stressors unique to the community, such as internalised transphobia (Hendricks & Testa, 2012; Lefevor et al., 2019; Meyer, 2003).

Indeed, there is a wealth of cross-sectional and longitudinal evidence supporting the association between transphobic discrimination and various measures of alcohol-related harm (Arayasirikul et al., 2017; Chakrapani et al., 2017; Kcomt et al., 2020; Nuttbrock et al., 2014; Reisner et al., 2015). Moreover, among a large sample of US trans and cis college students, trans students, who used alcohol more frequently and in greater quantities, were more likely to report drinking motives related to managing stress and interpersonal difficulties (e.g., drinking to “decrease inhibitions” or “feel more comfortable pursuing an opportunity to have sex”), supporting the role that internalised transphobia and anticipated stigma might play in particularly harmful alcohol use (Hendricks & Testa, 2012; Tupler et al., 2017).

Evidence suggests that transphobic violence is also highly prevalent in substance use treatment where formal education about the needs of trans clients is lacking (Cochran, Peavy, & Cauce, 2007). There are reports of staff restricting trans and non-binary people to facilities matching their birth-assigned sex and tolerating threats of transphobic violence between service users (Cochran & Cauce, 2006; Eliason, 2000; Lyons et al., 2015; Rachlin et al., 2008). Previous studies have estimated that up to half of trans people delay or avoid using alcohol reduction services due to anticipated discrimination (Cochran & Cauce, 2006; Sperber et al., 2008), which is independently associated with alcohol use (Reisner et al., 2015). These barriers to care and the disproportionate alcohol-related harm experienced by trans and non-binary individuals likely contribute significantly to the unmet need for alcohol-related care reported by Global Drug Survey respondents from these communities (Connolly et al., 2020).

Over 20 years ago, researchers advocated the creation of specialist alcohol reduction interventions to help trans and non-binary individuals avoid the stigma reported in general population services (Lombardi & van Servellen, 2000). These services can also account for population-specific alcohol use antecedents, behaviours, and sequelae (Coulter et al., 2018; Hendricks & Testa, 2012; Nuttbrock et al., 2014; Tupler et al., 2017). Since then, efforts to develop these interventions have been limited despite the availability of evidence demonstrating the efficacy of culturally tailored interventions in managing a range of health issues, including tobacco cessation in LGBTQ + communities (Bruce Baskerville et al., 2018; Cochran, Peavy, & Robohm, 2007; Fallin et al., 2015; Glynn & van der Berg, 2017; Rowan & Beyer, 2017).

The scoping review aimed to identify studies that (a) trialed existing alcohol reduction interventions with trans and non-binary people and (b) reported on the development or implementation of specialist alcohol reduction interventions for trans and non-binary people. The secondary

objective was to identify whether there were intervention or participant characteristics that predicted a successful outcome for any identified intervention.

2. Methodology

This study was conducted according to a pre-specified protocol uploaded to the Open Science Framework (OSF; 19th May 2022; <https://osf.io/y6pwb>). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) informed each stage of development of this review (Tricco et al., 2018).

2.1. Search strategy

Using a broad set of key words (Table 1), informed by previous systematic reviews (Connolly & Gilchrist, 2020; Gilbert et al., 2018), five electronic bibliographic databases were individually searched from their date of inception until 22nd May 2022: CINAHL (EBSCO), Embase (OVID), Global Health (OVID), MEDLINE (OVID) and PsycINFO (OVID). Google Scholar, a search engine cataloguing academic and grey literature (Haddaway et al., 2015), was then searched three times on 16th June 2022: (1) “alcohol” AND “treatment” AND “transgender”; (2) “alcohol” AND “intervention” AND “transgender”; (3) “alcohol” AND “reduction” AND “transgender”. The abstracts of the first 100 records identified by each Google Scholar search were reviewed against the inclusion criteria. The software “Citationchaser” was used to identify potentially relevant literature from the citations of included studies (Haddaway et al., 2022).

2.2. Study eligibility

Any study of an individual, group or public health intervention to reduce alcohol use among trans and non-binary adults (≥ 18 years) was included regardless of design, language, or date of publication. Studies that did not assess alcohol reduction interventions or those with exclusively child and adolescent (≤ 17 years) samples were excluded.

Table 1
MEDLINE search terms.

Concept	Keywords
1. Transgender and non-binary people	“transgender*” OR “transsexual*” OR “transsexual” OR “gender variant” OR “gender non conforming” OR “gender diverse” OR “genderqueer” OR “gender nonbinary” OR “non binary gender” OR “gender minority” OR “trans m*” OR “transm*” OR “trans wom*” OR “transwom*” OR “agender” OR “gender identity disorder” OR “gender incongruence” OR “gender dysphoria” OR “GNC” OR “gender non*” OR “gender expansive” OR “TGE” OR “assigned sex” OR “sex assigned at birth” OR “AFAB” OR “AMAB” OR “FAAB” OR “MAAB”
2. Interventions	“intervention*” OR “prevent*” OR “treatment*” OR “treatment management” OR “motivation* interview*” OR “MI” OR “cognitive behavioral therapy” OR “CBT” OR “mindfulness” OR “brief intervention” OR “BI” OR “self-help” OR “selfhelp” OR “self help” OR “family therapy” OR “pharma*” OR “naltrexone” OR “acamprostate” OR “disulfiram” OR “contingency management”
3. Alcohol	“alcohol*” OR “drink*” OR “alcohol use disorder” OR “alcohol dependence” OR “alcohol disorder” OR “alcohol addiction” OR “intoxication” OR “alcohol withdrawal” OR “delirium tremens”

Searches 1, 2 and 3 were conducted with Boolean AND.

2.3. Record screening and data extraction

Titles and abstracts of records identified by the search were uploaded to the software “Rayyan” (Ouzzani et al., 2016) for deduplication. Both researchers independently reviewed each record against the eligibility criteria. Following the initial screening, full texts of the retained records were collected and independently reviewed to confirm records met the eligibility criteria. There were no disagreements between the reviewers. A piloted data extraction table was populated independently by each author, collecting the following data: authors’ names, year of publication, study aim, study design, sample size and characteristics, type of intervention used, and a short summary of the study results.

2.4. Data synthesis

Findings were synthesised according to the Economic and Social Research Council “Guidance on the Conduct of Narrative Synthesis in Systematic Reviews” (Popay et al., 2006).

2.5. Bias assessment

Both reviewers assessed each included study for methodological quality and bias using a method-appropriate Joanna Briggs Institute (JBI) critical appraisal tool (Joanna Briggs Institute, 2017). Disagreements were resolved by discussion. Studies were not excluded based on quality assessment.

3. Results

3.1. Search results

The search generated 2277 results. Following deduplication, 1399 unique records remained (Fig. 1). Of the ten records read in full, six met the inclusion criteria and four were excluded (Table 2).

3.2. Characteristics of included studies

The included studies, comprising a small sample of 416 (260 trans) participants, were conducted in the United States (Empson et al., 2017; Nemoto et al., 2005; Oggins & Eichenbaum, 2002; Pachankis et al., 2020), Peru (Passaro et al., 2020) and Argentina (Radusky et al., 2020) over the last 20 years. Two were randomised controlled trials (Pachankis et al., 2020; Passaro et al., 2020), three used pretest posttest methods (Empson et al., 2017; Nemoto et al., 2005; Radusky et al., 2020), and one was a cohort study (Oggins & Eichenbaum, 2002).

3.3. Alcohol reduction interventions for trans and non-binary people

3.3.1. Individual therapy

Seeking Safety (SS) is a flexible cognitive behavioural therapy (CBT) developed to support people with co-morbid post-traumatic stress and alcohol use disorders (Najavits, 2002). One study reported the outcome of a SS acceptability study with seven trans women living with HIV (LWHIV), where each of the 12 modules (one module per session) was adapted to what was predicted to be the population’s needs (e.g., the “Setting Boundaries” module focused on negotiating safer sex practices; Empson et al., 2017). “Grounding” was the module found most beneficial by participants as it taught coping skills. Conversely, participants reported that the “Honesty” module was too simplistic, as it failed to acknowledge the dangers associated with disclosing trans identity or serostatus (Empson et al., 2017). In this sample, the average total score on the Short Version Michigan Alcohol Screening Test (MAST-22; Selzer et al., 2014) decreased from 7.1 to 5.4 (23.9%; p = 0.11), following an average of eight SS sessions.

Personalised Cognitive Counselling (PCC) is an intervention that uses cognitive behavioural strategies to modify behaviours associated with HIV acquisition among men who have sex with men (MSM; Passaro et al., 2020). Based on the premise that high-risk sexual behaviours (e.g., condomless anal intercourse) are the result of “self-justification” in the “heat of the moment”, personal scenarios are roleplayed between participants and counsellors to challenge historical decision-making in the “cold light of day” so strategies can be developed to reduce the

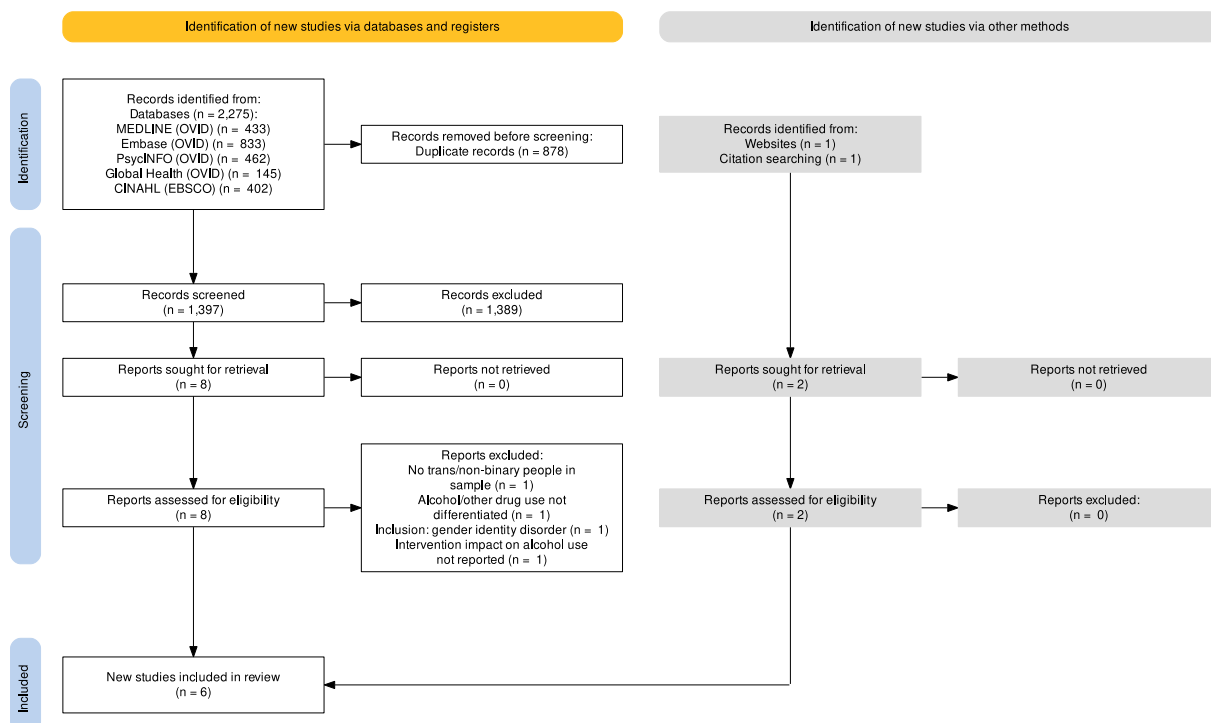


Fig. 1. PRISMA diagram.

Table 2
Summary of included studies.

Author (year)	Study aim	Study design	Sample size	Intervention	Results
Empsom et al., (2017)	To pilot the “Seeking Safety” program for substance use, PTSD and violence for trans women LWHIV	Pretest posttest	7 trans women LWHIV	A 12-session patient-focused group CBT	‘Alcoholism’ screening* results declined by 23.9% after participants attended an average of eight sessions ($p = 0.11$)
Nemoto et al. (2005)	To evaluate the community-tailored intervention “TRANSProgram” for trans women	Pretest posttest	119 trans women	TRANSProgram included 18 workshops across three domains: 1. sex, relationships, health; 2. drug use & coping skills; 3. general life needs.	At pre-intervention, 57.3% had consumed any alcohol. Post-intervention 47.6% had consumed alcohol in the preceding 30 days ($p = 0.06$)
Oggins & Eichenbaum (2002)	To evaluate the “Transgender Recovery Program” for substance use and mental health among trans women	Cohort	16 trans women	A residential community utilising TRP to prevent substance and illicit hormone use	TRP completion was favorably high (81%) when compared with a regular residential treatment rate (60%)
Pachankis et al. (2020)	To test a MS-focused CBT to improve mental health among YA SMW experiencing anxiety, depression and/or heavy alcohol use	RCT	60 (26 gender diverse)	A 10-session Equip intervention program	There was a whole sample significant reduction in depression, anxiety and in alcohol use related problems**
Passaro et al. (2020)	To assess the effects of PCC on drinking expectancy	RCT	153 (31 trans women)	PCC	The intervention arm had significantly decreased AUDIT scores and drinking expectancies, relative to the control arm
Radusky et al. (2020)	To compare alcohol use before and after 6-month HIV treatment in a TSC	Pretest posttest	61 trans women LWHIV	TSC that affirms clients’ gender	There was a significant 6-month decrease in AUDIT score from 12.9 to 7.2

Notes *: Short Version Michigan Alcohol Screening Test; **: The Short Inventory of Problems—Alcohol; AUDIT: alcohol use disorders identification test; CBT: cognitive behavioural therapy; Equip: empowering queer identities in psychotherapy; HIV: human immunodeficiency virus; LWHIV: living with HIV; MS: minority stress; PCC: personalised cognitive counselling; PTSD: post-traumatic stress disorder; RCT: randomised controlled trial; SMW: sexual minority women; TRP: transgender recovery programme; TSC: *trans*-sensitive clinic; YA: young adult.

likelihood of harm when exposed to a similar risk (Coffin et al., 2014). In a randomised controlled trial, which included 31 trans women (for whom the intervention was not adapted), the PCC arm compared favourably to regular counselling (control arm; no change) in terms of reduction in AUDIT (0.70, 95% confidence intervals (CI) 0.57–0.87; $p < 0.01$) and Drinking Expectancy Questionnaire for Men who have Sex with Men (DEQ-MSM) scores (0.89, CI 0.83–0.96; $p < 0.01$; Passaro et al., 2020). The latter is a validated measure of drinking expectancies for MSM, where higher DEQ-MSM scores reflect problematic alcohol use behaviour (Mullens et al., 2011).

The ESTEEM (effective skills to empower effective men) intervention is a Minority Stress-informed transdiagnostic CBT designed to reduce depressive symptoms, alcohol harms and co-occurring HIV risk among MSM (Pachankis et al., 2020). EQUIP (empowering queer identities in psychotherapy) is a co-produced adaptation of ESTEEM for 18–35-year-old sexual minority women (Pachankis et al., 2020). The intervention comprised three stages: (1) introduction to Minority Stress framework; (2) cognitive restructuring, emotional awareness, and emotional regulation; and (3) building behavioural skills to mitigate effects of minority stress, and a total of ten sessions (e.g., session 4: mindfulness & Minority Stress, session 10: relapse prevention). Sixty women ($n = 26$; 43.3% also identified as transgender, genderqueer, non-binary or genderfluid), who reported recent depression, suicidality and “unhealthy alcohol use” (≥ 4 drinks in one episode in the past three months) were assessed using the Short Inventory of Problems—Alcohol (SIP-A; Alterman et al., 2015). The SIP-A is a 15-item scale that tallies the number of consequences from a participant’s past-3-month alcohol use (Alterman et al., 2015). There was a significant reduction in SIP-A scores immediately post-intervention ($d = 0.81$; Pachankis et al., 2020).

3.3.2. Group therapy

The San-Francisco-based transgender resources and neighbourhood spaces (TRANS) programme, which aims to reduce drug use and HIV acquisition risk, delivers a psychoeducation intervention comprising 18 group workshops around three domains: (1) sex, relationships, and health (e.g., commercial sex); (2) reducing drug use and improving coping skills (e.g., positive forms of self-expression); and (3) general life needs (e.g., hormones, gender-related medical procedures; Nemoto et al., 2005). Each workshop was facilitated by trans/peer health

educators who were fluent in both English and Spanish and used a variety of techniques, including personal expression exercises and interactive discussions. A modest reduction in the prevalence of past 30-day alcohol use was observed following participation in ten workshops (57.3% vs. 47.6%, $p = 0.06$; Nemoto et al., 2005).

3.3.3. Adapted/specialist therapeutic environment

One study reported findings from a trans-sensitive healthcare clinic (TSHC), which was characterised by adherence to the World Professional Association for Transgender Health guidelines (Coleman et al., 2012) and staff who have undergone trans-sensitivity training to decrease gender identity stigma (Radusky et al., 2020). This clinic reported a significant 6-month decrease in AUDIT scores ($t(49) = 2.14$, $p < 0.05$) in a sample of 61 trans women LWHIV and initiating antiretroviral therapy (Radusky et al., 2020).

The Transgender Recovery Programme (TRP) describes dedicated beds for trans women in a residential rehabilitation facility which supported them with alcohol or other drug use disorders, “hormone abuse”, mental ill health, and HIV risk reduction (Oggins & Eichenbaum, 2002). The TRP was provided by other trans women and offered multidisciplinary healthcare (including gender-affirming hormone therapy; GAHT) as well as non-clinical services, such as education, housing, legal advice, and financial support to access clothes (Oggins & Eichenbaum, 2002). Providers reported a high treatment completion rate (81%), which they report compared favourably with general residential treatment programmes (60%; Oggins & Eichenbaum, 2002).

3.4. Quality assessment

The risk of bias assessments are presented in Supplementary Tables S2–S4. One study was difficult to assess because the methods were not described in adequate detail (Oggins & Eichenbaum, 2002). Otherwise, studies met most criteria. However, several noteworthy limitations were not captured by the quality assessment. In one study, the DEQ-MSM was used to measure the effect of an intervention in a sample that included both cis MSM and trans women (Passaro et al., 2020). Since the DEQ-MSM was designed specifically for MSM, its application to trans participants may undermine the validity of the results (Chapa Montemayor & Connolly, 2023). Another study reported

treatment completion, a measure of tolerability, in lieu of any alcohol use measure (e.g., AUDIT; [Oggins & Eichenbaum, 2002](#)). Lastly, a study, which reported a non-significant change in MAST-22 scores following eight SS sessions, included only seven participants and was likely underpowered ([Empson et al., 2017](#)). These findings should be interpreted with caution.

4. Discussion

4.1. Key findings

This review identified only six articles that reported alcohol reduction interventions for trans and non-binary individuals. The included studies were small, non-representative, did not always disaggregate analyses by gender identity or modality, and largely reported relatively modest positive effect sizes for individual psychosocial interventions (i.e., CBT and gender-affirming service adaptations). No medical or public health interventions were identified. Most (five of six) studies investigated trans women with additional vulnerabilities, and alcohol use was seen solely secondary to minority stress or as a risk factor for HIV acquisition (i.e., its cultural significance in queer communities was omitted; [Cerezo et al., 2020](#)).

4.2. Findings in context

A comparison with a 2017 “call to action” (systematic review, search completed July 2016) with similar aims to this review suggests that little progress has been made despite a substantial body of literature demonstrating the disproportionate harm experienced by this population ([Glynn & van der Berg, 2017](#)). This review largely reports interventions aimed at reducing the incidence of HIV acquisition among trans women. This is in keeping with the over-representation of trans women investigated in this context in alcohol use literature ([Connolly & Gilchrist, 2020](#)) and prior recommendations that alcohol reduction interventions should focus on safer sex practices ([Hotton et al., 2013](#)).

Differences in the prevalence of alcohol use disorders and other harms (e.g., sexual violence victimisation) within trans and non-binary populations suggest that the required scale and characteristics of individual, group, and public health interventions may differ between trans and non-binary sub-groups ([Connolly et al., 2021, 2022](#); [Hughto et al., 2021](#); [Tupler et al., 2017](#)). Therefore, the exclusive focus on trans women in the existing literature means that the findings should be generalised with caution, particularly since these women were often selected based on additional vulnerabilities (e.g., high risk of HIV acquisition), which may not represent the wider population ([Passaro et al., 2020](#)). Gender minority alcohol research has only recently begun to include trans men and non-binary people ([Connolly & Gilchrist, 2020](#)). Interventions informed by this research will likely follow.

Considering the established challenges that both anticipated and enacted transphobic discrimination pose to care, it is perhaps unsurprising that the implementation of gender-affirming adaptations has been shown to improve the success of alcohol reduction interventions and services in trans and non-binary populations ([Lyons et al., 2015](#); [Oggins & Eichenbaum, 2002](#); [Radusky et al., 2020](#)). This has been corroborated by anti-retroviral therapy research which found that gender-affirming behaviours (e.g., using a client’s correct pronouns) and services (e.g., GAHT) are associated with improved appointment attendance and treatment adherence ([Deutsch et al., 2015](#); [Grant et al., 2016](#); [Wilson et al., 2016](#)). However, the non-significant reduction in alcohol use following the peer-led group intervention included in this review suggests that adaptations to interventions may need to extend beyond gender affirmation ([Nemoto et al., 2005](#)). Trans and non-binary participants in previous research have reported discomfort in receiving care in group settings, even those that were supposedly LGBTQ + inclusive, suggesting that some therapeutic approaches may be inappropriate for this population ([Dimova et al., 2022](#)).

The absence of pharmacotherapy tolerability and efficacy studies may reflect a poor understanding of the diverse physiology of this population. Established differences in drug metabolism and action between cis men and cis women suggest that gender-affirming medical or surgical interventions might bring about similar differences between cis and trans or non-binary people, and within trans and non-binary populations ([Greaves et al., 2022](#)). This suggests that such studies should be a priority to ensure that medications commonly offered to reduce alcohol use (e.g., acamprosate for relapse prevention) are prescribed and monitored appropriately ([Reus et al., 2018](#)).

Lastly, failure to consider the entire cultural context of alcohol use in trans and non-binary populations will result in missed opportunities to develop tailored alcohol reduction interventions. Collaboration among public health professionals, owners of alcohol-serving venues in the “gay neighbourhood”, and other local stakeholders could facilitate the implementation of evidence-based alcohol reduction interventions, such as adjustments to opening hours or glass size and shape ([Attwood et al., 2012](#); [Hahn et al., 2010](#); [Pechey et al., 2016](#); [Popova et al., 2009](#); [Wilkinson et al., 2016](#)).

4.3. Strengths and limitations

A broad search strategy was used across multiple databases and a single grey literature source. No exclusions were made based on the date of publication, language, or country of the study. We hope that we have identified all articles within the scope of this review. While this study was largely adherent to a pre-specified protocol, the authors deviated by including records that did not disaggregate findings by gender identity and by contacting a corresponding author for additional data (no response was received). This increased the sample size and was hoped to give a full account of anything of potential relevance. However, two of the included studies reported changes in alcohol use ([Passaro et al., 2020](#)) and alcohol use-related problems ([Pachankis et al., 2020](#)) for aggregated samples that included participants who were not transgender or non-binary. While some antecedents of alcohol use and risk factors for harm (e.g., Minority Stress; [Meyer et al., 2003](#); [Hendricks & Testa, 2012](#)) are shared between sexual and gender minority subgroups, there are important differences that may preclude reliable the generalisation of these findings to an exclusively trans and non-binary population ([Connolly et al., 2022](#); [Hughto et al., 2021](#); [King et al., 2008](#)).

4.4. Implications for research and clinical practice

This review provides evidence suggesting that psychosocial interventions adapted to the needs of trans and non-binary populations may support reduced alcohol consumption. While these findings have significant limitations, they hold face validity and might suggest a need for the development of specialist services with interventions delivered or informed by clinicians and community members who have expertise in the population’s circumstances and needs. However, prior to the development of such services, additional research with larger, exclusively trans and non-binary samples is required. In the interim, training to support service providers in adopting affirmative practice models is required so that existing interventions can be delivered with cultural competence to improve treatment uptake and reduce the rate of attrition ([Hereth & Durand, 2022](#)).

Trans men and non-binary people must be included in future investigations as a matter of health equity. To achieve this and to progress this area of work more generally, alcohol must be considered not solely in terms of its contribution to sexual risk and HIV acquisition among trans women, but as an independent health risk behavior.

5. Conclusion

Few alcohol reduction interventions have been developed for or trialed with trans and non-binary communities. A small body of

evidence suggests that psychosocial interventions adapted to meet the specific needs of this population may be effective in reducing alcohol use. To date, research has largely investigated trans women in the context of HIV risk reduction. Given the extent of alcohol-related harm experienced by this population, research that considers alcohol use as an independent risk behaviour and includes the wider trans and non-binary population is urgently needed.

CRedit authorship contribution statement

Ana Sofia Chapa Montemayor: Formal analysis, Investigation, Methodology, Project administration, Writing – review & editing. **Dean J. Connolly:** Formal analysis, Methodology, Supervision, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.addbeh.2023.107779>.

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