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Explanatory models and coping with alcohol misuse among conflict-affected men in Ukraine

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ABSTRACT

Affecting nearly 10% of men globally, alcohol use disorders (AUDs) represent a significant public health burden. Existing work, including from Ukraine, suggests that living in conflict settings may exacerbate the risk of AUDs. However, there is a dearth of evidence regarding alcohol misuse, as well as knowledge of factors associated with alcohol misuse patterns, in conflict settings. The aim of this qualitative study was to investigate explanatory models of alcohol misuse among conflict-affected men in Ukraine. Purposive and snowball sampling were used to recruit 66 conflict-affected men with alcohol misuse, family members of men who misuse alcohol, community health workers, and mental health and psychosocial support providers from locations across Ukraine. In the group of men who misuse alcohol (n = 25), we recruited individuals with diverse experiences of adversity: 1) internally displaced persons from eastern Ukraine and Crimea displaced after 2014; 2) Ukrainian military veterans or territorial defense volunteers from various regions; and 3) men living 5–15 km from the frontline. Semi-structured interviews were conducted in Ukrainian or Russian, and analysed using deductive and inductive analysis. Qualitative data received from each subgroup were analysed separately. The resulting explanatory model represents how Ukrainian conflict-affected men describe causes of alcohol misuse. Participants identified that alcohol misuse among Ukrainian men is often used as "self-treatment" to address mental health symptoms and feelings of demoralization that are exacerbated by a lack of supportive social environments and socio-economic problems; these behaviours also occur in an environment that deems alcohol misuse to be culturally appropriate. Family members and service providers offered a similar understanding of alcohol misuse as the men themselves. Strategies suggested by conflict-affected men to protect against alcohol misuse included engaging in alternative activities, finding supportive social environments, fear of negative consequences from alcohol misuse and increasing self-awareness and self-control. These findings indicate possible implications for interventions that target alcohol misuse among conflict-affected men, as well as demonstrate a need for developing culturally sensitive interventions that can address this unaddressed public health need.

1. Introduction

Alcohol use disorder (AUDs) is one of the most prevalent mental health disorders among men at the global level, with 8.6% men affected in 2016 (World Health Organization [WHO], 2018). Alcohol misuse represents an important contributor to mortality and morbidity, accounting for 3 million deaths every year (5.3% of global deaths) and for 131.4 million disability-adjusted life years (DALYs) lost (Shield et al., 2020). This translates into 7.1% and 2.2% of the global burden of disease for males and females, respectively (Degenhardt et al., 2018). When

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stratified by age, alcohol is the leading risk factor for premature mortality and disability among people aged 15–49 years old, accounting for 10% of all deaths in this age group (Rekve et al., 2019). The burden of disease attributable to alcohol misuse is particularly acute in countries with a low human-development index, such as parts of Eastern Europe and sub-Saharan Africa (Shield et al., 2020).

One group especially at risk for the development of AUDs are conflict-affected populations (Lo et al., 2017). Research from other contexts suggests that war can increase the risk for AUDs (Mootz et al., 2018). According to the World Mental Health Survey Initiative, 13% of those who have experienced organized violence or war met criteria for lifetime AUD compared to 4% of those without these experiences (Degenhardt et al., 2018). Populations living in conflict settings experience multiple risk factors shown to be associated with AUDs, such as exposure to trauma, socioeconomic stressors including poverty and unemployment, and higher rates of other mental health problems – most notably post-traumatic stress disorder (PTSD), depression, and anxiety (Charlson et al., 2019; Hanna, 2017).

Since 2014, Ukraine has experienced armed conflict due to Russian-led separatist movements in eastern *oblasts* and Crimea. Between 2014 and 2022, this resulted in an estimated 13,000 causalities and approximately 1.6 million internally displaced people (IDPs) (Shuvayev, 2022). On February 24, 2022, Russia started a full-scale invasion of Ukraine, beginning the ongoing Russo-Ukrainian war which has resulted in an additional 6.2 million IDPs, 5.7 million Ukrainian refugees, and 17.7 million people inside Ukraine in need of humanitarian assistance (UNHCR, 2023).

Alcohol has long been an important public health challenge for Ukraine, with 40% and 22% of all deaths among adult men and women attributable to alcohol misuse (Levchuk, 2009) and an estimated 12-months rate of heavy alcohol use of 38.7% in men and 8.5% in women (Webb et al., 2005). High levels of socio-economic disparity, political instability, limited healthcare infrastructure, and the culturally widespread consumption of alcoholic beverages are all thought to contribute to high prevalence rates of AUDs in Ukraine (Samokhvalov et al., 2009). The findings of the World Health Survey, which analyzed data from 29 countries between 2001 and 2015 (Glantz et al., 2020), showed that Ukraine has one of the highest prevalence rates of lifetime alcohol use and the highest average past-year prevalence of AUDs among all the countries surveyed. Even before the Russo-Ukrainian war started, the ongoing conflict in the eastern regions of Ukraine had also been identified as an additional amplifier of alcohol and substance misuse in the region (Patel et al., 2020). One study conducted among IDPs in Ukraine in 2016 identified high rates of AUDs among current drinkers (14.9% among men and 1.8% among women) (Ramachandran et al., 2019). A qualitative study conducted among Ukrainian IDPs, veterans and their family members also reported that alcohol and mental health problems such as depression and PTSD were frequently comorbid (Singh et al., 2021), corresponding with evidence obtained globally (Dworkin et al., 2018).

The WHO reported that in Ukraine, 77% of people drink alcohol, with an average daily intake of 14.7g of pure alcohol among men and 3.1g among women (WHO, 2024). Additionally, amongst current drinkers, 24.9% of men and 8.1% of women reported having at least one episode of heavy drinking (consuming 60g or more of pure alcohol per calendar day) at least once a month. Most study respondents linked alcohol consumption with mental and behavioral problems such as dependence, acute intoxication, withdrawal syndrome and aggressive behavior. Despite the fact that alcohol use is more prevalent among men, there is a lack of tailored interventions specifically designed for this population group and context (Fuhr et al., 2021; Kane et al., 2018). Nadkarni et al. (2013) studied explanatory models of AUD among Indian men and concluded that alcohol misuse and coping strategies for mental health problems influence treatment seeking. Better understanding of culturally specific explanatory models can inform adaptation process of evidence-based treatments (Rudenstrand and Bäärnhielm, 2024).

This study is part of the broader CHANGE research project (London School of Hygiene and Tropical Medicine, 2024), which aims to develop a transdiagnostic intervention targeting mental health comorbidities—such as alcohol misuse, depression, anxiety, and PTSD—among conflict-affected populations in Uganda and Ukraine. The findings from this study were instrumental in informing the development of the new intervention, which is currently being trialled, by offering an in-depth understanding of the factors contributing to alcohol misuse among Ukrainian men, their coping strategies and context-specific factors. The aim of the current paper is to investigate explanatory models around alcohol misuse among conflict-affected men in Ukraine including identifying protective factors and coping mechanisms.

2. Methods

2.1. Design

A qualitative study was undertaken using semi-structured in-depth interviews conducted between March and May 2021. We employed a qualitative methodology to examine the data and emphasize individual accounts of experience. More specifically this involved reflexive thematic analysis techniques to analyze and interpret the research data (Braun and Clarke, 2006)

2.2. Setting

Participants were recruited from the urban cities of Kyiv and Dnipro and smaller towns throughout eastern and western Ukraine. Participants in eastern Ukraine were recruited from Mironivske, Toretsk, and Kurakhovo, all situated within 5–15 km from the frontline at the time of the study. Participants in western Ukraine were recruited from the cities of Ternopil and Khmelnitsky, each of which have populations exceeding 200,000 inhabitants. Notably, Kyiv, Dnipro, Ternopil, and Khmelnitsky have hosted a large number of IDPs since the start of the war. The project recruiters worked with a network of local community organizations, service providers, and participants to identify possible participants.

2.3. Participants

Participants were recruited via purposive and snowball sampling, as well as through referrals from community workers and organizations. Participants were selected using maximum variation sampling based on their sociodemographic characteristics (e.g., age, location, gender, and occupation) (Table 1).

Eligible participants for the study included those who were at least 18 years old and fluent in either Ukrainian or Russian. A total of 66 participants were included in this study (see Appendix A for demographic information), comprising conflict-affected men who misuse alcohol ($n = 25$), family members of conflict-affected men who misuse alcohol ($n = 15$), and service providers with experience in helping men who misuse alcohol ($n = 26$).

Within the group of men who misuse alcohol, particular emphasis was placed on recruiting individuals with diverse experiences of adversity to ensure a comprehensive representation within the sample. These subgroups included: 1) IDPs within Ukraine who moved from the temporary occupied eastern part of Ukraine (n = 9), and Crimea (n = 1) displaced since 2014; 2) veterans of the Ukrainian military or volunteers of territorial defense brigades who were living in the eastern (n = 6), western (n = 2), or central parts of Ukraine (n = 2); or 3) men living in towns and villages located between 5 and 15 km from the frontline (n = 5). The family member group consisted of immediate family members (such as parents, siblings, spouses, or children) of individuals engaging in alcohol misuse. All family members included in the study were selected from households separate from those of the male participants to enhance the diversity of insights gathered. The majority of family members (n = 12) were IDPs themselves. Service providers constituted

Table 1
Sociodemographic characteristics of study participants.

	Veterans (n = 10)	IDPs (n = 10)	Men Living in the front line (n = 5)	Family Members (n = 15)	Community Healthcare Providers (n = 26)
Age (mean; SD)	41.1 8.51	41.0 11.96	36.4 15.55	48.2 12.82	– –
Gender (%)					
Female	0 (0)	0 (0)	0 (0)	15 (100)	20 (77)
Male	10 (100)	10 (100)	5 (100)	0 (0)	6 (23)
Educational level					
Primary school	0	0	0	0	0
High school	1	0	0	1	0
Technical career training education	4	1	3	5	4
University	4	9	2	8	22
Advanced degree	1	0	0	1	0
Marital status					
never have been married	2	3	3	0	–
primarily married	5	3	2	11	–
divorced	3	4	0	2	–
widower	0	0	0	2	–
Urban-Rural Distribution of Respondents (IDPs after displacement)					
living in small towns and villages	2	2	5	6	12
living in big cities	8	8	0	9	14
Employment status					
full time	6	5	3	6	–
part time	3	2	2	3	–
retired	0	0	0	3	–
housewife/householder	1	0	0	2	–
unemployed	0	2	0	1	–
student	0	1	0	0	–

the third group, comprising both official and unofficial providers operating at the community level. These providers were identified as potential resources for helping men with alcohol misuse issues. Examples of service providers included narcologists (n = 3), social workers (n = 8), mental health counsellors (n = 7), primary health care providers (n = 6) and unofficial caregivers such as priests and unlicensed "folk" healers (n = 2). Ukrainians living in the temporary occupied territories of Ukraine were not included in the study.

Alcohol misuse was either self-reported during recruitment or reported by a person who referred the participant to the study. Screening methods, such as the AUDIT (WHO et al., 2001), were not used to assess the severity of alcohol use disorders. The definition was left intentionally vague to minimize influences on cultural views on alcohol misuse. For this study, alcohol misuse is identified as drinking in a way that is harmful and/or being dependent on alcohol. Harmful alcohol use (WHO, 1992) is "a pattern of psychoactive substance use that is causing damage to health. The damage may be physical (as in cases of hepatitis from the self-administration of injected psychoactive substances) or mental (e.g. episodes of depressive disorder secondary to heavy consumption of alcohol)". Dependence syndrome (WHO, 1992) is "a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state".

Recruitment of men who misuse alcohol and family members was conducted at the community level by experienced community workers familiar with providing emergency social and health care services to conflict-affected populations. These community workers had firsthand knowledge of alcohol misuse patterns within their communities or were informed about issues related to alcohol misuse within conflict-affected families. Additionally, some interview participants facilitated the involvement of other community members who shared similar experiences of alcohol misuse or lived in the same household as men with alcohol misuse issues through snowball sampling.

Service providers were identified through the network of partner organizations affiliated with the Center for Mental Health at the National University of Kyiv-Mohyla Academy. This network specializes in mental health services and interventions aimed at reducing alcohol consumption and associated problems. It comprises experts from rehabilitation centers, both state-run and private narcologists, clinical psychologists, psychotherapists, and leaders of Alcoholics Anonymous (AA) groups, among others. Emphasis was placed on including unofficial service providers, such as priests, to ensure comprehensive coverage of all avenues for seeking help for alcohol misuse, particularly in rural settings where formal treatment options may be scarce or unavailable.

2.4. Procedures

Participants were provided with informed consent forms electronically via email, which they signed digitally. This process involved participants receiving a link to the consent form and information sheet that highlighted study aims and procedures, reading it, and providing their electronic signature. Informed consent was obtained by trained interviewers who were responsible for explaining the study details and ensuring participants' understanding and agreement. Before each interview, trained interviewers gave a verbal explanation of the study's purpose, procedures, and participants' rights by reading the text of information sheet in front of respondent, followed by the participant's verbal agreement to proceed.

Three separate interview guides were developed for conflict affected men, who misuse alcohol, family members of men, who misuse alcohol, and service providers with experience in helping men who misuse alcohol (see Appendix B). The topic guide was informed by the New White paper (Rapport, 2018) and study objectives. The interview guides included domains such as problem description, causes for alcohol consumption, coping strategy to deal with psychosocial stress and to reduce alcohol misuse and help seeking behaviour. Domains 'problem description' and 'causes for alcohol consumption' align with the eight questions from Kleinman's theory of explanatory models (Kleinman, 1980; Kleinman et al., 1978). All topic guides were piloted with representatives of each subgroup prior to the study as part of the interviewer's training to ensure relevance and effectiveness.

Interviews were conducted by a team of seven experienced qualitative interviewers from Ukraine who were fluent in Ukrainian and Russian. The interview team consisted of two men and five women, with professional backgrounds in clinical psychology, psychiatry, social

research, and as university lecturers. All team members had previous experience in conducting in-depth semi-structured interviews. Additionally, a two-day training session on qualitative methods and research ethics was conducted for them by KK and SB before starting data collection. Interviews were conducted over the phone in Ukrainian or Russian depending on the preference of the respondent. The average duration of the interviews was 60 min (range 45–90 min). All individuals invited to participate in the interviews agreed to take part and provided informed consent for their participation in the study. Data were collected until saturation was reached (i.e., until new themes were not emerging from the data) (Fusch and Ness, 2015; Guest et al., 2020). All interviews were audio-recorded and transcribed by research assistants; transcriptions were checked by the interviewers to ensure accuracy. The interview transcripts were not shared with the participants for review. All audio recordings were transcribed verbatim, after which the original audio files were permanently deleted from all devices to ensure privacy and confidentiality. The resulting transcripts were securely stored on the coding team's designated computers, with access restricted solely to the coding team members. Primary data analysis was conducted in Ukrainian and Russian. The coding tree was translated into English and thoroughly discussed with the research team. The findings were not shared with the participants for their feedback.

2.5. Analysis

Data was analysed thematically in the language of the interview. We used deductive analysis, followed by inductive analysis, to elicit new themes or unexpected findings through coding and categorizing. Deductive analysis was conducted based on the pre-selected domains of the topic guide, including problem description, causes and risk factors, and protective factors and coping mechanisms. The coding process entailed the allocation of codes based on their shared concepts to the themes, followed by the analysis of frequencies of each code. Results from this iterative process were used to develop a codebook consisting of a label, a definition, and illustrative quotes from the data. Transcript codes were reviewed by at least two members of the analytic team; discrepancies were discussed between the team members until consensus on the codebook was reached. Data were reviewed by local field experts as well as by the researchers from the core research staff to ensure that a range of perspectives were drawn on during analysis. Triangulation of findings and data collection methods strengthened data integrity. Data analysis was conducted in NVivo (Version 1.7.1.) © QSR International.

The primary object of analysis were subjective experiences and attitudes towards alcohol among conflict-affected men who misuse alcohol. We did not separately analyze data within this subgroup, namely between IDPs, veterans and conflict affected men. Data from family members and service providers were analysed separately.

For each identified theme we provided the frequency with which each was discussed within the subgroup of participants (n) and the corresponding percentages to illustrate the relationship between the number of participants who mentioned the theme and the total number of participants in each subgroup.

The coding team was comprised of two researchers from Ukraine (KK, SB). The team's educational background included one doctoral-level clinician-researcher and one masters-level researcher, both with specific expertise in psychology and qualitative research. To ensure that our respective backgrounds and perspectives were appropriately managed, we routinely met as a team to discuss our coding process. This opportunity allowed us to discuss any differing cultural perspectives or varying understandings of the texts. All the researchers engaged with reflexive practice for the duration of the study, particularly focusing on how their identity as Ukrainians may have impacted the research. They considered how their professional identities, biases and lived experiences influenced the design of the study, their relationships with participants, the data analysis, and interpretation of findings.

2.6. Ethics

Participants received phone credit equivalent to approximately $5 USD as an expression of gratitude for participating in the study. All study procedures were approved by the Ethics Committees of the London School of Hygiene and Tropical Medicine reference N№ 22729 from November 17, 2020 and National University of Kyiv-Mohyla Academy reference N№ 2 from November 10, 2020, ensuring adherence to ethical principles, including privacy, confidentiality, and informed consent. Data privacy and confidentiality were ensured by three means: (i) data was anonymized and stored on secure servers accessible only to the research team and password secured, (ii) participants' identifying information was kept separate from the interview data to maintain confidentiality, (iii) audio recordings of interviews were deleted after transcription was complete.

3. Results

Using deductive analysis, we identified themes aggregated into two categories according to the study aims: 1) explanatory models of AUD; and 2) coping mechanisms and protective factors. The detailed codebook is available in Appendix C.

3.1. Explanatory models of alcohol misuse

Alcohol misuse among Ukrainian men experiencing adversity and ongoing war was described as a "self-treatment" attempt aimed at reducing mental health symptoms and psychosocial stress. In addition, participants also reported using alcohol due to a feeling of demoralization caused by a lack of supportive social environment and unresolved socio-economic problems, all of which occurred in the context of culturally appropriate alcohol misuse ("normalization"). The most commonly reported themes on reasons for misusing alcohol were mental health difficulties, lack of a supportive social environment, demoralization, normalization of alcohol misuse in the community, and cultural traditions. Fig. 1. shows the interplay of these themes.

Mental health difficulties such as post-traumatic stress or depression were mostly linked to the adverse situations of war and exposure to life-threatening events as well as everyday stressors, including family conflicts, lack of money and jobs, and difficulties adapting to new environment which consistently grew in the context of war. These unresolved problems led to feelings of helplessness and desperation among conflict-affected men, resulting in demoralization. Both demoralization and mental health problems were often managed with alcohol, seen as an available and a cheap coping strategy.

Most of the conflict-affected men had started consuming alcohol before the armed conflict in 2014. The men mentioned that harmful drinking was already normalized in Ukrainian society prior to the war, reflecting patterns of alcohol misuse such as binge or excessive drinking.

Overall, themes were consistent among different subgroups (e.g., men, who misuse alcohol, service providers and family members) of participants. Some additional themes were mentioned by specific subgroups only. For example, family members (n = 4, 27%) attributed genetic causes and witchcraft to alcohol problems. Providers (n = 2, 8%) highlighted the complexity of the problems caused by low socioeconomic status. Men who misuse alcohol suggested that drinking alcohol for pleasure (n = 7, 28%) might cause alcohol problems among them.

Below, we present a more detailed explanation of each theme of the proposed explanatory model, including quotes.

3.1.1. Mental health difficulties

The theme of mental health difficulties was named as the most frequent cause for alcohol misuse by male participants (n = 17, 68%), providers (n = 13, 50%) and family members (n = 9, 60%). This category describes a range of symptoms, as well as emotional and behavioral reactions reported by men themselves or observed by providers and

family members. One conflict-affected participant said:

> "[The] *reason [for alcohol consumption] is memories. When you are looking for the fifth corner [feeling hopeless] and can't find what to do, you go to the store automatically*." (Veteran, 42 years old)

Alcohol misuse became a method of self-medication for pain, flashbacks, feelings of guilt or emptiness, insomnia, depressive moods, and aggressiveness, aimed at achieving quick relief. This pattern was most notably illustrated by veterans, who began drinking excessively every day during the first months after demobilization, even if they did not drink much during their military service. For some veterans, this binge drinking period was followed by a positive trajectory with more moderate consumption, while for others, it became a chronic issue characterised by remaining mental health problems. Some male participants reported suffering from co-morbid health and mental health symptoms, such as symptoms of brain injury and depression or post-traumatic stress.

Male IDPs mostly described their mental health problems as resulting from chronic stress conditions. Difficulties in adapting to their new life situation negatively impacted their ability to cope, leading to mental health symptoms that eventually became severe enough to require psychiatric or psychological treatment, as self-reported. Some participants (n = 7; 28%) reported using alcohol primarily to manage everyday psychosocial stress, in addition to coping with physical and/or mental symptoms. In this way, alcohol is seen to function as a way to quickly reduce stress. Overall, participants recognized that alcohol misuse was both a consequence of mental health problems and a cause thereof. These consequences included the development of multiple addictions, depression, suicide, aggression, and impaired psychosocial functioning.

3.1.2. Lack of supportive social environment

Strained social relationships were also frequently noted among conflict-affected men (*n* = 7, 28%) as a reason for misusing alcohol. Similar reasons for harmful alcohol use were also identified by providers (n = 7, 27%) and family members (n = 5, 33%). Lack of social support included disruptions in social networks (e.g., friends moving due to the conflict), and conflicts with spouses or a lack of understanding from family members about veterans' changed beliefs, life views, mental health state, and behavior led veterans to intense emotional distress.

> "Well, I set some limits for myself, like not drinking alcohol on weekdays. Or for a certain period, like 10 days or 2 weeks. But, let's say, a family argument would provoke strong internal emotions that … well, I didn't know how to deal with them, so I would turn to alcohol." (Veteran, 39 years old)

Additionally, the lack of jobs, social services, and few opportunities to spend social time with others deepened feelings of emptiness and loneliness. With the lack of a supportive social environment being a constant and significant factor affecting men daily, using alcohol to cope with the resulting negative feelings quickly became harmful. The lack of a supportive social environment was frequently mentioned as one of the main contributors to the onset of mental health problems, but it also acted as an independent factor causing alcohol misuse. When men were engaged in work, studying, or household activities, they felt more empowered to control their alcohol consumption, often limiting it to weekends. However, upon losing a job, they reported that their alcohol use immediately increased to daily consumption of large amounts. Likewise, akin to mental health issues, many participants identified the adverse effects of alcohol misuse on their social relations and described alcohol as a cause for social isolation and degradation of family life, including increased potential for family violence.

3.1.3. Demoralization

Feeling demoralized (i.e., desperate, powerless) was mentioned as a reason for drinking alcohol by 28% (*n* = 7) of conflict-affected men, 31% (n = 8) of providers, and 7% (n = 1) of family members. For example, conflict-affected men mentioned stressors such as incurable diseases or feeling unable to influence the state system, which is not perceived to have adapted to respond to the needs of civilians during war.

> *"I don't know, it seems to me in connection with the military actions that took place in our country … Everything slowed down, everything stopped. Before, people lived for a purpose. They wanted to do something at home or maybe they had some work was planned here. When all this happened (the conflict), everyone stopped believing in this village, everyone stopped planning … everyone here became so gloomy"* (Confict-affected men, living in front-line area, 23 years old)

Veterans reported feeling resentful and aggressive when community members disrespect their military services or when they feel blamed for receiving additional state social welfare services. Over time, conflict-affected men impacted by an increasing number of unresolved problems start to experience such profound demoralization that their problem-solving strategies are substituted with negative attitudes and heightened alcohol consumption, which serves to alleviate the negative affect of the unresolved problems. Culturally rigid stereotypes about a man's role in providing financial stability to the family, maintaining composure, and hiding weaknesses were counterproductive in adverse situations. Men in Ukraine were highly vulnerable to feeling like failures and avoiding discussing their emotions with others. In these situations, alcohol misuse offers a form of escape and sense of empowerment when drinking with other men, conveying the message that drinking together means everything is okay. As mentioned above, this category also shows an interconnection with other factors causing alcohol misuse, such as mental health difficulties and cultural traditions. Consequently, drinking alcohol, coupled with increased social isolation, leads to a decline in self-esteem among affected men.

3.1.4. Normalization of alcohol misuse

Normalization of alcohol misuse in the community was also frequently discussed among all groups (conflict-affected men n = 9; 36%; providers n = 8, 31%; family members n = 7, 47%) as a facilitator of harmful drinking. For all groups of participants, alcohol misuse was perceived as a socially normal way to relax. Men quickly learned that misusing alcohol in the company of other men, on weekends, at work, or in the army, was a socially tolerated habit.

> "Well, on holidays there, in the company of your friends, it's just that a good evening has formed, why not have a drink. (IDP and veteran, living in Kyiv, 49 years old)

Being intoxicated with peers was considered entirely acceptable and even viewed as normal, and thus problematic alcohol use was not regarded as a problem in daily community life. Providers observed a widespread misconception in Ukrainian society that drinking alcohol every day, even in moderate amounts (e.g., 1-L bottle of beer), does not harm health. Even in medical hospitals, a culture of alcohol misuse prevailed among injured soldiers undergoing treatment or rehabilitation, likely exacerbated by acute and post-traumatic stress conditions. Some veterans mentioned that months of binge drinking occurred during short home leaves, as community members and friends wanted to meet and drink. Male respondents also described social interaction patterns where alcohol was used as currency; instead of paying money for services, people would exchange a bottle of vodka. The presence of alcohol in the community (e.g., its availability in shops, drinking in the streets) and its pervasive advertisement encouraged drinking behaviors and triggered those who were trying to resist the urge to drink more.

3.1.5. Cultural traditions

To differentiate between socially appropriate norms (.i.e. normalization of alcohol use) and cultural traditions, we identified cultural traditions as patriarchal stereotypes describing societal beliefs that drinking alcohol is a way to express yourself as a man and demonstrates masculinity (conflict-affected men n = 8, 32%, providers n = 4, 15%,

family members n = 1, 7%). Various traditionally male activities, such as fishing or hunting, are closely linked in Ukraine with alcohol consumption, becoming deeply ingrained in the culturally constructed image of authentic masculinity. Another significant characteristic of masculinity in Ukrainian culture, closely linked with alcohol misuse and as was reported by male participants, is the expectation for men to maintain emotional control and restraint.

> "I have friends … they have an understanding that if you haven't drunk something somewhere, then you're not a man, [but rather] some kind of weakling." (IDP, 47 year old)

The subculture of mine workers in eastern Ukraine has also significantly influenced local cultural traditions, including the misuse of alcohol as a means of transitioning from the dangerous and strenuous underground conditions typically endured by men to the more relaxed periods of rest between work shifts. Participants reported that collective consumption of large quantities of alcohol among mine workers was common and somehow protected from societal criticism. As described above, such cultural stereotypes can contribute to the growth of feelings of demoralization.

3.2. Protective factors and coping mechanisms to deal with alcohol misuse

Men who misuse alcohol and family members were only asked about coping mechanisms and protective factors against alcohol misuse. Four main protective factors were identified by interview participants.

3.2.1. Alternative activities

Engaging in alternative activities (conflict-affected men, n = 15, 60%; family members n = 2, 13%) could protect men from drinking more alcohol. These activities, such as taking care of other people, provide a meaningful activity for some men and help them feel active, while also improving social engagement and enhancing behavioral activation.

> "I talked with a volunteer who helped my family. And he said that I didn't want to be left out. I also want to take part and help others. And in principle, that's how I started with them. I helped the settlers, and then the army. Everything has changed, and I needed to keep myself occupied, perhaps this is one of the reasons why I went to volunteer." (IDP, 45 years old)

Thus, these activities serve as a distraction from urges of drinking alcohol or from stressful thoughts that often lead to harmful drinking, while at the same time decrease feelings of social isolation and/or helplessness.

Some men described getting pets and noted how it helped them feel more satisfied with everyday life routines, over time leading to reduced alcohol use. Having a purpose provides structure to their day, strengthens their social environment, and protects them from alcohol consumption. Household activities also create a daily routine that helps men to be active and decrease drinking. Some men who started playing sports suggested that it was crucial for them in reducing alcohol consumption.

3.2.2. Fear of negative consequences

Fear of negative consequences (conflict-affected men n = 12, 48%; family members n = 7, 47%) such as worsening financial situations or impacts on health and family life, was perceived as a protective factor against drinking alcohol. For example, some participants began physical or mental health treatments and did not want to compromise the results with alcohol. Additionally, difficult financial situations limited alcohol consumption in the short term, at least until their next salary was paid.

> "Maybe I would like to buy a bottle of beer, but I ... I'm holding back the extra waste of money, holding back everything I can do without it. Well, I can do without it, I will not spend on it." (IDP, 49 year old)

Some participants expressed concerns that alcohol consumption would negatively influence their relationship with their children and felt responsible when being drunk at home. Many participants mentioned that the expectation to function well at work set another limit on uncontrolled alcohol misuse. This expectation also influenced drinking patterns, leading some to consume alcohol only on weekends and in moderate amounts, as they self-assessed.

3.2.3. Self-awareness and self-control

Self-awareness and self-control (conflict-affected men n = 13, 52%, family members n = 2, 13%) regarding drinking alcohol was also identified by participants. Several men reported recognizing the negative impact of alcohol on their lives at certain points. They became aware of their excessive alcohol consumption, realizing that continuing to misuse alcohol could destroy their family life, or admitted that they were losing control over their lives in general.

> "And now you are telling yourself that you probably don't need this anymore, perhaps you need something else. Well, this is something else you do not fully understand …. .. well, you need to constantly … reflect on what you are struggling with, constantly … every day, every moment, when your addiction tries to return, you must present to it that I have all these good things going for you that you don't need it." (IDP, 45 years old)

Other participants attributed their change in attitude towards alcohol misuse to understanding the negative impacts of alcohol on their health. Following this i realization, they either managed to change their drinking habits on their own or sought professional help. For some, these changes were the result of reading psychological literature related to mental health and alcohol misuse. Most of these men reported attempting to control their alcohol intake with varying degrees of success. The period of abstinence or reduced consumption ranged from a few days to several months. The idea of self-control was often associated with understanding what constituted a "normal dosage" of alcohol, which differed from person to person. Most participants admitted that such attempts to control alcohol behaviour failed if a new stressful event occurred.

3.2.4. Supportive social environment

As mentioned previously, supportive social environment (conflict-affected men n = 5, 20%; family members n = 3, 20%) including friends, family or community members, helped affected men resist misuing alcohol. Veterans described crucial support received from other veterans or volunteers who helped them and listened to them when they felt overwhelmed.

> "Something is difficult, I will call my friend-volunteer: "Sanya, what should I do? Anyway, I don't know where to go. ""Tell me," – he says." (IDP, 45 years old)

Other participants named their spouses as the only persons able to stop the increasing spiral of drinking behavior. At the same time, family quarrels were also among the most frequently cited reasons for misusing alcohol. Finally, having a job and the associated social structure was frequently mentioned by male participants as a protective factor against drinking.

4. Discussion

This paper contributes to the growing body of evidence on alcohol misuse among men in Ukraine (WHO, 2024; Ramachandran et al., 2019). Findings from this work aligns with those from previous studies, including those conducted among general populations (Glantz et al., 2020) and conflict-affected populations (Anderson et al., 2024). Similar to the recent WHO findings (WHO, 2024), this study also describes perceived comorbidity between alcohol misuse and mental health problems, including PTSD, depressive symptoms and social isolation,

among Ukrainians who drink alcohol. Respondents in our study were also aware of the negative influence of alcohol misuse on health and mental health, a finding corroborated by the WHO survey, which reported that 92.5% of respondents understood the risks of alcohol misuse on mental health, including the development of withdrawal syndrome and severe alcohol disorders (WHO, 2024).

Mirroring patterns observed globally, many participants consistently highlighted that alcohol was frequently used to mitigate distressing internal (e.g., symptoms of depression or trauma) and external (e.g., social isolation) experiences (Bolton et al., 2009; Kaysen et al., 2023; Simpson et al., 2014). There are several studies that represent so called self-medication/reinforcement theory (Bolton et al., 2009; Feingold and Tzur Bitan, 2022; Harris and Edlund, 2005; Warr et al., 2021). This theory assumes that alcohol is used for emotional regulation and reduction of negative affect caused by mental health conditions, especially PTSD (Hawn et al., 2020; Hawn et al., 2020; Taylor et al., 2017). The reduction of stress is usually short-term, but it reinforces continuing alcohol misuse that can result in AUD later on (Warr et al., 2021). A previous qualitative study among veterans in Ukraine similarly suggested drinking alcohol was a common coping strategy for reducing stress caused by trauma related to mental health symptoms (Singh et al., 2021). Participants in their study also identified a bidirectional relationship between alcohol misuse and health: while mental and physical health symptoms were often causes of alcohol misuse, alcohol misuse also worsened mental and physical health problems.

The previously studied explanatory models of alcohol misuse among men, including models from Uganda (Anderson et al., 2024; Rudenstrand and Bäärnhielm, 2024), India (Nadkarni et al., 2013), and the one described in this paper share commonalities but also highlight distinct cultural, socio-economic, and psychological factors that shape alcohol misuse behaviours. Similar to Ukraine, among south Sudanese men alcohol is deeply embedded in the cultural fabric, often viewed as an accepted part of life despite its damaging effects on individuals and families. Both Ugandan and Ukrainian participants identify adversity—such as poverty and trauma—as key drivers of alcohol misuse, creating a vicious cycle of distress and consumption. India's explanatory model aligns in recognizing psychosocial stress, peer pressure, and financial accessibility as primary contributors to alcohol misuse, with family support and religious coping strategies playing a critical role in mitigating harm. In Ukraine, alcohol is frequently used as a form of self-medication to cope with mental health symptoms and the socio-economic challenges exacerbated by conflict, a pattern also observed in Uganda's refugee population. While spiritual explanations are more prominent in Uganda and India, the consequences of alcohol misuse—social stigma, family neglect, and economic strain—are represented in all these cultural contexts.

The connection between social relationships and alcohol misuse is widely documented (Sudhinaraset et al., 2016). Bronfenbrenner's social-ecological framework (Bronfenbrenner, 2005) describes a complex array of factors from individual to societal and cultural levels that might influence health in general, and has specifically been applied to understanding alcohol use (Sudhinaraset et al., 2016). Some studies suggested an association between community-level social characteristics (e.g., living in low-income neighbourhoods) and alcohol availability (Cohen et al., 2006; Shimotsu et al., 2013), perceived lack of social support (Chan et al., 2020; Singh et al., 2021) and alcohol misuse. At the same time, participants in our study reported that drinking in groups with veterans and men who live in the front-line areas was associated with greater support from peers, which may encourage increased drinking.

Demoralization expressed as helplessness, meaninglessness, and feeling desperate was identified in our study as one of the key factors influencing alcohol consumption and was associated with mental health conditions including PTSD, anxiety, and depression; insufficient social support was another such factor. Some other studies have previously linked demoralization with important treatment parameters, such as length of the treatment and severity of symptoms by patients with substance use disorders (Choi et al., 2015; De Weert et al., 2017; Tang et al., 2015). However, the bulk of the literature to date has focused on studying demoralization among patients with depression (Tang et al., 2015), cancer (Hong et al., 2022), and prevention of suicidal risk and suicidal behaviour (Costanza et al., 2022). Researchers have distinguished demoralization from depression and argued that greater attention should be paid to the development of remoralization strategies as part of treating these conditions (Costanza et al., 2022). In our study, the rise in feelings of demoralization among men was often associated with the inability to uphold the patriarchal image of the 'family father,' who is responsible for resolving all conceivable issues for every member of the family.

Other themes unique to Ukraine's historical, sociopolitical, and cultural context, and norms around alcohol misuse emerged. Some participants specifically referenced the historical legacy of alcohol consumption, and its tolerance experienced in the years during the former Soviet Union. Our results align with findings from other studies that highlight differences in cultural drinking habits between Western European countries and those formerly part of the "Eastern Bloc" (Malisauskaite and Alexander, 2018). A qualitative study conducted among railway workers in eastern and western parts of Ukraine highlighted how male drinking was considered normative behaviour and a means of expressing solidarity between co-workers (Murphy et al., 2014). Correspondingly, historical documentation demonstrates the political and cultural normalization of alcohol misuse during leisure and cultural activities, beliefs about the positive and medicinal value of alcohol, and acceptance of alcohol use in the workplace (Jargin, 2010; Toornstra et al., 2020). Importantly, in addition to the general acceptance of alcohol misuse, and similarly to other findings specific to Ukraine (Samokhvalov et al., 2009), there was a lack of acceptance towards choosing not to drink alcohol associated with perceptions of "not being a man". This echoes the portrayal of Cossacks (Ukrainian martial society of 'free men' or 'adventurers' between the 15th and 18th centuries). The Cossack image is often depicted in various arts as embodying bravery, courage, and true patriotism, rarely showing weakness and often seen drinking alcohol without apparent negative consequences as a display of physical strength. One folklore expression goes: "a Cossack doesn't chatter, he drinks" (Nechuy-Levitskiy, 2017), which aligns with the sentiment expressed by participants in the current paper.

In alignment with the secondary objective of this research, we identified several protective factors and coping strategies that Ukrainian men employ to avert or mitigate alcohol consumption. Notably, engaging in alternative activities such as hobbies, sports, and volunteering serves as a means for Ukrainian men to replace their risky behaviour with positive coping strategies and divert their attention from unresolved issues and/or impulses towards alcohol consumption. In contrast, the absence of these daily activities contributes to a heightened sense of demoralization and increase in risky behaviour. These findings resonate with prior research conducted in Ukraine and other countries, which posits that a range of both outdoor and indoor pursuits contribute to bolstering the resilience of veterans, thereby offering protection against alcohol consumption (Nadkarni et al., 2013; Singh et al., 2021).

Several alternative coping mechanisms, such as cultivating self-awareness and self-control, have emerged as viable strategies against alcohol misuse among Ukrainian men. Self-awareness, a key aspect of this process, involves three components: awareness of disorder, internal states, and self in social contexts (Boness et al., 2021). Research suggests (Raftery et al., 2020; Boness et al., 2021) that impaired self-awareness, especially a lack of recognition of one's disorder or internal states, can prevent efforts to reduce alcohol consumption, increase the likelihood of risky behaviors like driving under the influence, and elevate the risk of relapse after detoxification. Conversely, heightened self-awareness may reduce alcohol misuse by promoting better emotional regulation and awareness of triggers, while also helping individuals recognize and address AUD-related issues (Hull et al., 1986). A systematic review of

mindfulness-based relapse prevention has also demonstrated its effectiveness for individuals with substance use disorders (Ramadas et al., 2021).

The findings of our study underscore the pivotal role of a supportive social environment in safeguarding men against alcohol consumption. Conversely, the dearth of social support from family, friends, and/or the community appears to increase risky alcohol consumption. These findings mirror insights from other studies (Brooks et al., 2017; Moon et al., 2019; Sudhinaraset et al., 2016). Moreover, individuals grappling with pre-existing mental health issues, including PTSD, depression, or anxiety disorders, may experience an aggravation of symptoms owing to the absence of support and social withdrawal (Mäkelä et al., 2015). Concurrently, social isolation can erode self-esteem and self-confidence, with the absence of positive interpersonal engagement resulting in decreased self-worth, thereby contributing to a sense of demoralization. Thus, it is conceivable that individuals may turn to alcohol as a negative coping mechanism, inadvertently reinforcing a detrimental feedback loop. This perpetuates a self-defeating cycle whereby alcohol is employed as a remedy, further entrenching the negative patterns.

Fear of adverse consequences, encompassing potential negative effects on health, finances and social relationships, can exert a protective influence against alcohol consumption as our study suggests. Notably, within the Ukrainian cultural context, it is conceivable that the potency of these protective factors could be attenuated. This is due to the prevailing perspective that views risky alcohol consumption as a concern only when it progresses to the stage of alcohol dependence. While WHO findings (WHO, 2024) showed increased awareness among Ukrainians about the negative health impacts of alcohol, this has not necessarily led to a decrease in alcohol misuse, which remains prevalent. According to the explanatory model of alcohol misuse outlined in this article, this phenomenon can be explained by the tendency for higher consumption, particularly among conflict-affected men experiencing significant mental health difficulties. Thus, successful strategies for reducing misuse of alcohol among conflict-affected men could combine both increasing self-consciousness about its negative health impacts and treating associated mental health conditions, such as depression or psychological trauma. (Boness et al., 2021; Hindmarsh et al., 2015).

These findings suggest several implications for future interventions that target AUDs and harmful drinking among men emerge because of these findings. Firstly, the needs of certain populations (e.g., veterans, IDP's) may need to be considered separately when developing AUD-specific interventions. For example, challenges related to re-integrating into society and lack of social support (identified by veterans) or decreasing alcohol use in environments that promote harmful drinking (noted by both veterans and men living in front-line area) may inform psychoeducational materials that target coping behaviours for these specific groups. Secondly, participants identified that family violence was a potential consequence stemming from alcohol misuse. In addition to the alcohol-specific components, ccomprehensive interventions that focus on violence prevention, anger management, and/or family therapy may be required. Thirdly, while we specifically asked participants about protective and coping strategies against alcohol misuse, very few factors were identified or, if mentioned, were considered to be effective by the participants themselves. This appears to suggest an overall lack of knowledge of methods to reduce alcohol consumption or awareness of other options to manage factors identified as leading to alcohol misuse (e.g., depressive symptoms). Interventions that focus broadly on the connection between physical health, mental health, and alcohol misuse, as well as those that focus on both internal (e.g., managing emotions and impulses) and external (e.g., building social support) factors may be useful to buffer the limited strategies currently identified by participants. Lastly, due to the strong cultural connotations around alcohol misuse, different levels of interventions, including individual, family, and community, may also be needed to be paired with well-designed alcohol health literacy programs.

The findings reported here should be understood within their limitations. Participant selection was based on their self-reported alcohol misuse, which may have influenced the accuracy and reliability of the data. Participants' recollections of their experiences and behaviors may be subject to recall bias, potentially resulting in inaccuracies or selective memories. Given the sensitive nature of alcohol misuse in this context, participants may have provided answers they perceived as more socially acceptable or favorable, rather than fully disclosing their true behaviors and experiences. This bias could affect the authenticity and depth of the data collected, impacting the study's overall findings. Additionally, as is common in qualitative research, the findings of this study are not intended to be generalized to broader populations. The data described in this manuscript was collected prior to the start of the full-scale Russian invasion into Ukraine in 2022. In addition to the large increase in the number of veterans or territorial defense members, it is possible that there are now additional factors that affect alcohol misuse that were not previously identified. Finally, this study primarily focused on the experience of conflict-affected men; however, this is not to suggest that alcohol misuse among conflict-affected women is not a pressing concern or should be ignored, and future studies should investigate the specific needs of women (many of whom have also been internally displaced).

There are also several strengths associated with this study. First, substance use, and mental health problems, remain understudied in Ukraine, and this work will be particularly useful in the development and adaptation of interventions tailored to Ukraine's cultural context. In addition, the scope of recruitment for this study (i.e., including participants across the country) and the diversity of sample add to the richness of the data collected. Finally, we took great care in preserving language nuances collected during interviews, including analyzing data in the original language of interviews and with the local team based in Ukraine.

4.1. Future Recommendations

Based on the findings of this study, it is recommended that further research be conducted in Ukraine to evaluate systems level factors and their impact on treatment seeking behavior. Specifically, there is a need to develop and test culturally sensitive transdiagnostic interventions focused on reducing alcohol consumption, treating mental health problems, promoting social engagement, and supporting employment, as well as community targeted interventions for reducing stigma and improving health literacy.

Implementing various harm reduction approaches, such as moderation strategies, can help in reducing alcohol consumption and mitigating associated health and social problems without requiring complete abstinence. These measures could be further enhanced by integrating them with mental health literacy programs, and providing clear moderation guidelines. This combined approach would not only help individuals manage their alcohol intake but also promote better understanding and awareness of mental health, contributing to overall well-being.

In light of the ongoing conflict in Ukraine, it is likely that AUD rates will continue increasing in post-conflict settings. Therefore, it is important to take into consideration the implications of these findings for the larger population in Ukraine. By conducting further research on the impact of systems level factors on treatment seeking behavior, we can inform the design and implementation of interventions that will effectively address the needs of individuals with AUDs in post-conflict setting.

CRediT authorship contribution statement

Sergiy Bogdanov: Writing – original draft, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Kateryna Koss:** Writing – original draft, Investigation, Formal analysis, Conceptualization. **Kimberly Hook:** Writing – original draft,

Conceptualization. **Quincy Moore:** Writing – review & editing, Project administration, Conceptualization. **Catharina Van der Boor:** Writing – review & editing, Supervision, Methodology, Conceptualization. **Alessandro Masazza:** Writing – review & editing, Supervision, Methodology, Conceptualization. **Daniela C. Fuhr:** Writing – review & editing, Supervision, Methodology, Funding acquisition, Conceptualization. **Bayard Roberts:** Writing – review & editing, Supervision, Methodology, Funding acquisition, Conceptualization. **Carl May:** Writing – review & editing, Supervision, Methodology, Conceptualization. **Olha Fedorets:** Investigation. **Oxana Bayer:** Investigation. **Andrii Karachevskyy:** Investigation. **Abhijit Nadkarni:** Writing – review & editing, Supervision, Methodology, Conceptualization.

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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.

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Appendix A. Supplementary data

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