



# Recovery from Alcohol Use Disorder among Older Adults: A Scoping Review

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## Abstract

Alcohol Use Disorder (AUD) among older people is under-diagnosed even though the population of older people is rising. Recovery from AUD among older people is a challenging process. A scoping review of the literature on recovery from AUD among older people was conducted to characterize the main topics in recovery. A systematic search was conducted in five databases: Psycinfo, Medline, CINHALL, WoS, and Embase from January 2000 to May 2021 using the PRISMA-ScR. Twenty-five studies met the inclusion criteria. The concept of recovery was defined in 20 studies, where the most frequent term was “abstinence.” 16 studies described treatment programs with different types of interventions. Six studies described specific programs for older people; five reported positive outcomes. Future studies should implement a broader definition of recovery that reflects the dimensions of the concept and refers to different age groups, to enable interdisciplinary professionals to develop holistic interventions.

## Keywords

alcohol use disorder, recovery, older adults, scoping review

### *What this paper adds*

- This scoping review reveals the scarcity of studies referring to recovery from AUD among older adults. Most studies only provide a narrow definition of recovery; the most common term used is abstinence.
- Studies do not refer directly to recovery, but rather describe types of treatment as a means to recovery.
- Only a few studies describe interventions specifically dedicated to the needs of older adults with AUD; most report positive outcomes.

### *Applications of study findings*

- Interdisciplinary professionals should develop and implement suitable interventions that can help older people recover from AUD.
- These interventions should be adjusted to different age groups of older people, according to their needs.
- These interventions should encourage older people to develop new areas of interest and strengthen multiple life domains, as part of the recovery process from AUD.

## Introduction

Alcohol use disorder (AUD) is defined in the DSM-5 as a problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two symptoms occurring within a 12 month period, at three stages of severity: mild, moderate and severe (American Psychiatric Association, 2013). Long-term alcohol abuse leads to physical, psychological, financial, and social problems (Jung, 2010; Wood, 2006).

AUD among older adults had been described as a hidden epidemic that is under-recognized and untreated (Alpert, 2014; Bommersbach, et al., 2015; Donatelli & Somes, 2014). In Western countries, the proportion of older adults

(60+) with AUD is estimated to range from 6 to 16% among men and from 2 to 7% among women (Andersen et al., 2015). These percentages are expected to increase with the aging of the “baby boomer” generation (Dauber et al., 2018; Quinn & Mowbray, 2018). In the current review, we applied a cutoff

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age of 60 to define older adults, as has been done in other studies of older adults with AUD (Nuevo et al., 2015; Wang & Andrade, 2013). We refer to age groups of older adults as they are defined in the literature, where 60–69 is termed “young-old,” 70–79 as “old-old,” and 80+ as “the oldest-old” (Chou & Chi, 2002).

Older adults experience age-specific risk factors, such as decreases in physical abilities, the decline of their social networks caused by the loss of partners and friends, and changes in their employment and financial status, all of which can lead to the development of late-onset AUD (Dar, 2006; DiBartolo & Jarosinski, 2017). Studies typically define two subgroups of older adults with AUD: early-onset, which refers to people who experienced AUD earlier in life and have had a lifelong pattern of drinking problems, and late-onset, which emerges in later life (Menninger, 2002).

Recovery is a challenge for people suffering from AUD and is a core issue in the addiction field. Prior to the 2000s, the concept of recovery focused mainly on total abstinence, which reflects a point of view that measures recovery in terms of consumption and centers mainly on the individual (Bellack & Drapalski, 2012). However, the concept of recovery has expanded in several directions since the early 2000s (Witkiewitz & Tucker, 2020; Witkiewitz et al., 2020). Different stakeholder groups have put forward varying definitions of recovery, such as the Substance Abuse and Mental Health Administration (SAMHSA), the American Society of Addiction Medicine (ASAM), and the Betty Ford Institute. Despite the lack of consensus among researchers, recovery now tends to incorporate the notion of the individual as an active participant seeking physical, psychological, and spiritual wellness (Witkiewitz et al., 2020).

The concept of recovery also includes the individual's engagement in a community that upholds prosocial values and expectations of behavior (Ashford et al., 2019). These updated definitions of recovery are based on a more holistic point of view that integrates changes in individuals' personal, physical, and mental wellbeing domains, as well as social and community involvement (Witkiewitz et al., 2020).

Recovery from AUD among older adults can be complicated, since alcohol withdrawal syndrome is more common among older than younger people and the severity of alcohol withdrawal can persist for several months (Letizia & Reinbolz, 2005; Schuckit, 2009). Studies conducted on older adults with AUD have reported that 20% had been abstinent 5 years after treatment, and that women tended to maintain abstinence longer than men (Caputo et al., 2012; Satre et al., 2004b, 2007).

Few studies have been conducted to determine what constitutes optimal treatment for older adults with AUD. A scoping review designed to summarize and classify alcohol-use treatment among baby boomers in the US found that cognitive-behavioral treatment was the most effective in

reducing drinking (Quinn & Mowbray, 2018). A previous review of alcohol abuse treatment for older adults reached similar conclusions, and suggested that cognitive-behavioral treatment, together with age-specific treatment could help achieve better outcomes (Cummings et al., 2006). Other studies have suggested combining pharmacological treatment with cognitive-behavioral therapy and/or participation in self-help groups for older adults with AUD. A combination of pharmacological and psycho-social treatment was reported to be associated with better outcomes such as reducing cravings, avoiding relapse, and maintaining abstinence (Caputo et al., 2012; Le Roux et al., 2016). In addition to the range of treatment options available to people with AUD, some recover naturally without treatment (Bischof et al., 2005).

While the literature has documented the most effective forms of treatment for older adults with AUD, only one of these studies refers specifically to recovery in this population (Cimarolli et al., 2018). Treatment is part of the recovery process and a means to achieve it, while recovery is a broader concept covering individual and social changes and individuals' improved lifestyle in many domains (Witkiewitz et al., 2020). Thus, the way the concept of recovery is defined, promoted, and achieved has important implications for the delivery and structure of treatment (Hser & Anglin, 2010). Moreover, people recovering from AUD may have different needs as a function of their stage of recovery (Kelly et al., 2018a).

The aim of the current review was to systematically map the research landscape on recovery from AUD among older adults and to characterize the state of the art on recovery for this segment of the population. A scoping review was found to be a suitable method for the present study since the current state of research is insufficient, and there is a need to summarize evidence and identify lacunae (Peters et al., 2020). This led to the formulation of three research questions: 1. What are the main characteristics of studies on recovery among older adults? 2. Do studies on recovery from AUD in older adults distinguish between different age groups of older adults? 3. How is the concept of recovery operationally defined and measured? 4. Are there any interventions specific to older adults recovering from AUD? If so, what are their main characteristics (e.g., intervention type, length, goal) and outcomes (e.g., positive, negative, neutral)?

## Research Design and Methods

A scoping review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) procedure (Peters et al., 2020). This framework is composed of five stages: (1) identifying and refining the research questions, (2) identifying relevant studies, (3) selecting studies, (4) charting the data, and (5) collating, summarizing, and reporting the results (Tricco et al., 2018). The protocol is presented in Appendix 1.

## Search Strategy and Information Sources

A literature search was conducted in five electronic databases: Psycinfo, Medline, CINAHL, Web of Science, and Embase from January 2000 to May 2021, using the following terms and their synonyms: “Alcohol use disorder” “recovery” “older adults.” Some examples of these search terms include: “alcoholism,” “alcohol abuse,” “abstinent,” “reduction,” “treatment,” “clinical,” “elder,” “senior.” The results from the search in the Medline database appear in [Appendix 2](#), as an example of the database search. The database searches yielded a total of 5,082 hits: Psycinfo (915 results), Medline (964 results), CINAHL (593 results), Web of Science (1,003 results), and Embase (1,607 results). After duplicates were removed from the five databases, a total of 2,203 hits remained. Of these, 1,990 records were excluded, since the topics were not relevant. Ultimately, 213 full-text articles were examined, of which 187 were excluded because the topic was not specific to the research questions of this scoping review, and one was excluded because the age of the sample population was not stated. In total, 25 papers were included in this review. The PRISMA flow chart is presented in [Appendix 3](#).

## Inclusion and Exclusion Criteria

The eligibility criteria were: (1) Peer-reviewed articles and book chapters describing interventions and clinical studies written in English, (2) Studies including the concept of alcohol “dependence,” “disorder,” and “abuse” to describe the alcohol addiction of the population in question; (3) Studies relating to individuals aged 60 or over to describe the older adult population. Note that studies in which the age range started at 55 and where the mean age was above 60 were also included, 4) Studies that referred to comorbidities with another substance (in addition to alcohol) were only included in cases where 50%+ of the sample was composed of individuals with alcohol abuse/dependence/disorder. Entire books, treatment manuals, letters to the editor, guest editorials, dissertations, and protocol studies were excluded. We also excluded literature reviews on this topic, because our focus was on interventions and clinical studies. Since this scoping review dealt solely with recovery from AUD, studies dealing with drinking pattern prevalence were not included.

## Data Extraction and Summary of the Results

After removing all duplicates, two independent researchers (the second and third authors) reviewed all titles and abstracts in the initial search and selected them according to the eligibility criteria through ongoing discussions with the first author. The two researchers charted the abstracts individually, rated them in a Microsoft Excel file and compared their attributions. Approximately 10% disagreement was found, which was resolved entirely through discussion. In addition, the first author critically reviewed 20% of the titles and

abstracts that were reviewed by the second and third authors to increase the trustworthiness of the study’s screening and selection. Full-text articles that were found to be relevant to the scoping review were downloaded and screened to determine their eligibility by two other researchers (the first and fourth authors). Another Microsoft Excel file was developed to classify the extracted full-text articles.

Next, the selected studies were classified into two tables as a function of the research questions and the principles of scoping reviews ([Arksey & O’Malley, 2005](#)). [Table 1](#) presents the main characteristics of the studies, including the authors’ names, year of publication, country, research type, aim of the study, population, and the operational definition and/or measurement of recovery. The results of each section were extracted from the selected articles. [Appendix 4](#) presents the intervention characteristics and outcomes and includes the intervention type, length of intervention, intervention goal, special interventions for older adults, positive outcomes, negative outcomes, and/or neutral outcomes. To classify and analyze the intervention characteristics and outcomes, we used MAXQDA software ([Kuckartz & Rädiker, 2019](#)).

## Transparency and Openness

Consistent with the norms of Transparency and Openness, the analytic code needed to reproduce analyses is available and the link to access to this information is provided in the Authors’ Note.

## Results

A total of 25 studies met the inclusion criteria for the scoping review. An overview of the main characteristics of these articles is presented in [Table 1](#).

### Characteristics of the Included Studies

Most of the studies ( $n = 20$ , 80%) were conducted in the USA (e.g., [Cimarolli et al., 2018](#); [Ermann et al., 2016](#); [Schutte et al., 2009](#)), two (8%) were conducted in Denmark ([Emiliussen et al., 2019](#); [Wieben et al., 2018](#)), one (4%) in Germany ([Dauber et al., 2018](#)), one (4%) in South Africa ([Geyer, 2010](#)), and one (4%) was cross-national covering Denmark, Germany, and the USA ([Andersen et al., 2020](#)). The majority ( $n = 17$ , 68%) were conducted between 2000 and 2010 (e.g., [D’Agostino et al., 2006](#); [Karel et al., 2000](#); [Oslin, Karel, Lynch, & Moye, 2009](#)), whereas eight (32%) were conducted between 2011 and 2021 (e.g., [Andersen et al., 2020](#); [Cimarolli et al., 2018](#); [Lewis et al., 2017](#)).

### Design of the Studies

Almost all the studies were quantitative ( $n = 17$ , 68%), of which ten (40%) were longitudinal, two (8%) were cross-sectional ([Munro et al., 2000](#); [Stefanovics et al., 2020](#)), and five

**Table 1.** Characteristics of the selected studies ( $n = 25$ ).

Authors Year Country	Type	Aim	Population	Distinction between age groups	Recovery (operational definition and/or measurement)
Andersen et al. 2020 Denmark, Germany, and USA	Randomized controlled trial	To assess whether adding the community reinforcement approach for seniors (CRA-S) to motivational enhancement therapy (MET) would increase the likelihood of treatment success in people aged 60+ with AUD	693 patients aged 60+ fulfilling DSM-5 criteria for AUD, median age = 64, 59.7% male	No distinction	Blood alcohol concentration of $\leq 0.05\%$ at all times in the past 30 days, including total abstinence
Cimarolli et al. 2018 USA	Mixed methods	1. To describe the population of patients referred to the geriatric substance abuse recovery program; 2. To evaluate the effects of the GSARP on patient outcomes and satisfaction	99 post-acute patients with alcohol and/or drug misuse issues, mean age = 64.8, 68% male	No distinction	Improve physical and psychological functioning, prevent relapse
D'Agostino et al. 2006 USA	Quantitative research, longitudinal	To provide an initial evaluation of the geriatrics addiction program (GAP), an innovative community-based intervention program	120 patients, 89 of the 99 clients (89.9%) were referred for alcohol problems, mean age = 73.7, 41.4% male	No distinction	Not defined
Dauber et al. 2018 Germany	Exploratory analysis	To determine the proportion of older adults with an AUD in addiction treatment, specific characteristics, and treatment outcomes	10,860 patients with AUD aged 60 and over, mean age = 64.7 years in outpatient settings, 64.9% male And 64.3 years in inpatient settings, 66.9% male	No distinction	Abstinence (in the previous 30 days before end of treatment)
Emiliussen et al. 2019 Denmark	Quantitative research	To investigate whether there are differences in treatment goals chosen by patients with very late onset alcohol use disorder (VLO AUD >60 years) and those with early or mid-age onset of AUD (EMO AUD <60 years)	341 individuals, voluntarily enrolled in the elderly study, who were seeking treatment for AUD in outpatient centers for alcohol treatment. Mean age early onset = 64.3, 63% male, late onset = 68.5, 55% male	No distinction	Abstinence (temporary or permanent)
Ermann et al. 2016 USA	Qualitative research, Phenomenological	To explore the most beneficial and meaningful experiences of older women in alcoholics anonymous	14 older women active members of AA, mean age = 61.0, No male	No distinction	Not defined
Fein & McGillivray 2007 USA	Quantitative research	To compare cognitive functions of elderly long-term abstinent alcoholics with age and gender comparable controls	91 elderly abstinent alcoholics, mean age = 67.3, 53.8% male	No distinction	Stopped drinking
Geyer 2010 South Africa	Mixed method	To report outcomes of a strengths-based group work program for alcohol-dependent older persons	6 alcohol-dependent elderly males, mean age = 60, 100% male	No distinction	Improve psycho-social functioning

(continued)

Table 1. (continued)

Authors Year Country	Type	Aim	Population	Distinction between age groups	Recovery (operational definition and/or measurement)
Karel et al. 2000 USA	Pilot study	1. To describe lifetime patterns of drinking in a clinical sample of elderly veterans; 2. To describe reasons for and ways of quitting among those who stopped problematic drinking; 3. To provide examples of patterns and implications for clinical assessment and intervention	83 male veterans with histories of alcohol abuse, mean age = 68.6, 100% male	No distinction	Not defined
Lemke & Moos 2002 USA	Quantitative research, longitudinal	To compare the prognosis of older patients with mixed-age alcoholism treatment programs	432 alcoholic patients, age 55+, entering a targeted inpatient substance abuse treatment program in medical centers, 100% male	No distinction	Abstinence
Lemke & Moos 2003a USA	Quantitative research, longitudinal	To compare the outcomes at 1 and 5 years for older patients with alcohol use disorders	432 older alcoholic patients entering a targeted inpatient substance abuse treatment program in medical centers, age 55 and older, 100% male	No distinction	Not defined
Lemke & Moos 2003b USA	Quantitative research, longitudinal	To determine whether older patients with alcohol use disorders received equitable treatment in community residential facilities	570 veteran patients with alcohol use disorders who were treated in 63 community residential facilities, of whom 190 were age 55 and older, 100% male	No distinction	Not defined
Lewis & Allen 2017 USA	Qualitative research	To explore motivating and maintenance factors for sobriety among older Alaska natives adult participants	10 participants who were five or more years in recovery, representatives from the four major Alaska Native cultural-linguistic groups, mean age = 79.4, 90% male	No distinction	Five years or more of sobriety who identified themselves as recovered after a serious problem with alcohol, scored over than 12 on the DrInC-AN lifetime total consequences score
Mosher-Ashley & Rabon 2001 USA	Quantitative research	To explore some of the differences between older and younger A.A. participants on measures of emotional support, depression, loneliness and life satisfaction	160 adults who attended A.A. and reported to be in recovery from alcohol and/or drug abuse, of whom 25 were aged 60 and over, 45% male	No distinction	Attending A.A. meetings and reporting to be in recovery from alcohol and/or drug abuse

(continued)

Table 1. (continued)

Authors Year Country	Type	Aim	Population	Distinction between age groups	Recovery (operational definition and/or measurement)
Munro et al. 2000 USA	Quantitative research, cross-sectional	To determine which neuropsychological functions improve, and which remain impaired with abstinence in the recovery of functioning in an older cohort of recovering alcoholics	36 participants with alcohol use histories, divided into two groups: 1. abstinent for <6 months, mean age = 64; 94.4% male, and 2. abstinent for >6 months, mean age = 66.6, 83.3% male	No distinction	Not having drunk to intoxication
Oslin et al. 2002 USA	Random-blind placebo control trial	To compare therapy and medication adherence for treatment of alcohol dependence in older adults with adherence in younger adults	183 outpatients, of whom 40 older people, mean age = 62.6, 80% male	No distinction	Abstinence or reduction in alcohol use
Oslin et al. 2009 USA	Quantitative research, observational study	To examine the course of affective symptoms and cravings for alcohol use during the first 25 days of residential treatment for middle-aged and older adults addicted to alcohol and the relationship between these symptoms and recovery outcomes	95 alcohol-dependent inpatients divided in three alcohol craving Latent Classes, mean age = 61.6, Low class, 73% male Mid class, 42% male High class, 29% male	No distinction	Abstinence (at 1 month post-discharge)
Satre et al. 2004a USA	Quantitative research, longitudinal	To compare 5-year treatment outcomes of older adults to those of middle-aged and younger adults in a large managed care chemical dependency program	925 patients, of whom 65 participants were aged 55–77, mean age for the older group = 61.6, 74% male	No distinction	Total abstinence from drugs and alcohol over the preceding 30 days at the 5-year interview. All ASI items on past 30- day use had to be negative. Patient self- reported abstinence in the sample at 6 months was validated by urinalysis and breathalyzer testing
Satre et al. 2004b USA	Quantitative research, longitudinal	To examine the clinical characteristics and treatment outcomes of older alcohol-dependent men and women in a mixed-age private outpatient chemical dependency program	92 outpatients, women mean age = 60.4, men mean age = 60.7, 68.5% male	No distinction	Total abstinence from drugs and alcohol over the preceding 30 days. All ASI items on past 30-day use had to be negative. Patient self- reported abstinence in the sample was validated with urinalysis and breathalyzer testing
Satre et al. 2007 USA	Quantitative research, longitudinal	To examine 7-year treatment outcomes of older women and older men and compare women and men on factors that potentially contribute to good long-term outcomes	84 outpatients, mean age woman = 60.1 years and men mean age = 60.8, 70.2% male	No distinction	Total abstinence from drugs and alcohol over the preceding 30 days. All ASI items on past 30-day use had to be negative. Patient self- reported abstinence in the sample was validated with urinalysis and breathalyzer testing

(continued)

**Table 1.** (continued)

Authors Year Country	Type	Aim	Population	Distinction between age groups	Recovery (operational definition and/or measurement)
Schonfeld et al. 2000 USA	Quantitative research	To discuss characteristics and benefits of geriatric evaluation Team: Substance Misuse/Abuse Recognition and treatment (GET SMART), an age-specific, outpatient program for older veterans with substance abuse problems	110 veteran outpatients in GET SMART, mean age = 64.7, 98.1% male	No distinction	Maintain abstinence
Schutte et al. 2009 USA	Quantitative research, longitudinal	To evaluate the post-remission status of older remitted problem drinkers who achieved stable remission without treatment	682 participants: 330 untreated former problem drinkers, mean age = 71.5; 54.5% male, 120 treated former problem drinkers, mean age = 71.2, 67.5% male and 232 lifetime nonproblem drinkers, mean age = 71.6, 37.5% male	No distinction	Abstinent (in the last 12 months)
Slaymaker & Owen 2008 USA	Quantitative research, longitudinal	1. To contribute to the literature on the older adults' response to treatment. 2. To examine the utility of the addiction severity index	67 participants entering a residential treatment with alcohol and/or drug dependence, mean age = 66, 50.7% male	No distinction	Abstinence
Stefanovics et al. 2020 USA	Quantitative research, cross-sectional	To characterize the prevalence and key correlates of abstinence, subthreshold drinking, and hazardous drinking in a nationally representative sample of US veterans with a lifetime AUD	1282 veterans with lifetime AUD, divided into three groups by drinking patterns: Abstinence, subthreshold and hazardous, mean age = 61.0, 94.7% male	No distinction	Participants with lifetime AUD who scored 0 on the AUDIT-C were categorized as abstinent
Wieben et al. 2018 Denmark	Quantitative research, longitudinal	To examined 6 month drinking outcomes of elderly patients compared to middle-aged patients in a clinical sample after initiation of outpatient treatment for alcoholism	1398 patients from a municipality outpatient alcohol clinic, of whom 208 older patients aged 60–82 years, mean age = 64.1, 57.2% male	No distinction	Avoidance of any alcohol consumption

(20%) were not specified (e.g., Fein & McGillivray, 2007). Two studies (8%) were qualitative (Ermann et al., 2016; Lewis et al., 2017), two (8%) were mixed methods (Cimarolli et al., 2018; Geyer, 2010), one (4%) was exploratory (Dauber et al., 2018), two (8%) were a randomized controlled trial (Andersen et al., 2020; Oslin et al., 2002), and one (4%) was a pilot study (Karel et al., 2000).

### Participants

The participants were divided into age groups (based on the participants' mean age). In 13 studies (52%), the participants had a mean age of 60–65 (e.g., Dauber et al., 2018; Oslin et al., 2002; Satre et al., 2007). In four studies (16%), the participants had a mean age of 66–70 (e.g., Karel et al., 2000; Slaymaker & Owen, 2008), in two studies (8%), the mean age

was 71–75 (D'Agostino et al., 2006; Schutte et al., 2009), in one study (4%), the participants were 76 and over (Lewis et al., 2017) and one study (4%) examined two groups of participants where the mean age of one group was 60–65 (early onset) and the other group was aged 66–70 (late onset) (Emiliussen et al., 2019). Three studies (12%) examined a population aged 55 and older (Lemke & Moos, 2003a; 2003b; 2002), and one (4%) examined a sample aged 60 and older (Mosher-Ashley & Rabon, 2001). In terms of the participants' gender, most studies primarily examined males: five studies (20%) were composed of 100% males (e.g., Karel et al., 2000; Lemke & Moos, 2002), 16 studies (64%) included a majority of males (e.g., Emiliussen et al., 2019; Munro et al., 2000), one (4%) included only females (Ermann et al., 2016), two studies (8%) included a majority of females (D'Agostino et al., 2006; Mosher-Ashley & Rabon, 2001) and one (4%) study included three groups of participants (both male and female) of which two had majority of females (Oslin et al., 2009).

Nine studies (36%) were based on a community sample (non-patients) (e.g., Ermann et al., 2016; Mosher-Ashley & Rabon, 2001), whereas in 16 studies (64%) the participants were patients and outpatients in institutions for individuals with AUD (e.g., Lemke & Moos, 2002; Oslin et al., 2002). Four studies (16%) focused on the veteran population (e.g., Schonfeld et al., 2000; Stefanovics et al., 2020). Seven studies (28%) compared older and younger people (e.g., Mosher-Ashley & Rabon, 2001; Oslin et al., 2002). The number of participants ranged from 6 (Geyer, 2010) to 10,860 (Dauber et al., 2018).

### *Distinctions between Age Groups*

In terms of age, only one study distinguished between age groups within the older population (Emiliussen et al., 2019).

### *Operational Definitions of Recovery and Instruments Used*

The concept of recovery was defined in most studies ( $n = 20$ , 80%). In other words, an operational definition of recovery was provided as part of the study objectives; alternatively, the term was used to describe the study population or as part of the outcome measures. The most common term to describe recovery was “abstinence,” which was used in 13 studies (52%) (e.g., Schutte et al., 2009; Slaymaker & Owen, 2008). Other terms used were “stopped drinking” (Fein & McGillivray, 2007), “having not drunk to intoxication” (Munro et al., 2000), and “avoidance of any alcohol consumption” (Wieben et al., 2018). Only one study (4%) referred to several aspects of recovery including improvement in physical and psychological functioning and preventing relapses (Cimarolli et al., 2018). In one study (4%), the definition of recovery referred to the subjective point of view of the participants (who reported being in recovery from

alcohol and/or drug abuse, in addition to attending A.A. meetings) (Mosher-Ashley & Rabon, 2001). In four studies (16%), the definition (and measurement) of recovery included biological markers (a blood alcohol concentration of  $\leq 0.05\%$ , urinalysis, and breathalyzer testing) (Andersen et al., 2020; Satre et al., 2004a, 2004b, 2007). In the remaining studies, the concept of recovery was mentioned as part of the philosophy of the programs that the participants took part in, such as A.A. (e.g., Ermann et al., 2016) or there was no operational definition (e.g., Karel et al., 2000).

Three scales were used to assess recovery in terms of consumption: the Drinker Inventory of Consequences for Alaska Natives (DrInC-AN) (Lewis & Allen, 2017), the Addiction Severity Index (Satre et al., 2004a; 2004b, 2007) and the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) (Stefanovics et al., 2020). All these scales measure alcohol consumption in everyday life.

### *Intervention Characteristics and Outcomes*

The intervention characteristics and outcomes are presented in Table 2 (Appendix 4). Most studies ( $n = 16$ , 64%) described treatment programs that included interventions. The interventions were classified by: 1. Type of intervention, 2. Length of intervention, 3. Intervention goal, 4. Special interventions for older adults, and 5. Intervention outcomes (positive, neutral, or negative outcomes).

#### *Type of Intervention*

*Pharmacological.* Five studies (31%) included pharmacological treatment as part of the intervention or if needed (Cimarolli et al., 2018; Satre et al., 2004a, 2004b, 2007; Wieben et al., 2018). Two studies (12%) involved a random placebo control trial (Andersen et al., 2020; Oslin et al., 2002).

*Alcoholics Anonymous (AA).* Two studies (12%) dealt with A.A. self-help groups. One study (6%) explored the social benefits of the program for older women (Ermann et al., 2016) and the other (6%) assessed emotional support, depression, loneliness, and life satisfaction among older and younger A.A. participants (Mosher-Ashley & Rabon, 2001).

*Twelve-Step Meetings.* Six studies (37%) explored participants' involvement in the 12-step program as part of the treatment (Lemke & Moos, 2003a; 2003b; 2002; Satre et al., 2004a, 2004b, 2007).

*Holistic Intervention.* Six studies (37%) examined holistic programs that included group therapy, family-oriented therapy, and relapse prevention. These programs also offered counseling with a physician, pharmacological treatment, and individual meetings, upon request (Satre et al., 2004a; 2004b, 2007). The Geriatric Substance Abuse



Recovery Program (GSARP) included pharmacological treatment as well as recovery treatment that incorporated psychological therapy, group therapy, family therapy, and community-based groups (Cimarolli et al., 2018). The Geriatric Addiction Program (GAP) uses a multi-dimensional approach that included geriatric care management assessment, motivational counseling, aging services and chemical dependency linkages (D'Agostino et al., 2006). Wieben et al. (2018) presented an intervention that included cognitive-behavioral therapy, family therapy, supportive consultations, and pharmacological treatments (if needed).

**Cognitive-Behavioral Therapy (CBT).** Six interventions (37%) included CBT as part of the treatment offered to older adults with AUD (Lemke & Moos, 2003a; 2003b; 2002; Schonfeld et al., 2000; Slaymaker & Owen, 2008; Wieben et al., 2018). Four of the six CBT interventions (66%) emphasized participation in relapse-prevention groups (Lemke & Moos, 2003a; 2003b; 2002; Schonfeld et al., 2000).

**Motivational Therapy.** As described in three studies (19%), this intervention included motivational enhancement techniques for older adults with AUD (Andersen et al., 2020; Oslin et al., 2002; Slaymaker & Owen, 2008).

**The Strength-Based Approach.** One study (6%) examined the Strength-Based Approach (Geyer, 2010), which was implemented in a group work program for alcohol-dependent older adults developed in South Africa.

### *Length of Intervention*

The length of the intervention varied across programs and ranged from 3–5 weeks (Cimarolli et al., 2018), to 8 weeks (Satre et al., 2004a) to 4 months (D'Agostino et al., 2006). One of the interventions (6%) lasted 16 sessions (the duration was not specified) (Schonfeld et al., 2000). Two programs (13%) included aftercare as part of the intervention, which lasted 12 months (Satre et al., 2004b, 2007). One study (6%) stated that the duration of treatment was according to individual needs (Wieben et al., 2018).

### *Intervention Goal*

Seven studies (44%) referred to abstinence, stopping drinking, or attaining sobriety as the treatment goal (Ermann et al., 2016, Lemke & Moos, 2003a; 2003b, 2002; Slaymaker & Owen, 2008; Satre et al., 2004a; 2004b). Other studies set broader treatment goals to enable individuals to deal with the period of recovery, such as self-efficacy and the development of suitable expectations (Lemke & Moos, 2003a; 2003b; 2002; Oslin et al., 2002).

### *Special Interventions for Older Adults*

Six studies (37%) explored special programs for older adults recovering from AUD. Andersen et al. (2020) described the Community Reinforcement Approach for Seniors (CRA-S), a brief outpatient intervention based on motivational enhancement therapy with a special module focusing on aging, special needs, challenges, and coping with loss. The Geriatric Substance Abuse Recovery Program (GSARP) that was examined in Cimarolli and colleagues' (2018) study consisted of a "Screening, Intervention, and Referral to Treatment" (SBIRT) approach for adults 60 years and up in a nursing facility. The program included pharmacological treatment, psycho-social treatment such as individual psychological treatment, support groups, involvement of family caregivers, referral to recovery community programs and aftercare follow-up. The Geriatric Addictions Program (GAP) (D'Agostino et al., 2006), a program for older adults with substance abuse/dependence, examined the obstacles to treatment and suggested suitable treatment through a collaborative community approach to health, safety, and functioning. Geyer (2010) described a strengths-based group work program for older individuals with AUD focusing on their special needs, such as socializing in a safe environment and developing interpersonal skills. The Geriatric Evaluation Team: Substance Misuse/Abuse Recognition and Treatment (GET SMART) Program (Schonfeld et al., 2000) examined an outpatient program for older veterans that included 16 group meetings using CBT and self-management approaches to acquire skills to deal with individual and social challenges. The Hazelden treatment model evaluated in Slaymaker & Owen's (2008) study was based on the 12-step philosophy and included a unit for older persons on dealing with age-related issues such as grief, loss, continuing care, and leisure.

### *Intervention outcomes*

**Positive Outcomes for Older Adults with AUD.** Five of the six interventions (83%) developed for older adults reported positive outcomes related to recovery, such as stable recovery (D'Agostino et al., 2006), increased strength and ego integrity (Geyer, 2010), participants who could be discharged after hospitalization and showed lower 30-day rehospitalization rates (Cimarolli et al., 2018), and better abstinence rates (Schonfeld et al., 2000; Slaymaker & Owen, 2008). Other studies reported positive outcomes for older adults such as attending therapy or responding to treatment (Lemke & Moos, 2003a, 2003b; 2002; Oslin, 2002), and having better outcomes than middle-aged patients (Wieben et al., 2018). Two studies (13%) reported better outcomes for older women than older men (Satre et al., 2004b, 2007).

**Neutral or Negative Outcomes for Older Adults with AUD.** Andersen et al. (2020) found that adding the "community reinforcement approach for seniors" intervention did

not improve outcomes for older adults. In a study that compared older adults, middle-aged, and younger adults in 5-year alcohol treatment, no significant age differences were found in terms of 30-day abstinence (Satre et al., 2004a). Mosher-Ashley & Rabon (2001) indicated that the A.A. program helped older adults keep sober, but that older adults with AUD were less likely to attend meetings.

## Discussion and Implications

The aim of this scoping review was to probe the literature on recovery from AUD among older adults by: 1. Investigating the main characteristics of studies on recovery from AUD among older adults, 2. Examining whether studies differentiate between age groups of older adults, 3. Examining the operational definitions and measurement of the concept of recovery, 4. Reviewing intervention programs for older adults who have recovered from AUD and defining the main characteristics and outcomes. The findings suggest that although the population of older adults with AUD worldwide is growing (Fan et al., 2019; Kuerbis, 2020), as is the emerging literature on recovery from AUD (Ashford et al., 2019; Tucker et al., 2020), the number of studies relating to older adults who recover from AUD has decreased in the last decade compared to 2000–2010. This may be due to the fact that AUD among older adults is under-diagnosed, and they are under-treated (DiBartolo & Jarosinski, 2017). In addition, older adults recovering from AUD have more health problems combined with age-related chronic diseases or cognitive decline (Agahi et al., 2016), which make it harder to recruit and include them in studies. Another explanation relates to the fact that older adults who recover from AUD are a marginalized population that suffers from an intersectionality of social and health-related disadvantages (Caputo et al., 2012). More resources and efforts should be invested in identifying and working with older adults with AUD and conducting research on this population.

We were interested in examining whether the literature would differentiate between age groups of older adults using the categories suggested in the literature where 60–69 is defined as young-old, 70–79 as old-old, and 80 + as the oldest-old (Chou & Chi, 2002). As shown in the results, only one study distinguished between age groups within the older population. This is consistent with an earlier study conducted among baby boomers on patterns of substance abuse, which reported no differences between age cohorts (Duncan et al., 2010). Moreover, most of the studies reviewed included older adults whose mean age was between 60 and 65, and only eight studies dealt with adults over 65. The relatively low number of studies on older adults with AUD may stem from the fact that the older population is more susceptible to physical and mental illnesses in later life (DiBartolo & Jarosinski, 2017), and has a higher mortality rate (Moore et al., 2006; Ortolá et al., 2019). Therefore, reaching the old-old and the oldest-old who recover from AUD is a challenge

(Subbaraman et al., 2015). Future studies should examine older adults by age groups to determine whether there are varying characteristics between different groups of older adults who have recovered from AUD. Future research should include more women and explore gender-related aspects of this population. As shown in this scoping review, older women with AUD were only the majority of the sample in three studies.

The operational definition for measuring recovery from AUD was detailed in most studies. Only one study referred to a broad concept of recovery, whereas 13 studies used the word “abstinence” to define recovery. Four studies included biological markers in the definition of the concept, together with the criterion of abstinence.

These findings show that on the one hand, many researchers use a narrow definition of recovery that focuses mainly on the behavioral aspects of alcohol consumption or abstinence. On the other, in recent years, researchers have begun to define recovery more broadly by indicating that recovery is a holistic process (Neale et al., 2014; Witkiewitz & Tucker, 2020). In keeping with this development, a broader operational definition of recovery should be applied when studying older adults who have recovered from AUD.

A consistent, operational definition of this concept would facilitate research in this field and enable professionals to develop interventions to enhance the process of recovery for older adults with AUD. Crucially, these narrow definitions are not cohesive with the discourse in the broader literature on recovery that views it as a process of change in which the person experiences individual growth, together with involvement in the community (Witkiewitz et al., 2020).

In all the studies screened here, only three validated instruments were used to assess recovery although these instruments measure alcohol consumption in everyday life. The scant use of validated tools to measure recovery makes it hard to evaluate the concept and makes comparisons between studies challenging. Further research should define and conceptualize recovery in the context of AUD, as well as develop a gold standard to measure recovery from AUD.

The interventions included in this review varied widely and embraced a broad range of treatment types. Most of the interventions provided one or two treatment approaches (e.g., CBT including relapse-prevention groups, motivational interviews or the 12 steps), whereas others included pharmacological treatment in addition. These treatment approaches are common in the addiction field and not specifically related to older adults. Surprisingly, only one study referred to the Strength-Based Approach (Geyer, 2010).

Interestingly, only six studies described holistic interventions that emphasized the needs of older adults with AUD and referred to an expanded perspective of recovery (Witkiewitz et al., 2020); most reported positive outcomes. This is consistent with the literature pointing to the special needs of older adults coping with AUD (Caputo et al., 2012; DiBartolo & Jarosinski, 2017; Kelly et al., 2018b). These

findings suggest that providing holistic interventions, including the Relapse-Prevention Model (Dupree et al., 2008) for older adults, can ease the process of recovering from AUD.

The length of the intervention also varied widely, and only two studies included aftercare. Future work should include follow-ups to interventions aimed at recovery from AUD to assess the efficiency of the process and the achievement of better outcomes. Studies should also explore the different stages of recovery and the success of the recovery process (McLellan et al., 2005; Schaefer et al., 2011).

The studies that provided a holistic intervention are consistent with the conceptual framework of Recovery Capital that highlights the social, community, financial, and individual resources needed to initiate and sustain recovery (Cloud & Granfield, 2008). Future studies would benefit from using this framework to explore the resources that help older adults in recovery. As recently shown in the gambling field (Gavriel-Fried et al., 2022) studies using a holistic approach to measure the potential of recovery among this population should be conducted.

Much more effort should be invested in developing and implementing suitable interventions that can help this population recover from AUD. These should be holistic interventions that include CBT together with a relapse-prevention model, family therapy, support groups, pharmacological treatment (as needed), as well as follow-up meetings. These interventions should involve interdisciplinary professionals such as physicians, nurses, social workers and case managers who are specialized in the care of older adults. These interventions should emphasize the special needs associated with older adults, such as coping with losses, economics challenges, and changes in social and health status. These professionals should help older adults recovering from AUD to develop new areas of interest and strengthen their self-confidence and self-esteem. These interventions should be sensitive to cultural differences.

To the best of our knowledge, this is the first scoping review on recovery from AUD among older adults. However, this study is not without limitations. It only included studies conducted in English, to the detriment of studies in languages that were not included. Moreover, the diversity of concepts that refer to recovery in general and in particular among older adults may have inadvertently eliminated other studies. In addition, since we focused on empirical studies, some interventions for this population that were not included in this category could have been overlooked.

## Conclusion

This scoping review points to the insufficient number of empirical studies on recovery from AUD among older adults, which reflects the complexity of this concept. Even though most interventions described in these studies

included psycho-social dimensions, only one of the definitions of recovery referred to these facets. Future studies should apply a broader definition of recovery that includes not only the outcome of abstinence, but also reflects the process of personal growth, wellness, and individuals' involvement in the community. Applying a broader definition would enable researchers to measure recovery in more meaningful terms, thereby enabling professionals to develop more targeted holistic interventions for adults recovering from AUD adapted to different age groups of older adults.

## Author Contributions

Ile Kermel-Schiffman was the principal investigator, and was in charge of the study design, wrote the protocol and the manuscript. May Afuta, Amit Zur and Ile Kermel-Schiffman carried out the study selection. Belle Gavriel-Fried was one of the principal architects of the project and supervised the research. All authors approved the final version of the manuscript.

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## Ethics Statement

The study protocol was approved by the ethics committee of researchers at Tel Aviv University (No. 2917-3).

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## Supplemental Material

Supplemental material for this article is available online.

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