

Effectiveness of Substance Use Interventions for Individuals Experiencing Homelessness

Review

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Abstract

Introduction: Substance use is a significant public health concern that is particularly prevalent among individuals experiencing homelessness. This literature review examines the effectiveness of various substance use interventions targeting this population.

Methods: A comprehensive search of academic databases was conducted to identify U.S.-based studies, published between 2020 and 2025, that examined substance use interventions among individuals experiencing homelessness. After applying inclusion and exclusion criteria, studies were screened for relevance and quality. The final selection encompassed a range of study designs (e.g., randomized controlled trials, cohort studies, and qualitative research) and diverse intervention strategies (e.g., supportive housing models, harm reduction approaches, and pharmacological treatments).

Results: To address the variability of outcomes measured, coding was used to identify commonalities. Three outcome themes were identified: (1) frequency and amount of alcohol and drug use, (2) treatment retention and program adherence, and (3) self-efficacy and participant perceptions. The results demonstrated short-term reductions in substance use and improvements in participant engagement and psychological well-being. However, long-term outcomes were less consistent with reports of high relapse rates, poor treatment retention, and limited program adherence.

Conclusions: Given the mixed and inconsistent findings across studies, there is a critical need to explore alternative approaches to treat substance use among homeless individuals. Occupational therapy (OT) is a promising yet underutilized profession in addressing substance use through holistic, meaningful, occupation-based interventions. To develop effective interventions that support sustained recovery, future research should prioritize longitudinal studies that incorporate objective and subjective measures to fully capture the lived experiences of homeless individuals who use substances.

Key Words: occupational therapy, substance use disorder, substance use

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Introduction

Homelessness remains a pervasive national issue in the United States. According to the U.S. Department of Housing and Urban Development's *2024 Annual Homelessness Assessment Report to Congress*, 771,480 individuals experienced homelessness on a single night in January 2024, representing a 12% increase since 2022. Among adults experiencing homelessness, roughly 33% use substances, and 66% of those individuals met the criteria for a Substance Use Disorder (SUD).^{1,2} Additionally, 38% of homeless individuals were reported to abuse alcohol, and 26% were reported to abuse other drugs.² Even more alarming, 1.8% of homeless individuals have a greater risk of opioid overdose versus 0.3% of housed individuals. The coexistence of homelessness and substance use represents a complex public-health concern,



with barriers to care, unstable environments, and limited access to treatment compounding negative health consequences.

For this review, *Substance Use Disorder (SUD)* is defined as “the inability to control the use of a particular substance (or substances) despite the harmful consequences that occur when an individual compulsively misuses drugs or alcohol and continues using the substance despite knowing the negative impact it has on their life.”² Substance Use Disorder is considered a medical diagnosis, which differs from *substance use*, defined as “when a person uses a substance inappropriately or in ways that cause harm to themselves and the people around them.”² *Homelessness* is defined according to the U.S. Department of Housing and Urban Development (HUD) as “lacking a fixed, regular, and adequate nighttime residence, including individuals living in emergency shelters, transitional housing, or places not meant for habitation.”¹ This definition includes both transitional and chronic homelessness, which are both relevant for understanding patterns of substance use and treatment accessibility.

Substance use disorders among homeless populations commonly involve alcohol, opioids, stimulants, and/or cannabis, with high rates of polysubstance use reported.³⁻⁵ These various substance use patterns contribute to increased morbidity and mortality, including overdose and infectious diseases. For instance, Santa Maria et al.³ reported drug overdose to be the leading cause of death for persons experiencing homelessness, and injection drug use was found to be associated with high rates of infectious diseases such as Hepatitis C (28.9%)⁴ and HIV (49.5%).⁵ Gastrointestinal issues and asthma have also been linked to substance use.⁶ According to the Center for Disease Control and Prevention (2024), 43.5% of emergency department visits by people experiencing homelessness from 2016-2021 involved a substance-related condition, compared to 27% of housed individuals.⁷ Co-occurring mental health disorders, including depression, anxiety, and schizophrenia, are also commonly associated with substance use among persons experiencing homelessness.⁸ The reported statistics are alarming and emphasize the need for innovative and sustainable interventions catered to the unique needs of homeless populations.

This review seeks to synthesize and critically examine the effectiveness of substance use interventions for individuals experiencing homelessness in the United States, drawing on recent studies published between 2020 and 2025. It is structured as a narrative literature review, integrating findings from diverse research designs to identify common outcome themes, stress gaps in the evidence, and discuss implications for policy, research, and clinical practice. The intent of this review is to provide a comprehensive understanding of what current interventions show promise and where further research is needed to address substance use among homeless populations.

Common Interventions for Addressing Substance Use

Common interventions used to address substance use for homeless populations include Housing First (HF),^{9,10} Motivational Interviewing (MI),¹¹ Harm Reduction Approaches,¹² Contingency Management (CM),¹³ and Assertive Community Treatment (ACT).¹⁴ In addition to commonly used practices, this review highlights all identified interventions, including the lesser known. The extent to which each intervention theoretically aligns with the needs of this population varies. Supportive housing models, ACT, and harm reduction approaches strongly align, providing stable and comprehensive services that do not necessarily require abstinence. Nurse-led and community health worker interventions provide vital medical and relational reports that are valued and accessible. Motivational Interviewing moderately aligns, emphasizing client-centered readiness for change, though success depends on continued participation, which may be particularly challenging for individuals experiencing homelessness. Contingency management also demonstrates moderate alignment, utilizing behavioral incentives but requiring consistent follow-up, and its effectiveness may diminish once rewards are discontinued. Technology-based strategies (e.g., smartphone applications or teletherapy) provide flexible delivery, but barriers (e.g., access to devices and digital literacy) may limit homeless persons' success with these types of interventions. Expanding upon these theoretical alignments, each intervention model differs in terms of effectiveness.

Harm reduction approaches (e.g., syringe exchange and safe-consumption sites) are consistently effective in reducing overdose rates and infectious disease transmission, particularly among individuals with histories of chronic street homelessness and injection drug use.¹² These programs emphasize engagement over abstinence, leading to improved survival and service retention, but often show limited long-term abstinence outcomes. In contrast, CM programs offer tangible rewards for verified abstinence, showing strong short-term reductions in substance use.¹³ However, once incentives fade, positive outcomes often cease, suggesting that CM may be most useful as a segway to more pronounced behavioral or housing interventions.

Housing First models demonstrate strong evidence for housing stability and reduced emergency service use, especially among individuals with co-occurring SUD and serious mental illness.^{9,10} However, improvements in substance use outcomes are mixed, with several studies suggesting that stable housing alone does not necessarily translate into reduced substance use without concurrent behavioral support.¹⁷ Finally, integrated care approaches combining medical, psychiatric, and addiction services, yield the most comprehensive improvements in health outcomes and treatment engagement, particularly for individuals with dual diagnoses or chronic health conditions.^{14-16,18,19} These models require intensive coordination and funding but are proven to reduce morbidity and long-term system costs.

Collectively, harm reduction and integrated care appear most effective for high-severity or chronically homeless individuals, while CM and HF approaches show more benefit among transitional or treatment-engaged populations. A blended approach, embedding harm reduction within HF or integrating CM into outpatient programs, may optimize both engagement and recovery outcomes. Despite the relative success of these interventions in improving service engagement, housing stability, and positive short-term substance use outcomes, relapse remains a persistent and significant barrier to sustained recovery among individuals experiencing homelessness.

According to Slesnick et al.¹⁹, substance use interventions were successful initially, followed by high relapse rates of 40-50% for homeless adolescents and young adults. Reasons for relapse included difficulty engaging this population due to low levels of trust, transportation difficulties, and overall life instability. Similarly, Dogu and Ozkan²⁰ stated relapse rates as high as 80-90%, possibly due to a lack of occupation-based interventions and disengagement from activities involved with substance use. Furthermore, the authors reported that 60% of participants expressed dissatisfaction with the services provided and subsequently dropped out of treatment.²⁰ Additionally, Mehtani et al.²¹ reported that among impoverished women with prior periods of abstinence, 17.1% initiated cocaine use, and 18.8% initiated methamphetamine use within six months post-intervention due to a lack of access to permanent supportive housing. These alarming statistics highlight the need for continued evaluation and advancements in substance use interventions tailored to homeless populations. Although still emerging, occupation-based interventions offer potential by emphasizing essential elements for sustained recovery, such as meaning, routine, and identity.

Occupational Therapy and Substance Use

Occupational therapists play a vital, yet underexplored role in addressing substance use by promoting well-being through meaningful occupations.²⁰ The American Occupational Therapy Association (2020) defines *occupation* as “everyday personalized activities that people do as individuals, in families, and with communities to occupy time and bring meaning and purpose to life.”²² Substance use may be viewed as a meaningful occupation as it can offer individuals a sense of control, social connectedness, and temporary relief from emotional and physical pain.²⁰ However, substance use as an occupation is often disregarded and has even been referred to as a *dark occupation*, defined as “the things some people do that may not always promote good health, may not always be productive, yet may provide a sense of well-being.”²³ Traditional occupational therapy practice has primarily focused on legal, productive, and socially acceptable occupations, often neglecting the realities and unique needs of individuals struggling with substance use.²³ Despite the limited research on occupation-based interventions for substance use treatment, existing studies offer mixed and inconclusive results.

According to Ryan et al.²⁴, an occupation-focused psychoeducational programme targeting SUD and *addiction*, defined as “a dependence syndrome, a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated substance use”, enhanced participants’ awareness and engagement in health-promoting occupations. However, the study was limited by a small sample size and a lack of long-term follow-up data. Similarly, Wasmuth and Pritchard²⁵ reported that using an occupation-based theater program led to short-term increases in social and occupational participation. Conversely, these improvements were not sustained at six-months follow-up, and no significant changes in self-efficacy were observed. Furthermore, Narin et al.²⁶ examined the perceived impact of substance use on occupational performance among women. The authors found that substance use does not entirely prevent engagement in daily activities such as self-care, work, leisure, and caregiving. Future research examining substance use interventions from an occupational perspective was recommended. Lastly, Wasmuth et al.²⁷ identified leisure, social participation, and work as the most common areas of occupation addressed in addiction interventions. However, not all occupation-based leisure interventions elicited better outcomes than their comparison groups. The authors suggested that occupation-based interventions may provide small yet significant improvements in substance-related addictive disorders. While the emerging evidence demonstrates the potential of occupational therapy interventions for substance use treatment, their long-term effectiveness remains unclear.

Methods

A comprehensive literature search was conducted to identify peer-reviewed articles that examined substance use interventions for individuals experiencing homelessness. Various databases, Boolean operators, and search terms were included. Filters were applied to limit results to English-language, peer-reviewed journal articles, published between 2020 and 2025, and conducted in the United States. After filters were applied, 603 articles remained to be screened. Articles were excluded if they took place outside the United States, were not available in the English language, were published before the year 2020, or the population consisted of individuals not defined as homeless. Following duplicate removal and title and abstract evaluation, 23 articles were selected for full-text review. The studies included in the review consisted of various research designs (such as a systematic review, a qualitative study, and randomized controlled trials [RCTs]) and diverse interventions (such as supportive housing models, harm reduction approaches, and motivational and cognitive-behavioral therapies).

Results

Of the studies included in the review, there was substantial variability in outcome measures. Primary outcomes included frequency of alcohol and drug use, self-efficacy, substance use problems, and treatment retention, while secondary outcomes included negative drinking consequences and motivation to change. To address the variability in outcome measures, coding was used to identify commonalities. This process consisted of analyzing the outcomes of each study in a table format, followed by organizing measured attributes according to substance use measures, intervention aspects, and personal factors. Three outcome themes emerged: (1) frequency and amount of alcohol and drug use, (2) treatment retention and program adherence, and (3) self-efficacy and participant perceptions.

Theme 1: Frequency and Amount of Alcohol and Drug Use

Several authors found short-term reductions in substance use following intervention. A nurse-led intervention resulted in significant decreases in most types of drug use, odds of drug use, and cannabis use at three- and six-months follow-up (all $p < .01$).¹⁵ Additionally, a harm reduction program led to a 35% reduction in days of alcohol and other substance use compared to the control group ($p < .001$).¹⁶ Lastly, a smartphone-based intervention revealed significant decreases in all alcohol use (daily drinking $p = .012$; drinks per day $p = .004$; and heavy episodic drinking $p = .003$).²⁸ Conversely, many interventions were associated with regression over time. A housing intervention for homeless mothers proved ineffective, with the authors reporting that substance use increased between nine- and twelve-months follow-up across all interventions.²⁹ Additionally, nonmarijuana drug use significantly increased at twelve-months follow-up after implementing a motivational interview intervention.¹¹ For studies that compared multiple interventions, certain approaches proved more effective. For example, clients of high consumer participation fidelity programs reported less stimulant or opioid use at follow-up (OR = 0.17, 95% CI 0.07, 0.57), whereas clients in high supportive housing fidelity programs showed no significant difference.³⁰

Theme 2: Treatment Retention and Program Adherence

Shelter and community-based models demonstrated strong early retention rates. For example, it was reported that methadone treatment and retention were significant for supportive housing participants ($p < .02$).¹⁷ In contrast, retention was markedly lower in outpatient and office-based programs. In an Office-based Addiction Treatment (OBAT) program, retention rates decreased over time (45.2% at one-month, 21.7% at six-months, and 11.3% at twelve-months follow-up).³¹ Continuity of care also presented ongoing challenges, with reports of negative outcomes such as substance use relapse and loss of child custody among participants transitioning from shelters to office-based programs.³² However, sustained participation in OBAT was associated with significant benefits, including reductions in overdoses and mortality (adjusted hazard ratio, 0.34; 95% CI, 0.21-0.55).³¹

Theme 3: Self-Efficacy and Participant Perceptions

Several authors reported increased self-efficacy, perceived importance of cutting back or quitting substance use, and improved psychological well-being following substance use interventions. For example, it was reported that all participants of a housing intervention increased substance use self-efficacy over time.²⁹ Additionally, participants of a motivational interview intervention demonstrated a moderate improvement in the perceived importance of cutting down or quitting drinking at twelve-months follow-up ($p = .08$) and a significant increase in the perceived importance of cutting back on marijuana use ($p = .05$).¹¹ Furthermore, participants of an exercise program reported improved resiliency, self-confidence, coping skills, social connectedness, and the ability to set goals.³³ Lastly, participants reported a decreased perception of barriers and improved access to providers when using video-based and direct observational therapy interventions.³⁴ In contrast, participants of a motivational interviewing program did not report long-term

positive changes in self-efficacy post-intervention ($p > .05$).¹¹ See Table 1 for the results of the literature review organized by the three main themes.

Table 1. Intervention outcome themes.

Theme 1: Frequency and Amount of Alcohol and Drug Use		
Authors	Intervention/Participants	Outcome(s)
McLaughlin et al. ³⁵	An office-based intervention program/Adults with opioid use disorder (OUD) in a family shelter ³²	(+) ^a An office-based program led to decreased substance use at 1-3-months follow-up ($p < .01$). (+) ^a No overdoses were reported during the treatment period.
	Programs with high consumer participation fidelity and high supportive housing fidelity/Homeless individuals who misused substances ³⁰	(+) ^a Clients of high consumer participation fidelity programs reported less stimulant or opioid use at follow-up (OR = 0.17, 95% CI 0.07, 0.57). (!) ^c For clients in high supportive housing fidelity programs, there were no significant differences in stimulant or opioid use from baseline to follow-up.
	Health promotion and art messaging groups/Homeless youth who use drugs ³⁶	(!) ^c No significant changes in heroin use were reported in health promotion and art messaging groups.
Slesnick et al. ²⁹	A housing intervention/Homeless mothers who met the criteria for a substance use disorder (SUD)	(-) ^b Substance use increased between 9- and 12-months follow-up across all intervention types.
Tucker et al. ¹¹	AWARE (motivational interviewing) program/Homeless young adults ages 18-25 seeking drop-in services	(+) ^a For the AWARE group participants, reported past-month frequency of drinking, frequency of heavy drinking, and number of drinks on drinking days, all significantly decreased at 12-months follow-up (all $p < .05$). (+) ^a Nonmarijuana drug use frequency significantly decreased for the AWARE group participants initially ($p = .01$). (-) ^b For the AWARE group, nonmarijuana drug use significantly increased at 12-months follow up. (!) ^c No significant changes in alcohol-related outcomes were reported at 12-months follow-up for the control group (all $p > .05$).
DiGiuseppi et al. ³⁷	Comparison of three substance use interventions: Adolescent Community Reinforcement Approach (ACRA), Motivational Enhancement Therapy (MET) combined with Cognitive-Behavioral Therapy (CBT) (MET/CBT), and Treatment as Usual (TAU)/Secondary data: Youth experiencing homelessness vs. stably housed youth ages 12-25 substance use data	(-) ^b Mean growth parameters (γ_s) predicted substance use frequencies at 12-months follow-up that were lower for TAU vs. MET/CBT (17.2 days vs. 24.1 days). (!) ^c Mean growth parameters (γ_s) predicted substance use frequencies at 12-months follow-up that were lower for the ACRA vs. MET/CBT (19.2 days vs. 24.1 days). (!) ^c Mean decreases in substance use frequency were similar across all groups during treatment (ACRA; -17.5 days, MET/CBT: -17.3 days, TAU: -18.2 days).
Mostofi & Collins ¹⁶	Behavioral Harm Reduction Treatment (HaRT-A) with or without pharmacotherapy/Homeless adults ages 21-65 who met the criteria for alcohol use disorder (AUD)	(+) ^a HaRT-A participants used alcohol plus at least one other substance on 35% fewer days compared to the control group ($p < .001$). (+) ^a Polysubstance use frequency, cannabis use, and alcohol use decreased significantly for HaRT-A participants compared to the control group ($p < .001$). (!) ^c No significant treatment effects for cocaine, methamphetamine/amphetamines, or opioids were detected when comparing groups. (!) ^c No significant substance use results were reported for individuals who used substances less than 10% at baseline.
Walters et al. ²⁸	Smartphone-based just-in-time adaptive intervention (JITAI)/Individuals receiving services at a homeless shelter who met the criteria for AUD	(+) ^a Significant decreases in all alcohol use outcomes were found after four weeks of JITAI (daily drinking $p = .012$; drinks per day $p = .004$; and heavy episodic drinking $p = .003$).

Nyamathi et al. ¹⁵	Nurse-led community health worker intervention (RN-CHW)/Persons experiencing homelessness 18 years+; concurrent or recent substance use; positive Latent TB Infection	(+) ^a There were significant decreases in most types of drug use, odds of drug use, and cannabis use at 3- and 6-months follow-up (all $p < .01$). (-) ^b /(+) ^a Decreases in amphetamine and methamphetamine use were statistically significant at 6-months follow-up ($p = .029, p = .031$), but not at the 3-months follow-up ($p = .492, p = .120$). (-) ^c Changes in cocaine use were not significant at 3- or 6-months follow-up ($p = .717; p = .409$).
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Theme 2: Treatment Retention and Adherence

Authors	Intervention/Participants	Outcome(s)
McLaughlin et al. ³⁵	Methadone treatment and supportive housing/Methadone patients with serious mental illness ¹⁷	(+) ^a Methadone treatment and retention were significant for supportive housing participants and for comparison participants ($p < .02$).
	Mobile programs with pharmacological intervention/Patients with OUD who were recently incarcerated or exiting jail ³⁸	(-) ^c Housing status was insignificantly associated with remaining in mobile buprenorphine treatment 30 days post-intervention.
	An office-based intervention program/Adults with opioid use disorder (OUD) in a family shelter ³²	(-) ^b All participants who left the shelter system for office-based programs, relapsed and lost custody of their children.
	Shared buprenorphine medical appointments/Patients referred for a buprenorphine shared medical appointment in a homeless shelter clinic ¹⁸	(-) ^b For participants in shared buprenorphine medical appointments, retention rates decreased over time (86% retention at 12- and 70% retention at 24-week follow-up).
	Video observed therapy for buprenorphine prescription fill and adherence/Office-based opioid treatment patients and providers ³⁴	(+) ^a Video and direct observation therapy helped decrease barriers and improved access to providers.
Fine et al. ³¹	Office-based Addiction Treatment (OBAT)/Adult patients with one or more treatment encounters between 2008-2018	(+) ^a Past month attendance in the OBAT program was associated with lower mortality risk (adjusted hazard ratio, 0.34; 95% CI, 0.21-0.55). (-) ^b OBAT program retention decreased over time: 45.2% at 1-month, 21.7% at 6-months, and 11.3% at 12-months follow-up. (-) ^b Buprenorphine treatment adherence decreased over time: 41.5% at 1-month, 17.6% at 2-months, and 10.2% at 12-months follow-up. (-) ^b Opioid abstinence decreased over time: 28.3% at 1-month, 6.1% at 6-months, and 2.9% at 12-months follow-up.
Padwa et al. ³⁹	Data collection from the California Outcome Measurement System, Treatment (CalOMS-Tx) examining treatment modalities based on outpatient, intensive outpatient, and residential services	(-) ^b Persons experiencing homelessness (PEH) showed a significant decrease (% change = -11.90) in treatment retention total (outpatient, intensive outpatient, and residential) vs. housed counterparts. (-) ^b PEH showed a significant decrease in successful discharge rates in all categories (outpatient % change = -11.10; intensive outpatient % change = - 8.75; residential levels of care % change = - 24.4).

Theme 3: Self-Efficacy and Participant Perceptions

Authors	Intervention/Participants	Outcome(s)
McLaughlin et al. ³⁵	Video observed therapy for buprenorphine prescription fill and adherence/Office-based opioid treatment patients and providers ³⁴	(+) ^a Video and direct observation therapy helped decrease barriers and improved access to providers.
Slesnick et al. ²⁹	A housing intervention/Homeless mothers who met the criteria for a substance use disorder (SUD)	(+) ^a Across all groups (housing plus supportive services, housing only, and services as usual), substance use self-efficacy significantly improved over time.

Tucker et al. ¹¹	AWARE motivational interviewing program/Homeless young adults ages 18-25 seeking drop-in services	(+) ^a Perceived importance of cutting down or quitting drinking was moderately significant at 12-months follow-up for the AWARE group ($p = .08$). (+) ^a Perceived importance of cutting back on marijuana use significantly increased ($p = .5$). (-) ^b A significant reversal in perceived cutting back on marijuana was reported at 12-months follow-up. () ^c No significant findings were reported related to alcohol resistance self-efficacy, maximum number of drinks consumed, or drug resistance self-efficacy for the AWARE and control group (all $p > .05$).
Kemter et al. ³³	Street2Fit (S2F) exercise program/Participants of the S2F program	(n/a) ^d Five themes: (1) resiliency, (2) improved self-confidence, (3) exercise as a coping strategy, (4) social connectedness, (5) improved ability to set goals.

^aOutcomes were in favor of the intervention.

^bOutcomes were not in favor of the intervention.

^cOutcomes were neutral.

^dNot applicable; qualitative data.

Discussion

This literature review explored current substance use interventions used among homeless populations. Supportive housing models, motivational interviewing techniques, harm reduction programs, and technology-based interventions, led to positive short-term outcomes. Benefits included decreased frequency and amount of alcohol and drug use,^{11,15,16,28,35} increased treatment retention and program adherence,^{29,35} and increased self-efficacy and perceived ability to participate in treatment.^{11,29,35} However, several interventions failed to support sustained recovery. Three outcome themes were identified, with each contributing substantially to understanding substance use intervention outcomes among homeless individuals who use substances.

For the first theme, frequency and amount of alcohol and drug use, several studies reported effective outcomes. Interventions that led to short-term reductions in substance use included motivational interviewing, nurse-led interventions, behavioral harm reduction approaches, and smartphone-based interventions.^{11,15,16,28} However, these benefits diminished over time, suggesting that various interventions may aid in short-term recovery, yet highlight the challenge of sustained long-term benefits for homeless populations. The findings reinforce the need for interventions targeting recovery beyond initial involvement.

The second theme, treatment retention and program adherence, encompassed the reported challenges of sustained recovery and treatment across interventions. Shelter and community-based models, on-site care programs, housing support, and flexible delivery of services proved to be most effective. The success of these interventions highlights the value of programs that promote daily stability and reduce treatment barriers to support sustained recovery and program adherence among homeless populations. Conversely, outpatient and office-based programs,³¹ and transition programs were associated with negative outcomes such as relapse and loss of parental rights.³² The lack of treatment retention and program adherence may be a result of barriers common among individuals experiencing homelessness, such as transportation, trust issues, and limited access to services. This reinforces concerns with traditional models of care that do not adequately support the complex needs and unstable lives of this population.

The third theme, self-efficacy and participant perceptions, also showed inconsistent outcome results. Authors reported initial increases in self-efficacy using a housing and supportive services intervention,²⁹ improved psychological well-being with nurse-led interventions,²⁸ and decreased perceived barriers using video-based and direct observational therapy interventions.³⁴ In contrast, there were no long-term benefits for improved self-efficacy following a motivational interviewing program.¹¹ The findings revealed increased self-efficacy, improvements in psychological well-being, and decreased perceptions of barriers, yet long-term improvements in self-efficacy were not retained. To sustain positive outcomes, interventions should incorporate various supportive elements such as housing, social opportunities, and technology-based approaches for the treatment of substance use among individuals experiencing homelessness.

The key themes identified provide valuable insight into substance use treatment among homeless populations; however, limited studies were identified that examined long-term outcomes such as relapse rates, quality of life improvements, or long-term housing stability. When measured, relapse rates remained high and often took place within six to twelve months following program completion, demonstrating the difficulty of sustained abstinence among

individuals experiencing homelessness.^{20,21,29,35} Quality of life outcomes presented mixed results. Participants in supportive housing or fitness-based programs reported improved mental health, resiliency, and self-confidence,^{29,33} whereas others experienced minimal changes once structured support ceased.¹¹ Housing stability was most improved through Housing First and integrated care approaches, which correlated with reduced substance use and improved life satisfaction.^{9,10} These limited findings highlight the importance of stable housing and increased quality of life to support sustained recovery.

Although several interventions demonstrated short-term success, significant challenges remain regarding the implementation and sustainability of these programs. First, cost continues to be a major barrier. Particularly for resource-intensive models such as Housing First and integrated care, which require ongoing funding for housing maintenance and multidisciplinary staffing.^{9,12} Second, decreased accessibility to transportation and technology limit participation in outpatient or technology-based interventions.^{28,31} Third, a lack of professionals with specialized training in addiction management, trauma-informed care, and cultural competency, is often less available than is needed to serve this population.^{14,20} Fourth, client engagement is a persistent challenge, especially among subpopulations such as women, youth, and individuals with co-occurring mental illness. Women experiencing homelessness may encounter additional barriers related to childcare and gender-based violence; youth experiencing homelessness often demonstrate mistrust of authority and limited readiness for change; and individuals with co-occurring mental illness require more integrated psychiatric and addiction services, yet these are rarely accessible in a single setting.^{5,8,9,11,19,21} These implementation challenges highlight the need for sustainable, trauma-informed, and person-centered approaches that address both structural barriers and the unique needs of individuals experiencing homelessness and substance use challenges.

In summary, no single intervention proved effective for long and short-term positive outcomes of substance use frequency and amount, treatment retention and adherence, and participant perceptions. The findings highlight the importance of implementing a different approach, beyond traditional models, for the treatment of substance use among individuals experiencing homelessness. As for innovative interventions, occupational therapy offers a unique and underutilized perspective by promoting well-being through meaningful occupations.²⁰ Occupational therapists can provide interventions that promote life skills, habit formation, and role restoration to promote sustained recovery among this vulnerable population.²² Future research should include the exploration of occupational therapy-informed models that can be used to address substance use among homeless populations. Additionally, occupational therapists should also be integrated within multidisciplinary teams in clinical and community settings to provide more comprehensive care for improved long-term outcomes.

There are several limitations of this review that must be acknowledged. First, the inclusion criteria were restricted to English-language sources, which may have excluded relevant studies published in other languages. Second, the review included studies solely conducted in the United States, limiting the generalizability of the findings. The exclusion of both non-English studies and studies conducted outside the U.S. also introduces the risk of publication bias. Third, a limited number of Systematic Reviews and RCTs were included in this review. The remaining studies included a variety of designs, all considered less superior in evidence strength.⁴⁰ Furthermore, several of the studies included pilot designs with small sample sizes, reducing the generalizability of the findings to broader populations. Fourth, several studies lacked direct comparison groups, which further limits the ability to interpret the effectiveness of interventions. Lastly, the interventions reviewed in this study varied significantly in design and methodology, making it difficult to compare outcomes or draw definitive conclusions about intervention effectiveness.

Conclusions

The studies included in this review demonstrated inconsistent outcomes for substance use interventions across professional disciplines. Although short-term reductions in substance use and improved psychological well-being were reported, long-term outcomes remain largely inconclusive. With reports of high relapse rates,^{20,21,29,35} poor treatment retention,^{31,35,39} and limited program adherence,^{11,29,31} there is a critical need to explore alternative approaches to substance use treatment among adults experiencing homelessness. Occupational therapy has the potential to address substance use through client-centered, occupation-based interventions to improve long-term outcomes. Contrary to typical medical models, occupational therapists provide interventions that emphasize life skills, habit formation, role restoration, and meaningful occupational engagement to promote sustained recovery and prevent relapse. However, occupational therapy research regarding substance use among homeless populations is limited. Future research is warranted to adequately inform policy and clinical practice.



As for research, there is a critical need for longitudinal studies that explore occupation-based interventions targeting substance use among homeless populations. Researchers should include objective measures and subjective experiences to gain a deeper understanding of this phenomenon for the development of assessments and interventions. Furthermore, future studies can be used to clarify that engagement in meaningful occupations supports sustained recovery. For policy, future initiatives should expand funding for integrated models, such as Housing First and harm reduction, that provide stable housing and continued behavioral and medical support. Additional funding could also support occupational therapists' involvement in the restoration of positive and meaningful daily activities to enhance client engagement, sustainability, and long-term recovery. For clinical practice, collaborative models should include occupational therapists as they are highly skilled in designing interventions to support health-promoting daily routines, engagement in valued roles, and the development of positive coping strategies. Additionally, occupational therapists can promote long-term recovery by designing interventions that promote life skills, self-efficacy, and meaningful occupational engagement.

In summary, the reviewed literature revealed three outcome themes: (1) frequency and amount of alcohol and drug use, (2) treatment retention and program adherence, and (3) self-efficacy and participant perceptions. It is evident that no single intervention adequately addresses the complex interplay of homelessness and substance use. Sustainable recovery requires a multi-faceted system of care that integrates housing, medical treatment, and engagement in positive, meaningful occupations. Occupational therapy is an underutilized profession in the treatment of substance use but has the potential to promote sustained recovery through engagement in meaningful occupations. Embedding occupational therapy within existing models of care may transform short-term recovery into lasting change for individuals experiencing homelessness and substance use challenges.

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