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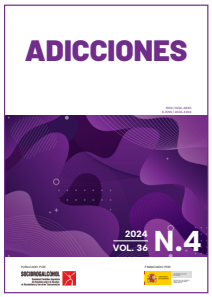

ORIGINAL

Relapse rates after treatment in Therapeutic Communities: A systematic review

Tasas de recaída tras un tratamiento en Comunidades Terapéuticas: Una revisión sistemática

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Abstract

Therapeutic Communities (TC) are residential settings that provide psychosocial rehabilitation for substance-using individuals. In general, TCs have been proven effective, although a large part of the evidence is from studies with methodological shortcomings. Therefore, the aim of this systematic review was to evaluate the effectiveness of TCs in terms of relapse rates. The search used EBSCO, PubMed, and Web of Science up to July 29, 2021 and was based on the international Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. Of the 94 studies, eight met selection criteria including a total of 2,064 participants from 40 TCs. Of the eight studies, seven were cohort studies and one was a randomized controlled trial (RCT). Findings reveal that TCs were effective in reducing substance use, although some uncertainty remains regarding the long-term persistence of the improvements. Thus, further research is necessary to compare relapse rates in TC programs for substance-related disorders.

Keywords: therapeutic communities, relapse rates, substance use treatment, substance-related disorders, TC programs

Resumen

Las Comunidades Terapéuticas (CT) son entornos residenciales que brindan rehabilitación psicosocial a las personas que consumen sustancias. En general, estas han demostrado su eficacia, aunque gran parte de la evidencia proviene de estudios con limitaciones metodológicas. Por tanto, el objetivo de la presente revisión sistemática fue evaluar los resultados de las CT en relación con las tasas de recaída. La búsqueda se realizó en EBSCO, PubMed y Web of Science con fecha límite del 29 de julio de 2021 y se basó en la declaración Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). De los 94 estudios encontrados, ocho cumplieron los criterios de selección, con un total de 2064 participantes de 40 CT. De los ocho estudios, siete eran estudios de cohortes y uno era un ensayo controlado aleatorizado. Los resultados revelan que las CT eran efectivas para reducir el consumo de sustancias, aunque persiste cierta incertidumbre con respecto a la persistencia a largo plazo. Se necesita más investigación que evalúe las tasas de recaída tras finalizar el tratamiento en las CT.

Palabras clave: comunidades terapéuticas, tasas de recaída, tratamiento por consumo de sustancias, trastornos relacionados con sustancias, programas en comunidades terapéuticas

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When treating substance use disorders (SUD), a severe and lasting problem that often emerges is relapse (Tims & Leukefeld, 1986), which is defined as the recurrence of SUD symptoms following a period of reduced or inexistent substance use (Dawson et al., 2007; Hendershot et al., 2011; Witkiewitz & Marlatt, 2007). In fact, resuming alcohol or drug use is a frequent outcome after individuals initiate the abstinence process (Bradizza et al., 2006; Suter et al., 2011). The rates of relapse may vary according to factors such as the definition of the concept, the populations used in the studies and the time since treatment. Some European studies have indicated relapse rates between 40 and 75% for heroin and other illicit drugs (Alterman et al., 2000; Pasareanu et al., 2016). Since the medical costs of detoxification and treatment for substance use disorders are significantly high, having to repeat treatment becomes a major problem for individuals (Gerwe, 2000).

Currently, outpatient therapy is the most common treatment modality in the field of addiction (Vanderplasschen et al., 2013). However, a lot of people are engaging in other types of treatment, as residential substance use treatment services, including therapeutic communities (TCs). TCs are 24-h residential locations that provide intensive support and treatment for individuals with an acute SUD (Reif et al., 2014). Depending on TCs, the treatment interventions vary. They can include psychological support in group or individual, mutual self-help and peer help, and supported reintegration into the community (de Andrade et al., 2019). The length of treatment and stay in a TC also vary, TCs are considered as long-term residential treatment models and ranging from 6 to 12-months (De Leon, 2000).

It is very important to highlight that not all residential locations to substance use treatment are TCs. According to De Leon & Unterrainer (2020), the TC theory is based on a specific approach: "community as method". In fact, the use of "the community" as the key agent of change makes TCs different from other treatments (Malivert et al., 2012). TC's paradigm is composed by four interconnected definitions of SUD, individual, process of recovery, and living healthy. According to this paradigm, the SUD could be seen as a symptom and considered a comprehensive disorder affecting the whole person (Griffiths, 2005). The individual is considered as a "whole person" and the main characteristic of a TC is working with the "whole person" within multi-intervention (De Leon & Unterrainer, 2020; Malivert et al., 2012). So, the aims of the TCs involve abstinence as well as the development of positive social values and appropriate behavior.

The literature about the effectiveness of TCs is scarce. De Andrade et al. (2019) conducted a systematic review about the evidence base for the residential treatment of SUD including TCs. In this review, just three studies of the 23 included in the review reported abstinence rates in TCs, being these of 80% or more at 12-month follow-up (King et al., 2016; Šefránek & Miovský, 2017; Šefránek & Miovský, 2017b). Regarding relapse rates in TCs, Malivert et al. (2012) concluded that relapse was frequent after TC, being these more than 30% at 6-months follow-up.

Despite the great availability of TCs for SUD disorders, Smith et al. (2006) highlighted that literature about TCs has a few methodological limitations and the evidence from RCTs has not been reviewed systematically recently. Some studies inform about the evidence of TCs but they have not shown the relapse rates (De Leon, 2000; Reif et al., 2014). Therefore, this study intends to add and to update the existing literature information about relapse rates after substance abuse treatment in TC. Therefore, this systematic review aims to answer the following research question: what is the prevalence of relapse rates after substance abuse treatment in TC?.

Method

Search strategy

This systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement (Page et al., 2021) and the review protocol was registered with PROSPERO (CRD42021293676), an international database for the registration of systematic reviews in the field of health. Databases searched were EBSCO, PubMed, and Web of Science. We included studies published in English, Portuguese, and Spanish, and all the years available in the selected databases, with the limit of July 29, 2021. The search strategy, terms and PRISMA checklist are described and included as supplementary material.

Study characteristics

Inclusion and exclusion criteria are descripted in Table 1. We included the following study designs: (a) type of publication [experimental studies (randomized controlled trials, quasi-randomized trials, controlled clinical trials), quasi-experimental studies (interrupted time series, before-and-after studies), observational studies (cohort studies, case-control, and case series) and research protocols]; (b) population (18 and over); (c) intervention (SUD in TC). Included studies were those examining relapse after an intervention for TC are defined as residential locations that provide psychosocial rehabilitation for substance-using individuals (Malivert et al., 2012). The excluded studies were those in which there was no follow-up after a substance abuse treatment in a TC, studies not limited to adults, qualitative studies, and review studies.

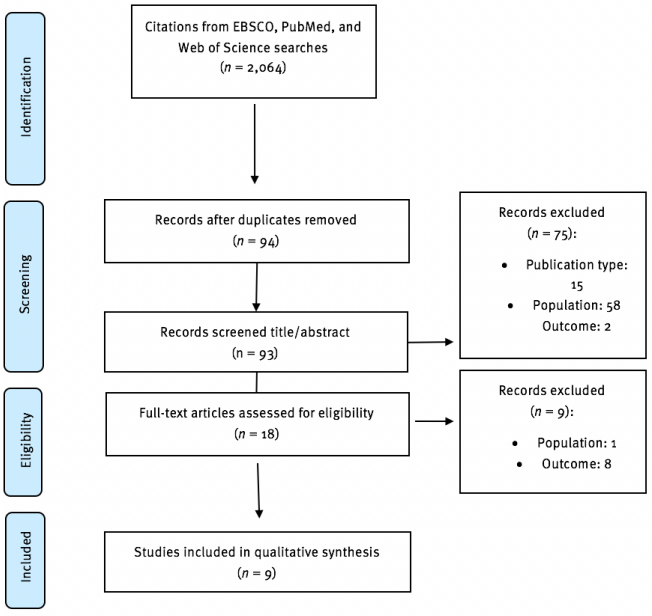
Table 1
Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
a) Experimental studies, quasi-experimental studies, and observational studies	a) There was no follow-up after a substance abuse treatment in a TC
b) Population aged 18 or more	b) Studies not limited to adults
c) SUD intervention in TC	c) Review studies
d) Examining relapse after an intervention for TC	d) Qualitative studies

Study selection

Firstly, titles and abstracts retrieved by electronic searches were exported to a reference management software (Rayyan) to remove duplicates. These references were then exported to the online software tool Rayyan for screening. Reviewers DM and AA screened titles and abstracts independently. These reviewers discussed disagreements, and other reviewer (PCD) were involved if a decision was not reached. Full-text screening, and data extraction, were performed independently by both reviewers (DM and AA). Extracted information included: the study's general information, studies objectives, sample, type of treatment, main findings, operation definition of relapse, relapse cases, relapse rates, substance type, educational level, employment, marital status, and notes. Excluded studies, with the reasons, therefore, are recorded in the PRISMA flow diagram (Fig. 1).

Figure 1
PRISMA Flowchart



Quality and risk bias of quantitative studies

Two reviewers (DM and DSC) assessed the quality of the studies that met the eligibility criteria for this review. The quality assessment was performed using the Effective Public Health Practice Project Quality Assessment Tool (EPHPP). The EPHPP tool assesses six domains: (a) selection bias, (b) study design, (c) confounders, (d) blinding, (e) data collection method; and (f) withdrawals/dropouts (Armijo-Olivo et al., 2012). Once the specific domains are assessed (strong, moderate, or weak), each study receives a global quality score.

Results

A total of 94 studies were screened after duplicates were removed. Of these, 76 were excluded after the review of titles and abstracts. In the second phase, 18 papers were read in full text. After evaluation of the full report, 10 studies were excluded. No study required consensus decisions. Finally, 8 publications were included in this review.

Study characteristics

A summary of the studies' characteristics is presented in Table 2. Of the eight included studies, four were conducted in Spain (Barreno et al., 2019; Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008), two in the United States (McCusker et al., 1995, Mooney et al., 2014), one in United Kingdom (Gossop et al., 2002) and one in Barbados (Griffith & Ross, 2019). Regarding the study type, seven were cohort studies (Barreno et al., 2019; Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008; Gossop et al., 2002; Griffith & Ross, 2019; Mooney et al., 2014; Stevens et al., 2015) and one was randomized controlled trials (RCT) (McCusker et al., 1995). Studies included follow-up assessments ranging from 30 days to 13 years.

Table 2
Summary of studies' characteristics

Study ID	Objectives	Sample			Type treatment			Main findings
		Type of sample	Age (*M*/*SD*)	% male	Therapeutic community	Type of treatment	Follow-up	
Barreno et al. (2019)	To examine the longitudinal relationship between baseline performance on several impulsivity measures and retention and relapse at the end of treatment.	*N* = 68	*M* = 37.4 *SD* = 11.33	92.6	Three public therapeutic communities (TCs) in Andalusia (Spain)	Unified treatment program based on multidisciplinary interventions, including cognitive behavioural therapy, psycho-education, occupational therapy, and pharmacological treatment.	289 days	The capacity for decision-making according to long-term outcomes helps achieve treatment aims. Conversely, a proneness for swift reactions whereas the under positive emotions is a risk factor for relapse.
Fernández-Hermida et al. (2002)	To assess whether the data obtained during follow-up in the group revealed improvements ($p < .05$) compared to data recorded on admission to the program.	*N* = 249	*M* = 26	80.32	Proyecto Hombre	The treatment program has three therapeutic stages: reception, residential therapeutic community, and reinsertion.	3 years and 4 months	Individuals who did not complete treatment had more severe and earlier relapses, after leaving the program, and remained abstinent for shorter periods of time compared to those who completed treatment.
Fernández-Montalvo et al. (2008)	To carry out a long-term follow-up evaluation of a therapeutic community treatment for addiction in Navarre (Spain) and to compare between those who completed the program and those who dropped out.	*N* = 155	*M* = 28 *SD* = 4.7	69	Proyecto Hombre	The treatment program has three therapeutic stages: reception, residential therapeutic community, and reinsertion.	30 months	Significant outcome differences were found between relapsing and non-relapsing patients.
Gossop et al. (2002)	To examine factors associated with abstinence, lapse or relapse among heroin users, after attending residential treatment.	*N* = 242	*M* = 29.4 *SD* = 6.2	78	23 residential (15 rehabilitation, and eight specialist in-patient drug dependence) programs.	Programs that comprised detoxification and relapse prevention interventions. The rehabilitation programs included two groups. One had a shorter planned treatment (6 to 12 weeks), with four agencies. All four shorter-term rehabilitation programs provided detoxification services. The second group included 11 programs with longer treatments (planned durations: over 3 months, with a range of 13-52 weeks.	12 months	Individuals who did not fully relapse to heroin use (abstinence and lapse groups) consistently used more cognitive, avoidance and distraction coping strategies at follow-up than at intake. The lapse and relapse groups, compared with the abstinent group, exhibited higher use rates of illicit drugs besides heroin. heroin after treatment than the abstinent group. Overall, treatment completion was associated with better outcomes.
Griffith & Ross (2019)	To examine the treatment outcomes patients who successfully finished a 90-day residential program at the Verdun House.	*N* = 114	*M* = 46.1 *SD* = 11.2	100	Verdun House	12-Step Programs	90-day	Half of the participants remained sober and abstinent for a long period of time, five years or more, and half reported participating in the 12-Step Programs, as well as events at the treatment facility.
Mooney et al. (2014)	To apply a 28-day program using evidence-based practices and principles of Alcoholics/Narcotics Anonymous.	*N* = 108	*M* = 30.7 *SD* = 8.3	79	Dwight D. Eisenhower Army Medical Center Inpatient Residential Treatment Facility (RTF).	28-day inpatient treatment program employing evidence-based practices and principles of Alcoholics/ Narcotics Anonymous	30, 90, 180 and 360 days	A large majority of service members (87%) successfully initiated the program, with continuous sobriety being observed in over 50% of service members 6 months later. At the 1-year mark, relapse rates were similar to those from other alcohol treatment programs.
Stevens et al. (2015)	To examine whether possessing disadvantageous decision-making patterns would place cocaine-dependent individuals (CDI) at greater risk for treatment drop-out.	*N* = 150	*M* = 36.3 *SD* = 8.2	93	Six different TCs located in the region of Andalusia (Spain): Cartaya, Almonte, Mijas, Los Palacios, La Línea, and Tarifa.	Multidisciplinary interventions, including Cognitive Behavioral Therapy (CBT), psychoeducation, and occupational therapy.	N.R.	CDI who dropped out of the TC prematurely did not establish a consistent and appropriate response pattern throughout the Gambling Task and exhibited a poorer ability to select the most probable outcome on the Cambridge Gamble Task. No group differences were found in betting behavior.

Note. CBT = Cognitive Behavioral Therapy; CDI = cocaine-dependent individuals; RTF = Residential Treatment Facility; TCs = Therapeutic Communities.

Table 3
Ratings of methodological quality by the EPHHP tool

	Selection bias	Study design	Confounders	Blinding	Data collection	Withdrawals	Global rating
Barreno et al. (2019)	Strong	Moderate	Weak	Moderate	Strong	Moderate	Moderate
Fernández-Hermida et al. (2002)	Moderate	Moderate	Strong	Moderate	Strong	Strong	Strong
Fernández-Montalvo et al. (2008)	Strong	Moderate	Strong	Moderate	Strong	Strong	Strong
Gossop et al. (2002)	Strong	Moderate	Strong	Moderate	Strong	Moderate	Strong
Griffith & Ross (2019)	Strong	Moderate	Strong	Moderate	Strong	Strong	Strong
McCusker et al. (1995)	Strong	Strong	Weak	Moderate	Strong	Moderate	Moderate
Mooney et al. (2014)	Strong	Moderate	Weak	Moderate	Strong	Weak	Weak
Stevens et al. (2015)	Strong	Moderate	Strong	Moderate	Strong	Strong	Strong

Table 4
Main relapse outcomes

Study ID	Operation definition of relapse	Retention	Treatment completion	Relapse cases	Relapse rate
Barreno et al. (2019)	Participants with positive drug results in at least two analyses were considered as 'relapses'.	----------	71%	*N* = 30	44% at 289 days follow-up. Heroin use: 13.3%; Cocaine use: 86.7%; Alcohol use: 56.7; Cannabis use: 50%.
Fernández-Hermida et al. (2002)	Three occasions of drug use in a maximum period of 2 months.	Abstainers: 89.7% Relapsers:10.3%	----------	*N* = 55	In 'treatment-completed' group was 10.3% at 8 years. In the non-completers group was 63.6% at 8 years. Most of the relapses involve heroin use (60%), followed by cannabis (32.7%), cocaine (18.1%), synthetic drugs (3.6%) and benzodiazepines (1.8%).
Fernández-Montalvo et al. (2008)	Three occasions of drug use in a maximum period of 2 months.	51.2%	72%	*N* = 42	46.5% at 6 years. Most relapses involved cannabis abuse (37.4%), followed by cocaine (31.6%), heroin (18.7%), and benzodiazepines (15.5%).
Gossop et al. (2002)	Using heroin after exiting treatment and continued to use regularly (on more than one-third of days from first use to follow-up).	----------	Abstainers: 44% Lapsers: 21% Relapsers:25%.	*N* = 75	31% used heroin at 12 months follow-up. Moreover, of relapses, 46.7% used methadone; 50.7% used benzodiazepines; 49.3% used crack cocaine; 14.7% cocaine powder; 20% amphetamines; 20% heavy drinking.
Griffith & Ross (2019)	Participants had used substances at all since leaving treatment.	----------	----------	*N* = 51	45% at 5 years. There is not information about specific substance in follow-up period.
McCusker et al. (1995)	Self-report of any drug use since exit from treatment	65% completed follow-up at 6 months.	66%	3 months *N* = 223 6 months *N* = 221	71% used heroin at 6 months.
Mooney et al. (2014)	Any documented evidence of substance use	Day 30: 28% drop-out Day 90: 31 drop-out Day 180: 51% drop-out Day 360: 72% drop-out	----------	30 months *N* = 68 90 months *N* = 66 180 months *N* = 47 360 months *N* = 27	30 months 14.7% 90 months 28.8 % 180 months 44.7% 360 months 77.8% There is not information about specific substance in follow-up period
Stevens et al. (2015)	Any use of an illicit substance during the follow-up period.	----------	Abstainers: 39.45% Relapsers:28.23%	*N* = 84	56% at 2 years. There is not information about specific substance.

Methodological quality assessment

According to the EPHPP Tool, five studies received a quality rating of strong (Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008; Gossop et al., 2002; Griffith & Ross, 2019; Stevens et al., 2015), two of moderate (Barreno et al., 2019; McCusker et al.,1995) and one of weak (Mooney et al., 2014). Selection bias and data collection were the main strengths of the included studies, whereas the withdrawals were the main weakness. Concerning the analysis component, the unit of analysis and allocation were individuals. All studies used appropriate statistical methods. In addition, there was consensus when evaluating all the studies through EPPHPP Tool. The specific and global methodological quality ratings of each study are described in Table 3.

Main relapse outcomes

A summary of the main relapse outcomes is described in Table 4. Regarding the RCT study (McCusker et al., 1995) no significant differences were found on the relapse rates between different programs with different duration. Regarding studies focused on Proyecto Hombre Therapeutic Community (Fernandez-Hermida et al., 2002; Fernández-Montalvo et al., 2008), significant differences were observed between those who finished treatment and those who dropped out. Specifically, individuals who did not finish treatment relapsed more often and earlier when compared to individuals who completed treatment. Relapse rate in 'treatment-completed' group was 10.3% and in the non-completers was 63.6% at follow-up (range from 73 days to 8 years) (Fernández-Hermida et al., 2002). Fernández-Montalvo et al. (2008) informed that 83.3% of the dropouts relapsed versus 32.7% of the completers in the follow-up (range from 6 months to 13 years).

The remained cohort studies, two studies reported similar relapse rates (Barreno et al., 2019; Griffith & Ross, 2019) about 45%, while Gossop et al. (2002) reported a relapse rate of 31% and Stevens et al. (2015) reported a 56% relapse rates. Finally, Mooney et al. (2014) reported that 77.8% of the participants had relapse at one year follow-up.

Discussion

A total of eight studies about relapse rates after substance abuse treatment in Therapeutic Communities (TC) were reviewed. Overall, relapse rates in TCs were similar in all studies showing high relapse rates. When examining the retrospective cohort studies, relapse rates ranged between 10.7 and 77.8% (Barreno et al., 2019; Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008; Gossop et al., 2002; Griffith & Ross, 2019; Mooney et al., 2014; Stevens et al., 2015). When examining the randomized control trial (McCusker et al., 1995), the relapse rates was 71% at 6-months follow-up. These outcomes are in line with previous studies which showed high relapse rates in TC (King et al., 2016; Malivert et al., 2012). Most of the studies indicate that the most frequent consumed substance after relapse was heroin. However, this is difficult to confirm since some studies do not show the substances that are consumed once the relapse has occurred.

When considering the methodology quality of studies, five studies received a quality rating of strong (Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008; Gossop et al., 2002; Griffith & Ross, 2019; Stevens et al., 2015), two of moderate (Barreno et al., 2019; McCusker et al.,1995) and one of weak (Mooney et al., 2014).

Regarding treatment completion and retention rates, two studies showed that relapse rates in people who completed treatment was lower than in the non-completers group (Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008). These improvements are comparable to results found in therapeutic communities across Europe (Broekaert et al., 1999; Fernández-Hermida et al., 2002; Gossop et al., 1999) and the United States (Hubbard et al., 1989; Simpson & Sells, 1982). In this vein, McCusker et al. (1995) concluded that planned duration of treatment revealed little effect on retention rates over time and, consequently, longer programs will have lower completion rates.

The following factors could influence the findings of this systematic review. First, the definition of relapse was different in each included study. For instance, Barreno et al. (2019) considered relapses two positive drug results in at least two analyses while McCusker et al. (1995) considered relapse the self-report of any drug use since exit from treatment. Second, the follow-up time varied greatly on different studies. Thus, the follow-up period was from 90 days (Griffith & Ross, 2019) to three years (Fernández-Hermida et al., 2002). Finally, the kind and the duration of the treatments varies greatly in each TC. Since 28 days programs (Mooney et al., 2014) from large programmes developed in stablished TCs (Fernández-Hermida et al., 2002; Fernández-Montalvo et al., 2008).

Some of the studies included in this review showed factors associated with withdrawal and relapse. Gossop et al. (2002) showed that patients who did not relapse exhibited a more consistent use of cognitive, avoidance and distraction coping strategies at the follow-up, compared to relapse. Two research has focused on neurocognitive deficits in Substance Use Disorders (SUD) (Barreno et al., 2019; Stevens et al., 2015). Stevens et al. (2015) indicate that subjects who dropped out of treatment did not maintain consistent and appropriate response patterns throughout the Iowa Gambling Task and revealed a worse ability to select the most probable outcome on the Cambridge Gamble Task. Barreno et al. (2019) suggested that individuals who dropped out of treatment tended to exhibit poorer decision-making on the Iowa Gambling Task, while

individuals with higher rates of relapse presented increased commission errors in the Affective Go/No Go task. This link between decision-making and treatment retention provides support for the idea that having the capacity to perceive the long-term benefits of treatment is an essential factor for the successful completion of TC programs. Decision-making differs from other types of impulsivities, since it entails a subjective valuation of distinct response options (as opposed to allocating resources to only one response, e.g., selective attention and response inhibition) and it requires weighing both rewards and punishments (conversely to choosing between two rewards, e.g., delay discounting) (Verdejo-Garcia et al., 2018). On the other hand, there was an association of response inhibition and delay discounting with treatment retention in shorter-term settings (Barreno et al., 2019; Stevens et al., 2015). As such, the capacity for making choices based on long-term outcomes helps patients to engage in treatment activities, overcome setbacks and, thus, better achieve the treatment goals (Volkow et al., 2016). Alternatively, a proneness for swift and impulsive reactions may hinder patients' ability to remain in treatment, especially when problems emerge, in addition to being a risk factor for relapse.

This review has some limitations. Firstly, studies that assess relapse in TC's are limited. Secondly, the follow-ups were carried out at different times and, moreover, there were a lot of dropouts in the different studies, which should be considered in generalization of results. Thirdly, of the eight studies that are included in this review, just one is a randomized control trial. Fourthly, it is impossible to access the therapeutic community data that were not published. Despite the limitations, this study describes and follows the internationally PRISMA statement and overviews the available research about relapse rates after TC.

Regarding avenues for future research, it should be a focus on trying to identify risk factors for relapse, as well as intervention programs that can effectively reduce relapse rates. Furthermore, it would also be important to identify critical periods in the recovery process and the features of aftercare intervention that would help maintain abstinence. Attention should also be given to examining the presence of mental health disorders among individuals who sought substance use treatment, as well as developing and strengthening relapse prevention and relapse coping skills in these individuals. For instance, the study proposed by Kelly et al. (2020) will answer the calls, in academic literature, for the examination of continuing care interventions for substance users (Blodgett et al., 2014; Lenaerts et al., 2014; McKay, 2009) and will provide relevant data on the effectiveness, both clinical and cost-wise, of continuing care interventions via telephone. This study is expected to demonstrate that continuing care interventions via telephone are low-cost and effective in supporting individuals who leave residential care (Kelly et al., 2020).

Summing-up, relapse rates after a treatment in TCs are high and they should develop further and strengthen relapse prevention and relapse coping skills among drug misusers. In fact, being able to vastly reduce relapse rates is a major priority of substance abuse treatment.

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Annex

EBSCO

AB relapse rates AND TX (“substance abuse treatment” OR “addiction treatment” OR “addictions” OR “addiction” OR drug addiction OR drug dependence) AND TX (“therapeutic community” OR “therapeutic communities” OR tc)

PubMed

((relapse rates[Title/Abstract]) AND (“substance abuse treatment” OR “addiction treatment” OR “addictions” OR “addiction” OR drug addiction OR drug dependence)) AND (“therapeutic community” OR “therapeutic communities” OR tc)

Web of Science

AB=relapse rates AND TX=(“substance abuse treatment” OR “addiction treatment” OR “addictions” OR “addiction” OR drug addiction OR drug dependence) AND TX=(“therapeutic community” OR “therapeutic communities” OR tc)