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Recovery Housing Program for Drug Addicts: Work Patterns, Substance Abuse, and Housing Situation After a 6-Month Follow-up

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Abstract

The use of psychoactive substances is associated with physical and psychological damage, especially among people in situations of high social vulnerability. Housing programs can provide integrated care to people exposed to social determinants of health. This longitudinal study with residents of a recovery house (N = 164, maximum stay of 6 mo) investigated substance use, employment, and housing status. The mean length of stay was 144 days (SD = 76.8 d), and most residents had been working for at least 4 consecutive months (n = 96; 58.5%); 74.4% of the residents received therapeutic discharge and more than half returned to a stable form of residence. Multivariate analysis showed that previous alcohol use was independently associated with working status [odds ratio (OR) = 2.29, 95%; confidence interval (CI), 1.00-5.20, *P* = 0.048]. In a multinomial logistic regression model using treatment length as reference, being currently employed (95% CI, 8.74-62.37, *P* = 0.010), and previous history of nonalcohol use (95% CI, 71.59-5.83, *P* = 0.021) were both associated with longer stay in the recovery house. Housing services can provide effective support for substance use recovery, and our findings highlight the need for integrating health and social care strategies.

Key Words: recovery housing program, recovery, drug addicts, work, substance use

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Vulnerability and social inequalities are related to diseases and mental disorders that affect individuals and communities both in the short term and long term.[1,2] These inequalities entail problems that can hamper the access to health care services,[3] ultimately compromising the effectiveness of measures aimed at improving health and well-being.[4]

Among people at high levels of social vulnerability, the consumption of psychoactive substances is associated with various types of physical and psychological harm, involvement in risky sexual behaviors, and exposure to potentially traumatic events (systemic violence, neglect, and situations of abuse during childhood, both inside and outside the family environment).[5–7] Cognitive deficits and primary or secondary psychiatric disorders reduce the adherence to care proposals and social adaptation strategies.[8,9] Moreover, even when users of psychoactive substances receive treatment and have a stable housing structure to return after hospitalization—both for brief detoxification or in long-term programs—they almost always come across environmental triggers that contribute to relapses.[10,11]

On the basis of these findings, a series of inclusive strategies have been developed in recent decades with the objective of addressing, in a structured way, both social inequities and risk factors that arise from the consumption of psychoactive substances and whose mutual interactions can further increase social exclusion.[12,13]

The development of permanent and transitional housing programs represents an opportunity to not only integrate health and social care systems in a pragmatic manner, but also alleviate the demand for primary health care.[14] According to recent systematic reviews, the provision of housing is directly related to a decrease in substance use and relapse, as well as in the use of primary health care services; it has also been related to increased housing ownership and improvements in health patterns among homeless

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The authors declare no conflict of interest.

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populations infected with human immunodeficiency virus. Some studies have also reported improvements in quality of life and a decreased contact with the justice system.[12] Thus, in addition to an address and house keys, permanent housing offers a framework for personal stability, and a concrete opportunity for resuming one's autonomy and individuality within a structured and safe environment.[15]

Among the numerous housing models designed for users of psychoactive substances,[16] recovery housing models usually refer to residential environments (Oxford Houses, sober living houses, recovery homes, halfway houses) that combine abstinence with psychosocial rehabilitation.[17] Recovery housing can have positive effects on substance use, employment rates, and future housing status.[18,19] Moreover, the geographical location of the recovery house may favor the formation of new social bonds (including professional contacts) that can help patients in developing social networks—such as 12-step programs and drug-free environments—that significantly reduce the number of substance-consuming subcultures.[13,20,21]

Despite the potential benefits of this model, Brazil does not have long-term housing programs developed specifically for users of psychoactive substances. Studies investigating probable associations between this type of model and outcomes related to psychosocial reintegration are also scarce in the country. This study presents an experience of sober living recovery housing (SLRH) that simultaneously provided social support and housing needs for older men in recovery from substance use disorders in the metropolitan area of a city in the state of São Paulo, Brazil.

METHODS

This study followed a longitudinal research design, using a structured interview with the housing residents (N = 164); evaluated outcomes considered substance use and psychosocial reintegration.

Setting

This study was conducted at Therapeutic Republic (TR), a housing program of Instituto Padre Haroldo (IPH). TR was founded in August 2016 as an SLRH for male residents leaving IPH's 6-month therapeutic community program. IPH is a pioneer philanthropic entity founded in 1978 that participates in the development and implementation of public policies aimed at welcoming and providing social and health care to adolescents, pregnant women, men, women, and transsexuals who have problems related to the use of psychoactive substances. The Institute currently has 13 facilities (including therapeutic communities, shelters, halfway houses, and sober living houses) where recovery, educational, and training programs are implemented by its staff. All facilities and programs are located in the municipality of Campinas, State of São Paulo, which has the 10th largest metropolitan area in Brazil and includes 20 counties and ~3.2 million inhabitants.

TR is structured according to the general rules of an SLRH, inspired in the Oxford House model.[22] It provides an alcohol-free and drug-free living environment, structured on peer support to facilitate recovery from substance abuse disorders. The service is able to accommodate 15 male and older residents. Round-the-clock health instructors, as well as a psychologist and a social worker available for 30 hours a week, help coordinating the house functioning and support the residents' essential needs. The maximum length of stay is 6 months, and its professional infrastructure and operation are funded by the São Paulo State Government (Recomeço Program).

The requirements for admission are: (1) having completed the IPH therapeutic community program (6 mo); (2) being in a situation of housing insecurity—homeless or unable to return to the family residence due to previous breaking of family bonds and geographical distance; and (3) being able to commit to a therapeutic contract that entails that the resident (3.1) actively engages in house routines (organization, cleaning, and cooking), in the operational decision-making of the house, and participates in resident assemblies (fortnightly) according to the house rules; (3.2) attends, at least once a week, meetings of 12-step recovery groups such as Alcoholics Anonymous or Narcotics Anonymous (AA/NA); (3.3) remains in the TR until achieving

ADDICTIVE DISORDERS & THEIR TREATMENT
Volume 00, Number 00
■■ *2021*

house standards of complete abstinence from alcohol and drugs. A term where residents agree to adhere to the rules described by item 3, along with a property lease, is signed by the interested parties before a new member joins TR.

Sample

Since its inauguration (August 2016) until May 2018, 164 older men were admitted by TR. All of them were invited to sign a free and informed consent form to participate in the study. There were no refusals to participate.

Data Collection

A semistructured interview developed by the São Paulo State Coordination on Drug Policies (COED) along with the study organizers was applied each month with all residents. The interviews were performed by a social worker or a psychologist.

Overall result categories were combined and the following variables were obtained: *(1) sociodemographic profile*—age (continuous), marital status (single, married, or divorced), and schooling (<8 or >8 y); *(2) substance use in the 12 months before admission to the IPH therapeutic community*—response options were "yes" or "no" to alcohol, snorted cocaine, crack cocaine, multiple drug use including alcohol, or multiple drug use without alcohol; *(3) activities performed during the housing period for at least 4 consecutive months*—response options were "yes" or "no" to currently working, religious activity, and support group (AA or NA). For those who had been working for at least 4 months, the type of work was divided into "formal" or "informal"; *(4) outcomes*—discharge categories (abandonment, administrative, requested, or therapeutic discharge) and "yes" or "no" answers regarding a return to stable housing (family house, acquired/rented a place for living) and lapse or relapse experiences during the treatment process.

Data Analysis

The collected data were analyzed using SAS software, version 9.4 for Windows. The description of categorical data was performed by absolute and relative frequencies in contingency tables. Analyses of associations were based on the χ^2, Fisher exact, and prevalence ratio tests. Finally, multivariate logistic regression analyses were used to determine factors associated with the current working status and length of stay in the SLRH (d).

Ethical Considerations

This study received ethics approval by Universidade Federal de São Paulo (UNIFESP) and the Brazilian National Health Council (Plataforma Brasil)—CAAE 97188918.7.0000.5505.

RESULTS

Between August 2016 and May 2018, 164 men participated in the housing program. The mean length of stay in the house was 144 days (SD, 76.8 d; range, 8 to 393 d). The mean age of the participants was 40.2 years (SD, 11.2 y, range, 19 to 71 y). Most of the participants were single/divorced (n = 150; 91.4%), and only 14 were married (8.6%). Almost half of the participants (n = 68; 41.5%) had <8 years of schooling.

Before admission for treatment, one quarter of the residents had consumed only alcohol in the last 12 months (n = 39; 23.7%). Around 10% reported that they had exclusively consumed cocaine or crack cocaine. One third of them used >1 illicit substance combined with alcohol use, and almost one fifth used >1 illicit substance without association with alcohol (Table 1).

Most residents were working continuously for at least 4 months at the end of data collection (n = 96; 58.5%), and these were almost equally divided into informal and formally registered jobs (n = 52; 54.2% and n = 44; 45.8%, respectively) (Table 2).

Regarding their participation in religious activities, almost all residents (n = 156; 95.1%) attended religious gatherings for at least 4 consecutive months—catholic, evangelical, or spiritualist. All residents attended a mutual-help group, mainly AA, NA, and Tough Love

TABLE 1. Use of Psychoactive Substances 12 Months Before Admission to Therapeutic Community

Last Year Use	N = 164 [n (%)]
Only alcohol	
Yes	39 (23.7)
No	125 (72.3)
Only cocaine	
Yes	19 (11.6)
No	145 (88.4)
Only crack cocaine	
Yes	20 (12.2)
No	144 (87.8)
Polydrug use including alcohol	
Yes	57 (34.8)
No	107 (65.2)
Polydrug use without alcohol	
Yes	29 (17.7)
No	135 (82.3)

TABLE 2. Activities Carried for at Least 4 Consecutive Months and Main Outcomes

	N = 164 [n (%)]
Currently working	
Yes	96 (58.5)
No	68 (41.5)
Job type	
Formal	44 (45.8)
Informal	52 (54.2)
Religious activity	
Yes	156 (95.1)
No	8 (4.9)
Support group (AA/NA)?	
Yes	164 (100)
No	0 (0)
Discharge categories	
Abandonment	12 (7.3)
Administrative discharge	18 (10.9)
Requested discharge	12 (7.4)
Therapeutic discharge	122 (74.4)
Returned to stable housing—family house, acquired/rent a place for living	
Yes	91 (55.5)
No	73 (44.5)
Lapse or relapse experience during treatment	
Yes	10 (6.1)
No	154 (93.9)

AA/NA indicates Alcoholics Anonymous or Narcotics Anonymous.

(AE) (Table 2); this was a mandatory activity.

Regarding the discharge outcome, most of the residents received therapeutic discharge (74.44%), with successful completion of the stay period. Almost 15% of the residents abandoned or requested to leave the house, whereas 10.9% were administratively disconnected from TR (n = 18) due to violent acts or the use of psychoactive substances within the house (Table 2). After leaving TR, more than half of the patients (n = 91; 55.55%) returned to a stable standard of housing: a family home or their own/rented residence. Most of the residents remained abstinent (n = 154; 93.9%) while in the house.

Considering the type of substance used (alcohol, cocaine, or crack cocaine) and the pattern of consumption (polydrug use with/without simultaneous alcohol use), we investigated whether these factors were associated with current working status, the type of work (formal or informal), chance of relapse during stay, type of discharge, and finally, the achievement of a stable standard of residence. Previous alcohol use was the only factor associated with being unemployed at the time of the interview ($P = 0.030$) (Table 3). The pattern of past use of psychoactive substances was not associated with any of the other investigated outcomes. All participants were graduates of a therapeutic community program (6 mo), attended mutual-help groups weekly, and lived in TR-IPH.

A multivariate analysis identified exclusive alcohol consumption as a factor independently associated with unemployment at the moment of the interview, according to the adjusted logistic regression model [odds ratio (OR) = 2.29, 95% confidence interval (CI), 1.00-5.20; $P = 0.048$]. In the multinomial logistic regression model, using treatment time (d) as reference, currently having a job ($P = 0.010$; 95% CI, 8.74-62.37) and previous history of non-alcohol use ($P = 0.021$; 95% CI, −71.59 to

ADDICTIVE DISORDERS & THEIR TREATMENT
Volume 00, Number 00
■■ 2021

TABLE 3. Outcome Comparisons Considering Kind and Patterns of Substance Consumption

	Alcohol			Cocaine			Crack Cocaine			Poliuse With Alcohol			Poliuse Without Alcohol		
	Y	N	*P*	Y	N	*P*	Y	N	*P*	Y	N	*P*	Y	N	*P*
Currently working															
Y	17	79	0.030	12	84	0.663	11	85	0.732	37	59	0.226	19	77	0.400
	17.8	82.3		12.5	87.5		11.5	88.5		38.5	61.5		19.8	80.2	
N	22	46		7	61		9	59		20	48		10	58	
	32.4	67.6		10.3	89.7		13.2	86.8		29.4	70.6		14.7	85.3	
Job type															
F	9	35	0.517	7	37	0.353	2	42	0.051	17	27	0.986	9	35	0.881
	20.5	79.5		15.9	84.1		4.6	95.4		38.6	61.4		20.5	79.5	
I	8	44		5	47		9	43		20	32		10	42	
	15.4	84.6		9.6	90.4		17.3	82.7		38.7	61.5		19.2	80.8	
Discharge															
A	8	22	0.689	2	28	0.531	2	28	0.536	11	19	0.808	7	23	0.369
	26.7	73.3		6.7	93.3		6.7	93.3		36.7	63.3		23.3	76.7	
T	31	103		17	117		18	116		46	88		22	112	
	23.1	76.9		12.7	87.3		13.4	86.6		34.3	65.7		16.4	83.6	
Stable housing															
Y	20	71	0.545	13	78	0.228	11	80	0.963	30	61	0.591	17	74	0.708
	22.0	78.0		14.3	85.7		12.1	87.9		33.0	67.0		18.7	81.3	
N	19	54		6	67		9	64		27	46		12	61	
	26.0	74.0		8.2	91.8		12.3	87.7		37.0	63.0		16.4	83.6	
Relapsing during staying															
Y	3	7	0.703	1	9	1.000	0	10	0.612	4	6	0.739	2	8	0.691
	30.0	70.0		10.0	90.0		0.0	100.0		40.0	60.0		20.0	80.0	
N	36	118		18	136		20	134		53	101		27	127	
	23.4	76.6		11.7	88.3		13.0	87.0		34.4	65.6		17.5	82.5	

A indicates administrative/abandonment; F, formal; I, informal; N, no; T, therapeutic/requested; Y, yes.

TABLE 4. Associations Between Working Status and Sociodemographic Variables and History of Substance Use

Variables	aOR (95% CI)*	*P**
Only cocaine use	1.02 (0.36-2.88)	0.971
Only alcohol use	2.44 (1.09-5.44)	0.029
Only crack cocaine use	1.47 (0.54-3.96)	0.448
Marital status	0.90 (0.68-1.19)	0.470
Religion	0.36 (0.07-1.97)	0.241

*Multivariate analysis.
aOR indicates adjusted odds ratio; CI, confidence interval.

−5.83) were both associated with a longer stay (Tables 4, 5).

DISCUSSION

To the best of our knowledge, this is the first longitudinal study with users of psychoactive substances participating in a housing program focused on abstinence (sober living housing) in Brazil.

Safe and stable housing is the key to recovering from substance use disorders,[17] being reported as a priority by most substance users in treatment.[23] Housing insecurity is related to worst severity scores regarding alcohol use, medical and psychiatric problems, employment and family support, and insufficient income for basic needs.[24,25] Homelessness is also a risk factor for sexually transmitted infections (human immunodeficiency virus, syphilis, and hepatitis B and C).[12]

People with housing insecurity have higher mortality rates and engage more with criminality than those with stable housing.[26,27] Therefore, addressing patients' social needs in clinical settings (including housing insecurity) may improve health outcomes and decrease health care costs.[28]

The housing model investigated by this study was aimed at people discharged from a therapeutic community recovery program, without severe psychiatric comorbidities such as major depression, psychotic disorders, or history of attempted suicide, and with a minimal individual organization level to stay in a shared residential environment and seek work. According to systematic reviews on SLRH,[19,29,30] these are transition environments between hospitalization and residential programs, designed to protect the patient from environmental triggers and structure relapse prevention methods while outpatient and/or mutual-help work is prepared. They are usually run by their own residents, who are expected to work and share common responsibilities related to the house functioning. Abstinence is mandatory and residents are often required or strongly encouraged to attend a 12-step mutual-help group. Thus, it is not a form of treatment, but rather a support facility for enabling recovery during or after treatment.

The residents who participated in this study (N = 164) remained in TR for a mean period of 80% of the maximum allowed (6 mo) and almost all of them participated in weekly 12-step programs

TABLE 5. Associations Between Length of Stay in Recovery Housing (d) and Sociodemographic Variables and History of Substance Use

Variables	*P**	95% Confidence Interval
Currently working	0.010	8.74 to 62.37
Schooling (> 8 y)	0.732	−6.79 to 4.78
Only cocaine use	0.602	−52.05 to 30.29
Only alcohol use	0.021	−71.59 to −5.83
Only crack cocaine use	0.586	−29.21 to 51.47
Marital status	0.867	−12.30 to 10.37
Religion	0.264	−15.34 to 93.86

*Multivariate analysis.

ADDICTIVE DISORDERS & THEIR TREATMENT
Volume 00, Number 00
■■ 2021

and religious activities. The length of stay of a resident dwelling with abstinence is associated with the goals established by these services, including the participation in treatment programs and leisure activities, abstinence time, and employability.[18,30]

Although our results did not allow causal inferences, the long mean length of stay observed in this study could be related, at least partly, with the lack of an association between the type of substance used and the observed outcomes: working status, type of discharge, relapse during stay, and stable housing after discharge. Tuten et al[11] observed that, among 243 opioid users, those that lived at least 60 days in an SLRH showed significantly increased drug abstinence at the 6-month follow-up, even when considering other social risk factors. This improved abstinence rate among recovery housing residents is consistent with other studies whose findings indicate that the combination between time of treatment and recovery support structures (such as mutual-help groups and continuing care programs) were better predictors of success than pretreatment aspects such as demographic and drug-type variables.[30–32]

Regarding employment, around 60% of the residents managed to return to the job market, and this group was equally divided into formally and informally working residents. Work was significantly associated with a longer stay (mean >35 d). Our findings showed that alcohol use was negatively associated with current working status and length of treatment. A previous Brazilian study evaluated users of psychoactive substances ($N=69$) who could live in an SLRH for up to 6 months and observed that half of them were employed during the interviews. When considering only those who stayed in the residence for the full 6-month period, this rate reached 80%.[33] Other longitudinal studies involving residents of SLRHs observed an association between abstinence and employability.[26,34,35] This association was stronger when this housing model was associated with specific techniques of professional training and motivation.[11]

At the end of the housing period, more than half of the residents were able to move to a stable housing structure, whether it was their family home or their rented/owned residence. This is in line with what Polcin and Korcha[22] observed when accompanying 300 individuals that had unstable housing situations combined with substance abuse problems and moderate levels of psychiatric impairment; 18 months after participating in different housing recovery programs, researchers reported that supported living environments were related to a significant reduction in unstable living, especially homelessness.

Abstinence rates were high during the patients' stay in TR, exceeding 90%. Controlled studies show that residential recovery programs improve the outcomes of substance users,[16] displaying higher abstinence rates when compared with standard treatments.[26,36]

CONCLUSIONS

Housing provides a framework for personal stability.[15] It has been postulated as a critical component of treatment retention regarding substance use.[37] Peer collaboration may provide social support and a sense of community and mutual trust.[17,38,39] The need to abide by house rules promotes self-organization, mutual aid behaviors, and communal learning.[40,41] In addition, treatment and case management strategies that combined housing and structured clinical interventions (such as cognitive-behavioral therapy and contingency management approaches) obtained significantly higher rates of adherence to therapeutic proposals,[17,29,30] and rates of abstinence, return to employment, and involvement in leisure activities.[11,33]

The potential of housing services to provide effective support for substance use recovery—preventing relapse and deviant behaviors, alleviating the demand for primary health care, and promoting consistent family and psychosocial reintegration—has transformed it into a crucial strategy. Our results corroborate other studies that highlight the need for developing policies that transform and integrate health and social care strategies.[14,24,29]

LIMITATIONS

This study has some potential limitations. The participants were self-selected

from a specific setting (therapeutic community): only those who were able to complete the 6-month program satisfactorily, according to IPH criteria, were suitable for selection. The self-selection aspect of our sample may have also influenced our results. Even though this profile of residents (without severe psychiatric history and apparently motivated to continue the recovery process) may have inflated positive outcomes for all conditions, our sample represented a recurring profile of individuals willing to consider participating in an SLRH.

The SLRH model in question has some methodological inaccuracies in its operation, such as missing or inconsistent definitions of program elements and small sample sizes. However, it is still in accordance with the wide variability in how recovery housing is defined, as observed in the studies where this methodological design is used. Although the limited literature makes it difficult to draw conclusions across different studies, most of them highlight objectives (such as working status and abstinence patterns) that could have important implications in clinical settings and public policy development.

The influence of risk and protective factors in the length of stay in the SLRH is currently being documented by other studies and should be included in a more systematic manner in future researches.

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ADDICTIVE DISORDERS & THEIR TREATMENT

Volume 00, Number 00
■■ *2021*

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