

# The impact of integrated care in community-based substance use treatment in Brazil: A longitudinal study

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## Abstract

Integrated care (outpatient-inpatient) plays a vital function in community care for people with drug use problems. Its recent and innovative treatment model is representing a challenge for the deinstitutionalisation process. The purpose of this study was to assess the impact of integrated care using biopsychosocial indicators. We conducted a prospective longitudinal study with 122 clients from the baseline undergoing integrated care of two Psychosocial Care Centers for Alcohol and Other Drugs in São Paulo, Brazil, with three months follow-up (February 2019-January 2020). To assess the biopsychosocial indicators of the impact, we used the Substance Addiction Consequences (SAC), WHOQOL-BREF quality of life scales and the psychosocial rehabilitation axes (housing, work/income, and support network). We conducted a longitudinal analysis with linear mixed-effects models. The integrated care impacted the reduction in the days of substance use and increase of abstinence with a significant difference for cannabis ( $p < 0.001$ ) and crack ( $p = 0.021$ ). It reduced the substance use harms in all SAC scale dimensions ( $p < 0.001$ ). Quality of life increased and remained mainly associated with the psychological size ( $p < 0.001$ ). All psychosocial rehabilitation axes improved with a difference for income ( $p = 0.025$ ). The increase in people's participation in treatment was relevant. The integrated care of Brazilian services has a positive impact on reducing substance use days and harms associated, improves the quality of life and contributes to the psychosocial rehabilitation of clients. Should be taken efforts to maintain long-term results.

## KEYWORDS

community-based treatment, harm reduction, psychosocial impact, social vulnerability, substance use disorder

## 1 | INTRODUCTION

Increasingly, community-based treatment health is advocated as paramount in caring for people who use drugs. This model promotes access and accepts an improvement of individuals not only by abstinence, prioritising interventions that reduce the risk and the harms of substance use and improve the quality of life. With this, it allows people to take ownership of their difficulties and their care, without

blaming themselves for the different results that they can present about consumption, becoming aware of the complexity of their situation in the issue of addiction (Costa et al., 2018; Davis et al., 2018). Globally, the burden of this disease is increasing based on the complex health needs of this population on ageing process linked with drug use (Han & Moore, 2018).

Research has been exploring community-based care focusing on reducing consumption of psychoactive substances and found

promising results, especially concerning illicit substances and the association with functionality, well-being and social participation (Bray et al., 2017; Gates et al., 2016). In terms of comparison with the traditional inpatient model and therapeutic communities, the experience of integrated care for substance use in the community is considered superior by clients due to the welcoming environment, linear dialogue and links with multi-professional teams, and potential of harm reduction practices (Carver et al., 2020; Manning et al., 2017).

The client's characteristics that accessed integrated care, in general, are primarily men, unemployed, with low education and plural vulnerabilities, mainly homelessness. They present problems with multiple substance use, especially alcohol and opioids (Ashford et al., 2018; Carver et al., 2020; Seabra et al., 2018), and alcohol and cocaine in the Latin American context (Boska et al., 2018; Marín-Navarrete et al., 2018). Due to these singularities, all-embracing services are necessary for biopsychosocial response (Ashford et al., 2018).

In Brazil, the Psychosocial Care Centers for Alcohol and Drugs 24 hr (CAPS-AD III) correspond to this community care model. It aims to treat long-term substance use problems and insert/rehabilitate its clients in the community playing a vital function in the deinstitutionalisation process. It has a night response for crises avoiding hospitalisations, and addressing an integrated care model (outpatient-inpatient) in the same setting, promoting continuity of care, a rarity globally (Boska et al., 2018; Brandão et al., 2018).

The night care (inpatient) response period is intended for people who are already being in outpatient treatment at CAPS-AD III and with severe harms resulting from substance use and also who require intensive monitoring. The night care time is a maximum of 14 days a month but can be used whenever necessary by the same client. The admission is voluntary conduct articulated between the multidisciplinary team and a client as part of a unique therapeutic project, which can be planned or immediate, depending on the situation. This resource defends people's freedom and autonomy based on the relational care of "being with" people who choose for this care (Silva et al., 2020).

However, there is no evidence about the integrated care outcomes, and it's a current fragility scenario in the conduct of this care model in the Brazilian Psychosocial Care Network (Menezes-Filho et al., 2019; Onocko-Campos, 2019). Numerous studies point the need to expand the assessment to integrated care in the community that makes it possible to promote stability and qualify the model (Boska et al., 2018; Costa et al., 2015; Gallassi et al., 2016; Onocko-Campos et al., 2017; Silva, Pereira, et al., 2018). Furthermore, evidence on the positive impact of mental healthcare is available for a limited group of countries (Docrat et al., 2020). We consider as a hypothesis that the actions developed by CAPS-AD III, in the short and medium-term, associated with the context of services and subjects themselves, combine to produce positive changes, which justifies this study.

Following the World Health Organization (WHO) guidelines, we propose to assess biopsychosocial indicators that best represent the objectives of integrated care in CAPS-AD III. We defined the

### What is known about this topic?

- Community-based integrated care is a good response for reducing substance use and handling crises, avoiding hospitalisations.
- It is widely used by homeless people and considered superior to traditional care to embrace abstinence as a possibility for change.
- There is limited research on community-based integrated care outcomes for people who use drugs.

### What this paper adds?

- First Brazilian longitudinal analysis on the impact of integrated care in the community for people who use drugs.
- Short-term integrated care associated with outpatient continuum care contributes to positive treatment outcomes.
- There needs to be support for the client's psychosocial rehabilitation with housing, work and income public policies, of dealing with substance use problems in the community.

biopsychosocial indicators based on the goals of international public policies on drugs and mental health, validated by scientific literature (Onocko-Campos et al., 2017). Therefore, this study aims to assess the impact of integrated care in CAPS-AD III of Brazil using biopsychosocial indicators: substance addiction consequences, quality of life, and psychosocial rehabilitation axes (housing, work/income, and support network).

## 2 | METHODS

### 2.1 | Study design

We carried out a study with a quantitative approach with a prospective, uncontrolled longitudinal design. We assessed the impact using the Roche (2000) framework that defines impact as a "systematic analysis of lasting or significant changes - positive or negative, planned or unplanned - in people's lives and caused by a specific action or series of actions," considering the influence of social, economic and political contexts.

We followed the assessment steps: (1) objective assessment definition; (2) raising the hypothesis about the assessed intervention; (3) definition of the areas of changes/indicators to be assessed; (4) identification of existing information; (5) definition of those involved in the process; (6) sampling; (7) assessment time definition; (8) definition of strategies for possible impasses; (9) definition of data collection tools and techniques; (10) identification of interference factors throughout the process; (11) analysis and measurement of results (Roche, 2000).

## 2.2 | Setting

The study was developed in two CAPS-AD III in the central region of the city of São Paulo, Brazil. Services are the only references for specialised public care in alcohol and other drugs in this territory, known for the scenes of public use of crack. This region has 431,106 inhabitants and 11,048 homeless people (Municipal Secretariat of Assistance and Social Development [SMADS], 2019). The two CAPS-AD III are composed of a multidisciplinary team of physicians, nurses, nursing technicians, psychologists, social workers, occupational therapists, physical educators, workshops, pharmacists and harm reducers. At the time of the survey, they had assets between 3 and 350 outpatient and had eight and nine beds for night care, with an occupancy rate ranging from 87% to 100% (service data).

## 2.3 | Participants and procedures

In the present study, we included for convenience all individuals aged 18 or over and who were admitted in integrated care of the two CAPS-AD III between February 2019 and January 2020 and completed at least one follow-up visit over the study period (February 2019-February 2020).

Data collection was organised into three follow-up times, with time zero (T0) being the admission time of night care, time one (T1), 14 days later on last day as an inpatient (maximum time determined by night care policy), and time two (T2), three months later, after night care discharge. It was conducted by face-to-face interview.

After the first interview in T0, the date and time was scheduled for the T1 interview and similarly for T2. The active search between the research times took place from subjects' non-attendance in the interviews scheduled in at least five attempts. We established a time limit for the follow-up visits: five days after T1 and 30 days for T2. During follow-up, people who were not found or did not complete the instrument's responses were considered sample losses.

We calculated the sample size referring to studies with the same follow-up proposal. In general, the community-based substance use treatment improvement increased by 0.06 points with a standard deviation of 0.165. So, we can find that same kind of difference with a significant effect of 95%, were needed 101 complete cases after a 12-month follow-up. For a three-month follow-up, for a beta squared effect size of 0.050 or less, to differentiate times with a type I error of 5%, it was necessary to look at least 62 complete cases. However, with an effect size greater than 0.100, at least 40 total observations are required for some observed variables.

The sample bias was significant in T2, justified by issues related to the population profile, research resources and the COVID-19 pandemic, resulting in the suspension of data collection in February 2020. Therefore, we still had a significative final sample as: T0 -  $n = 122$ ; T1 -  $n = 67$ ; T2 -  $n = 49$ .

## 2.4 | Instrument

As a research tool, we used four online forms produced using Google Forms: Form 1- participants location; Forms 2, 3 and 4 - for each research time. These were organised as follows:

- Form 1 - Consisting of as much data and personal, family and or close contacts as possible, addresses, phone numbers, locations and reference services;
- Form 2 (T0) - questions regarding clients' identification, socioeconomic, health, substance use characteristics, data from previous and current treatments, and by indicators impact assessment: Substance Addiction Consequences scale (SAC), Quality of Life scale - WHOQOL-BREF and psychosocial rehabilitation axes (housing, work/income, support network);
- Forms 3 and 4 (T1 and T2) - questions about the length of stay in night care, current substance use, and the same impact assessment indicators mentioned in form 2;

It selected the SAC scale to assess the consequences of problematic substance use, considering users' perceptions based on Nursing Outcomes Classification (NOC). It consists of 15 items that measure, in four subscales, biopsychosocial aspects resulting from substance use (1. Psychological and family; 2. Functionality; 3. Self-care; 4. Economic and labour). Responses on addiction consequences are Likert-type and vary from 1 to 5; 1 is the most severe and five the least severe, that is, the higher the result, the less the consequences (Seabra et al., 2018).

WHO developed the WHOQOL-BREF as the first cross-cultural instrument to assess the quality of life multidimensionally. It consists of 26 questions, two of which are general and the others, divided into four dimensions (1. Physical; 2. Psychological; 3. Social; 4. Environment), with a Likert-type assessment from 1 to 5; however, in this case, 1 represents the worst assessment and 5 the best, therefore, the higher the score, the better the quality of life (Harper et al., 1998).

The Psychosocial Rehabilitation axes (housing, work/income and support network) its objectives of mental health and substance use care. The axes enabled building people's autonomy and citizenship (Saraceno, 2001) and were validated as assessment indicators (Onocko-Campos et al., 2017). The information was collected by participants' reports three times by change in the axes.

## 2.5 | Missing data and attrition

As expected in longitudinal studies, sample attrition in the times of this study reduced the available sample. To identify attrition bias, we compared participants who were not in T2 with the analysed sample (analysis not included). We found that those who were not at T2 were younger, had more years of education ( $p = 0.047$ ), half of the time of community-based treatment in integrated care ( $p < 0.001$ ), and used fewer substances ( $p < 0.005$ ). Nevertheless, those who

were in T1 and T2 used substances daily, were more vulnerable, in homeless situations, and had already received other treatment for problematic drug use in self-help groups ( $p = 0.001$ ). In addition to the characteristics of the participants, the research resources may have influenced the sampling attrition as we did not provide financial support. As other longitudinal analyses show, younger samples, in daily substance use and homelessness, are less likely to complete times of follow-up (Lappan et al., 2020). Complete case analysis was applied (i.e. participants with incomplete responses were excluded) (Jakobsen et al., 2017).

## 2.6 | Measures and data analysis

Data were analysed on statistical package R 4.0.3. Residual normality assumption was assessed by inspection of the QQ plots. Numerical variables were described as mean and standard deviation, whereas absolute and relative frequencies were presented for categorical variables. Longitudinal analysis was conducted with linear mixed-effects models on the full available information for each numerical variable. A generalised linear mixed-effects model for the binomial family was adjusted with the cumulative and ordinary logistic link function for ordinal and binary variables, respectively. When the contingency tables for those variables had a cell with zero cases, Firth correction was applied. The differences were considered when  $p \leq 0.05$ .

Analysis of biopsychosocial indicators was conducted using an assessment matrix based on a study by Oliveira and collaborators (2017) and the Roche (2000) framework, containing the following parameters to determine the impact of integrated care in each outcome:

- SAC scale - no impact = mean does not change over time; positive impact = general mean above 48 points (severity not accentuated); negative impact = reduction of the baseline mean.
- WHOQOL-BREF scale - no impact = mean does not change over time; positive impact = increase of five points or more in the general mean (the closer to the mean quality of life of the general population (55 to 60), consider more significant impact); negative impact = reduction of the baseline mean.
- Psychosocial Rehabilitation axes - no impact = no axis changes over time; positive impact = one or more axes with significant change (association of the statistical measure); negative impact = significant worsening of the baseline.

## 2.7 | Ethical aspects

The Research Ethics Committees approved this study of the University of São Paulo School of Nursing and Municipal Health Secretariat of São Paulo under opinion numbers 2,759,176/2018 and 2,832,670/2018. All participants signed the informed consent form.

## 3 | RESULTS

### 3.1 | Participants' characteristics

At baseline (T0) 122 participants were included in the cohort and we had a response rate at follow-up of 55% in T1 ( $n = 67$ ) and 40.2% in T2 ( $n = 49$ ).

The participants' profiles at baseline ( $n = 122$ ) were homelessness (81.1%), without personal or familiar telephone contact (78.6%). They had a mean age of 44 years ( $SD = 10.3$ ), eight years of education ( $SD = 3.7$ ), unemployed (67.2%) and did problematic multiple drug use. Two participants declared themselves as transgender. The mean time of substance use was 25 years ( $SD = 11.8$ ), with a mean of three years ( $SD = 38.5$ ) in treatment on CAPS-AD III. Table 1 shows the other characteristics.

The night care lasted a mean of seven days of duration ( $SD = 6.3$ ) and occurred for reasons of reduced substance use 81.9% (100), detoxification 69.6% (85) and social vulnerability 46.7% (57); 39 participants (32%) completed 14 days in night care (still in night care in T1), and 107 (87.7%) kept outpatient treatment after night care discharge.

Previous treatments for substance use were reported by 26.4% of subjects in psychiatric hospitalisation (48.4%), therapeutic community (40.2%) and other CAPS-AD (34.4%). During follow-up, only care in Basic Health Units (25%) was reported at the same time as CAPS-AD III, as it did not vary during follow-up.

### 3.2 | Integrated care outcomes

The use of all substances changed during follow-up. We observed significance for alcohol, cannabis and crack ( $p < 0.001$ ) in T1, with maintenance in T2 for cannabis and crack ( $p = 0.021$ ). Even without a statistical difference, for all substances (except tobacco), the days of use decreased by at least one day from baseline, as shown in Table 2.

The participation of clients in integrated care varied between the modalities. In T1, group activities ( $p < 0.001$ ), individual care ( $p < 0.001$ ) and medication use ( $p = 0.029$ ) increased with a significant difference. In T2, the significant impact remained for participation in group activities, which increased 17.7% of the baseline ( $p = 0.031$ ).

Table 3 and Figures 1 and 2, show the results of the SAC and WHOQOL-BREF scales. We found a positive impact both in reducing the severity of the addiction consequences ( $p < 0.001$ ) and in improving the quality of life ( $p < 0.001$ ), close to the level of the general population. In T1, concerning the quality of life, there is an improvement in physical and self-care ( $p < 0.001$ ) (sleep quality, increased disposition, well-being, reduction of pain and discomfort, improved capacity for work and daily activities, increased motivation for treatment) and T2 in the psychological domains ( $p < 0.001$ ) (self-esteem, spirituality, and positive or negative feelings) and environment ( $p = 0.021$ ) (financial resources,

**TABLE 1** Participants' baseline characteristics ( $n = 122$ ). São Paulo, Brazil, 2020

Characteristics	<i>n</i>	%
Gender		
Cisgender man	97	79.5
Cisgender woman	23	18.9
Transgender man	1	0.8
Transgender woman	1	0.8
Sexual orientation		
Asexual	1	0.8
Bisexual	12	9.8
Heterosexual	107	87.7
Homosexual	2	1.6
Nationality		
Brazilian	121	99.2
Foreign	1	0.8
Race		
White	32	26.2
Mixed race	59	48.4
Black	27	22.1
Indigenous	1	0.8
Other	3	2.5
Marital status		
Married	7	5.7
Divorced	17	13.9
Not married	88	72.1
Common-law marriage	6	4.9
Widowed	4	3.3
Comorbidities		
Mental health problems	96	78.6
Physical problems	67	54.9

transportation, opportunities to acquire new information, skills and leisure time) from the WHOQOL-BREF scale. The psychological domain of the WHOQOL-BREF scale continued to improve significantly after three months ( $p < 0.001$ ). The others are reduced in T2, but always better than the baseline.

Integrated care also had a positive impact on psychosocial rehabilitation on the income axis ( $p = 0.025$ ). Despite the significant difference in the support network axis ( $p < 0.001$ ), we do not consider this impact to be positive, since the increase in the number of people with whom we live was related to housing in shelters; this did not reflect the increase in the number of people subjects could count on in times of difficulty, as shown in Table 4. The housing axis showed no difference despite the expressiveness of people who left the streets and went to shelters (approximately 15%); the work axis continued with more than 70% of unemployed people, with only social benefits as a source of income.

## 4 | DISCUSSION

This paper aimed to assess the impact of integrated care in the community for people who use drugs using biopsychosocial indicators. This first longitudinal analysis of the Brazilian model adds knowledge and scientific evidence to sustain recovery support care (Ashford et al., 2018).

Participants' profile baseline is similar to the population that seeks care in specialised services for substance use of the psychosocial care network, including integrated and intensive care (Carver et al., 2020; Wijk & Mângia, 2017). As in other studies, we highlight the invisibility of women and transgender people to mental health and substance use care, specific groups that need special attention (Silva, Abbad, et al., 2018).

The findings show that clients attended the services for about three years, which indicates an excellent link to the services and, at the same time, shows the complexity of care and the need for continuous monitoring for this population. It is worth mentioning that, as the participants did not say other treatments during the follow-up, it is indicated that the results obtained come from the two CAPS-AD III assessed.

We identified positive results mainly after the 14 days of night care that indicate that people received in this period comprehensive assistance from the team for all biopsychosocial issues assessed by the SAC and quality of life. Functionality, physical health and stand-out self-care can be related to the presence of nursing 24h in service (Silva et al., 2020), professionals that have advanced skills and knowledge to address holistic healthcare, reduce harms and maximise the wellness of people who use drugs (Tierney et al., 2020). Also, the beds' protective nature ensures rest, food, hygiene and physical recovery for clients (Machado et al., 2020a). However, this improvement was not maintained in the medium term, a result already reported by other studies when subjects, after night care discharge, returned to the homelessness condition, with reduced access for basic needs due to the scarcity of this type of support by other social devices and by the outpatient treatment itself (Costa et al., 2018; Wijk & Mângia, 2017).

People who experienced homelessness and use drugs consider effective treatment when a service provides a facilitating environment, which values the uniqueness of time, choices, and opportunities for live projects and, significantly, when it promotes long-lasting and stable interventions that increase the probabilities of positive results. Most of the time, these results are associated with care based on harm reduction from the perspective of fundamental social support having access to primary living conditions, and gaining autonomy for the maintenance of collective life, which goes beyond the health field (Carver et al., 2020; Davis et al., 2018; Machado et al., 2020b; Mota et al., 2019), but which can be supported, by integrated care to maintain the outcomes and guarantee the rights of this population.

We observed, after three months, the multidisciplinary team's good attention to psychological aspects, reaching a higher level

**TABLE 2** Substance use in the last 30 days during follow-up. São Paulo, Brazil, 2020

Variable	T0 (n = 122)		T1 (n = 67)		<i>p</i> <sup>*</sup>	T2 (n = 49)		<i>p</i> <sup>*</sup>
	Mean of days	SD	Mean of days	SD		Mean of days	SD	
Abstinence	8.81	10.94	14.75	7.49	<0.001	9.47	10.22	0.685
Alcohol	20.80	11.37	12.72	8.28	<0.001	19.67	10.89	0.143
Tobacco	22.38	11.91	25.30	9.91	0.079	24.12	11.27	0.059
Cannabis	8.83	11.70	4.39	7.35	<0.001	7.06	11.07	0.021
Cocaine	7.18	10.18	6.24	7.98	0.203	7.69	10.73	0.201
Crack	7.76	11.25	4.13	6.13	<0.001	5.63	9.18	0.021
Inhalants	1.13	4.38	0.12	0.71	0.070	1.10	4.56	0.843
Synthetic substances	0.13	1.05	0.00	0.00	0.260	0.04	0.29	0.486
Psychiatric drugs	0.48	2.95	0.45	3.67	0.960	1.20	4.90	0.235
Injecting drugs	0.31	2.60	0.00	0.00	0.272	0.02	0.14	0.256
Other substances	0.19	0.68	0.22	1.83	0.896	0.80	3.11	0.053

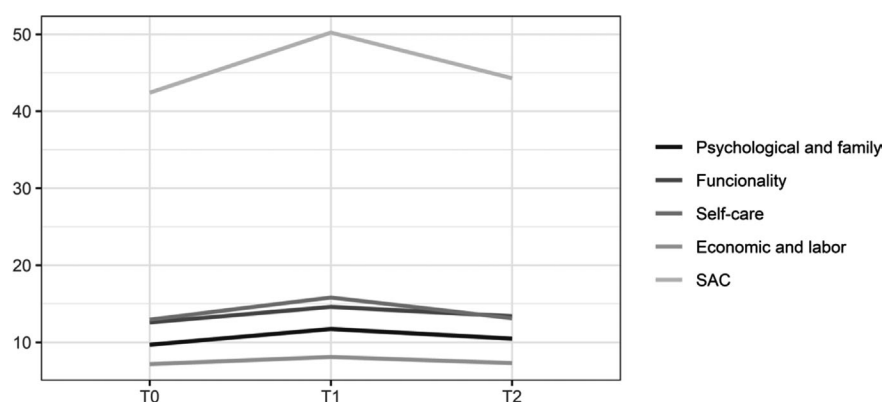
Abbreviation: SD, Standard deviation.

\**p*-value in T1 refers to the comparison of T1 with T0, and *p*-value in T2, comparing T2 with T0.

Scales' domains	T0 (n = 122)	T1 (n = 67)	<i>p</i> <sup>*</sup>	T2 (n = 49)	<i>p</i> <sup>*</sup>
SAC					
Psychological and family	9.68	11.73	<0.001	10.47	0.097
Functionality	12.59	14.60	<0.001	13.39	0.252
Self-care	12.95	15.81	<0.001	13.12	0.747
Economic and labour	7.17	8.09	0.031	7.31	0.776
Total	42.39	50.22	<0.001	44.29	0.187
WHOQOL-BREF					
Physical	49.42	61.99	<0.001	52.70	0.241
Psychological	44.71	58.89	<0.001	63.78	<0.001
Social	44.88	49.88	0.137	46.43	0.678
Environment	44.93	52.99	<0.001	50.89	0.021
Total	45.64	57.12	<0.001	53.53	<0.001

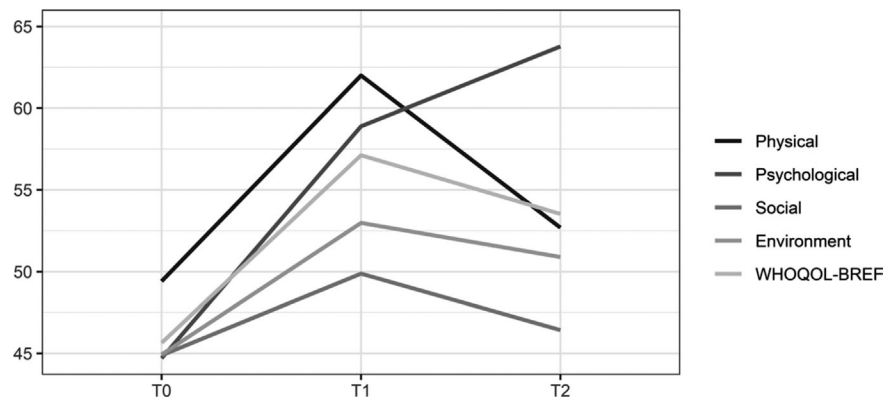
Abbreviation: SAC, Substance Addiction Consequences.

\**p*-value in T1 refers to the comparison of T1 with T0, and *p*-value in T2, comparing T2 with T0.

**TABLE 3** Follow-up of substance addiction consequences and WHOQOL-BREF scales. São Paulo, Brazil, 2020**FIGURE 1** Graphical representation of Substance Addiction Consequences (SAC) scale means in the four domains during follow-up



**FIGURE 2** Graphical representation of WHOQOL-BREF scale means of the quality of life in the four domains during follow-up



**TABLE 4** Follow-up of psychosocial rehabilitation axes. São Paulo, Brazil, 2020

Psychosocial rehabilitation axes	T0 (n = 122)		T1 (n = 67)		p*	T2 (n = 49)		p*
	n	%	n	%		N	%	
Housing					0.582			0.410
Shelter	38	31.2	37	55.2		23	46.9	
Street	54	44.3	12	17.9		15	30.6	
Stable housing	23	18.8	11	16.4		7	14.3	
Residential Unit - UA <sup>a</sup>	6	4.9	7	10.5		4	8.2	
Work					0.163			0.166
Retired	5	4.1	3	4.5		5	10.2	
Formal	3	2.5	0	0.0		0	0.0	
Informal	32	26.2	13	19.4		9	18.4	
Unemployed	82	67.2	51	76.1		35	71.4	
Income <sup>b</sup>					0.768			0.025
None	29	23.8	19	28.4		4	8.2	
Up to 1 minimum wage	76	62.3	39	58.2		34	69.4	
From 1 to 3 minimum wages	17	13.9	9	13.4		11	22.4	
Social income								
Yes	78	63.9	41	61.2	0.709	33	67.3	0.673
Support network								
	Mean	SD	Mean	SD		Mean	SD	
How many people live	4.76	16.15	15.36	43.90	0.083	28.88	67.71	<0.001
How many people can count in times of difficulty	1.25	1.77	0.82	1.15	0.110	1.73	2.24	0.102

Abbreviation: SD, Standard deviation.

<sup>a</sup>Residential Unit- UA = Transitional residential drug treatment care supported by CAPS-AD III.

<sup>b</sup>Minimum wage = US\$ 185.71, Brazil, 2019 (quotation of 05/02/2021).

\*p-value in T1 refers to the comparison of T1 with T0, and p-value in T2, the comparison of T2 with T0.

than the general population of Brazil and being highlighted in other CAPS-AD assessments that claim to be a feature of these services to support the management of affections and feelings, with an impact on self-esteem and self-worth (Araújo & Soares, 2018; Lacerda & Fuentes-Rojas, 2017; Romanini et al., 2017). The increased participation of clients in group activities may have contributed to this impact.

Studies that assessed the quality of life in community-based services for people who used drugs but who were not homelessness, using the WHOQOL-BREF scale, found different results with significant improvement for social and environmental domains; there was worsening in physical and psychological domains after 12 months (Justina et al., 2019; Manning et al., 2017). However, a study that assessed, with another instrument, the quality of life of the

homelessness who used drugs in the baseline and after 12 months identified a worse score in family relationships and unemployment, with high rates of demand for these people by community services about six times a month (Gentil et al., 2019); this indicates that the homelessness can change the results regarding quality of life, corroborates the findings of this study, in which there was the low quality of life in the social domain without significant impact with integrated care.

Psychosocial rehabilitation axes showed fewer changes than the other indicators. It was only significant in T2, which was expected since acting on work/income, housing and support network problems take time and go beyond support the integrated care's functions. People who use drugs recognise psychosocial rehabilitation as a goal of substance use treatment and recognise the need for other devices in the network to achieve it (Corradi-Webster, 2018).

Access to income, despite not being a result of work activity or improving living conditions, had a positive impact on psychosocial rehabilitation, because at least it may have guaranteed financial resources, access to transportation, new information and skills, and leisure moments, variables measured by the environment domain of the WHOQOL-BREF scale, which showed significant improvement in the two periods of the research. These findings reflect the potential of integrated care in reducing social vulnerabilities, in line with the recovery process, social insertion and citizenship production (Machado et al., 2020a).

The labour axis, as in this study, is reported in other researches as one of the most challenging points of change in the lives of people who use drugs due to difficult access, low level of education, lack of professionalism, problems, stigmas and prejudices arising from substance misuse and absence of public policies aimed at this purpose (Araújo & Soares, 2018; Gallassi et al., 2016). In this sense, we can consider that integrated care could act more effectively in this axis with the approximation of subjects to education, as the economic and labour domain has not changed significantly with comprehensive care throughout follow-up, as was conducted by another similar setting (Araújo & Soares, 2018).

The support network does not represent a positive impact on psychosocial rehabilitation. This outcome also appears in domain 3 of the WHOQOL-BREF scale, social relationships, which was the only one that showed no difference in T1, and had little difference in domain 1 of the SAC scale, which assessed family relationships. When we think of a support network, we think of significant relationships between people who use drugs and family, colleagues and even professionals who perform emotional support and social company functions, which need to be strengthened to enhance care (Borges & Schneider, 2017).

Lack of support network is one of the main reasons for people experiencing homelessness and substance use problems. To answer this problem, the team makes network connections so that subjects have space with minimal conditions to leave the street and stay in treatment; however, the professionals find it very difficult with the availability of protected and structured places (Mota et al., 2019).

The options are generally shelters, therapeutic communities or the Residential Unit – UA, similar to this study except for referral to therapeutic communities, not considered a housing option in Brazilian policy (Davis et al., 2018).

The people who remained in the cohort and who have continued the outpatient treatment in CAPS-AD III were mostly homelessness, unemployed and without a good support network, indicating that more insert in the community people needed less the integrated care. Losses are usually due to the invisibility of this population, lack of perspective with treatment and improvement in living conditions, absence of care actions in places of substance use, reasons associated or possible treatment discontinuation (Gallassi et al., 2016; Lacerda & Fuentes-Rojas, 2017; Zeferino et al., 2019).

The main limitation of this study was the sample size (in three months,  $n = 49$ ) and the lack of a comparison group, which limited to draw firm conclusions for all variables. However, for most of them, the sample is sufficient to declare significant differences with type I and II errors of 5% due to the size of the square beta effect identified. Another limitation was the rarity of this integrated care model in the community in the international scenario, making it difficult to compare the findings.

This study found preliminary evidence with positive impact related to integrated community-based treatment, which responded in a multifaceted manner to the complex phenomenon of substance use, promoting, through the expanded health and social damage decrease, ensuring visibility and care for the vulnerable population, having clinical relevance as a comprehensive model of biopsychosocial care. In a short time, night care reduced the days of drug use and its harms, improved quality of life significantly, and contributed to the psychosocial rehabilitation process, with positive impacts for at least three months after discharge to those kept in outpatient care. Maintaining results in the medium and long term, include gender diversity in this care, and strengthen the social attention network, should be supported by public policies and advocacy.

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## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

## AUTHORS CONTRIBUTION

GAB and MAFO, were responsible for the manuscript conceptualisation and funding acquisition. GAB carried out the data collection, data analysis, interpretation, and drafted the manuscript. MAFO and PRCS, supported data analysis and interpretation and performed a critical review of the manuscript. All authors reviewed and approved the final version of the manuscript.

## DATA AVAILABILITY STATEMENT

Data are available on request due to privacy/ethical restrictions.



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