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Supplementary Box S1 PICO strategy

Component	Definition	Present study
P	Problem/population	Individuals 18 years or older with crack/cocaine abuse disorders who were admitted to a hospital for detox treatment.
I	Intervention	The Flourishing Intervention is a 12-meeting (10-session) intervention (each session lasting 60 minutes) centered on discussions related to topics that intersect with the concept of flourishing (e.g., forgiveness, compassion, kindness, spirituality).
C	Control group	The control group consisted of individuals 18 years or older with crack/cocaine abuse disorders who were admitted to the hospital for detox and received the usual treatment offered by the facility.
O	Outcomes	Craving for crack/cocaine, mental health outcomes, readiness for change towards abstinence, quality of life, religiosity, spirituality, and flourishing.

Supplementary Box S2 Protocol sessions, objectives, and strategies used in each session

Session	Format	Purpose	Themes addressed
1	Individual	a) Complete the baseline questionnaire b) Present the intervention and clarify possible doubts	• Presenting the intervention sessions
2	Group	a) Discuss the topic with the group b) Practice the exercises proposed by the session facilitator	a) Physical and mental health, virtues, and strengths of character b) Love and gratitude c) Acts of kindness and volunteering d) Happiness e) Family, friends, and community f) Compassion and forgiveness g) Resilience h) Spirituality and connection i) Purpose and meaning in life j) Flourishing
3	Group		
4	Group		
5	Group		
6	Group		
7	Group		
8	Group		
9	Group		
10	Group		
11	Group		
12	Individual	a) Complete the post-intervention questionnaire b) Close the intervention and clarify possible doubts	• Closing the intervention sessions

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Supplementary Material S1 Instruments used in the study for secondary outcomes

Secondary outcomes

a) Personal flourishing – Measured by the Brazilian Portuguese version of the Secure Flourishing Index, a 12-item scale assessing six domains of human functioning: happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, close social relationships, and financial and material stability.[1]
b) Depression – Measured by the Patient Health Questionnaire – PHQ-9, a 9-item scale for screening major depressive episodes.[2]
c) Anxiety – Measured by the Generalized Anxiety Disorder – GAD-7, a 7-item scale which assesses generalized anxiety disorder.[3]
d) Impulsivity – Measured by the Barratt Impulsiveness Scale – BIS-11, a 30-item instrument scored on a four-point Likert scale.[4]
e) Quality of life – Measured by the 12-item Health Survey – SF-12 scale, which includes 12 questions, some answered as “yes or no” and others in Likert format, varying according to the question.[5]
f) Readiness to change – Measured by the University of Rhode Island Change Assessment – URICA, adapted for drug addicts, with 12 items rated on a Likert scale from 0 to 4 points.[6]
g) Religiosity – Assessed on three dimensions (organizational religiosity, non-organizational religiosity, and intrinsic religiosity) using the Portuguese-validated version of the Duke University Religion Index – Durel.[7] The index is scored on a five-point Likert scale ranging from “More than once a week” (5) to “Never” (0).
h) Religious coping – Measured by the Brief Religious and Spiritual Coping scale – Brief RCOPE, a 14-item instrument, which assesses positive and negative coping on a seven-point Likert scale.[8]
i) Spirituality – Measured by the Attitudes Related to Spirituality – ARES scale, an 11-item instrument assessing spirituality.[9]
j) Social support – Measured by the Multidimensional Scale of Perceived Social Support – MSPSS, which consists of 12 items translated into and validated in Portuguese.[10]

Other variables

a) Alcohol, Smoking and Substance Involvement Screening Test *(*ASSIST) – This measure was translated into Portuguese and validated to determine the severity of the addiction and the drug of choice when there is multiple drug abuse.[11] It is composed of eight questions for each drug, evaluating frequency of use, urgency of use, and craving on a Likert scale from “never” (0) to “daily” (4).
b) Sociodemographic – Age, gender, education, religion, race, marital status, household income, and income in the last month.

Supplementary Box S3 Focus group guiding questions for the qualitative interviews

Overview
Why did you decide to participate in the intervention?
What did you initially expect from the intervention?
At the end of the intervention, were your initial expectations met?

Process of Change
In what ways do you feel you changed while participating in the study (and at the end of the intervention)?
In what ways do you think you have benefited from the intervention?

Satisfaction and Engagement
Which elements of the intervention did you like the most?
What did you think of the format of the intervention?
What suggestions do you have for improving the intervention?
What is your opinion about the scheduled time and duration of the intervention?
After how many sessions did you feel more comfortable sharing your opinions?
What did you think of the approach taken by the healthcare providers?

Hospitalization
What did you think of your hospitalization experience?
What did you like about your hospitalization experience?
What did you dislike about your hospitalization experience?

Supplementary Table S1 Sociodemographic characteristics of the Flourishing Intervention and Usual care (control) groups

Variables	Total (n=119)		FI group (n=79)		UC group (n=40)		p-value
Age, mean (SD)	39.7	9.2	38.7	8.7	41.6	9.9	0.099
Sex							
Male	109	91.6	71	59.6	38	31.9	0.341
Female	10	8.4	8	6.7	2	1.7	
Marital status							
Married/living together	12	10.1	8	6.7	4	3.3	0.983
Single/separated/widowed	107	89.9	71	59.6	36	30.2	
Has children							
Yes	77	64.7	54	45.4	23	19.3	0.242
No	44	35.3	25	21	17	14.3	
Education							
From no formal education to some secondary education	59	49.6	**33**	**27.7**	**26**	**21.8**	**0.017**
From graduated secondary school to obtained higher degree	60	50.4	**46**	**38.6**	**14**	**11.7**	
Race							
White	32	26.9	**26**	**21.8**	**6**	**5**	**0.037**
Black/Brown/Others	87	73.1	**53**	**44.5**	**34**	**28.6**	
Household income							
Up to BRL 2,200	86	72.3	57	47.9	29	24.3	0.968
More than BRL 2,200	33	27.7	22	18.5	11	9.2	
Religious attendance from 8-11 years old							
Yes	93	78.1	61	51.2	32	26.8	0.728
No	26	21.9	18	15.1	8	6.7	
Religious attendance from 12-14 years old							
Yes	78	65.6	51	42.8	27	22.7	0.750
No	41	34.4	28	23.5	13	10.9	
Religious attendance from 15-17 years old							
Yes	62	52.1	43	36.1	19	15.9	0.475
No	57	47.9	36	30.2	21	17.6	
Religious attendance before hospitalization							
Yes	50	42	31	26	19	15.9	0.389
No	69	58	48	4.3	21	17.6	
Working before hospitalization							
Yes	55	46.2	38	31.9	17	14.3	0.563
No	64	53.8	41	34.4	23	19.3	
Suicide attempt (lifetime)							
Yes	66	55.5	43	36.1	23	19.3	0.750
No	53	44.5	36	30.2	17	14.3	
Treatment for drug use in the last 6 months							
Yes	56	47.1	40	33.6	16	13.4	0.272
No	63	52.9	39	32.8	24	20.2	

First hospitalization							
Yes	36	30.2	24	20.2	12	10	0.966
No	83	69.8	55	46.2	28	23.5	
Antidepressants in the hospital							
Yes	43	36.1	29	24.3	14	11.8	0.855
No	76	63.9	50	42	26	21.8	
Antipsychotic in the hospital							
Yes	109	91.6	72	60.5	37	31	0.800
No	10	8.4	7	5.9	3	2.5	
Mood stabilizers in the hospital							
Yes	21	17.6	15	12.6	6	5	0.590
No	98	82.3	64	53.8	34	28.6	

Data presented as n (%), unless otherwise specified. Bold type denotes statistical significance.
FI = Flourishing Intervention; UC = usual care.

Supplementary Table S2 Baseline outcomes characteristics of the of the Flourishing Intervention and Usual care control groups

Variables	FI group (n=79)		UC group (n=40)		p-value
ASSIST crack/cocaine	23.29	2.25	23.1	2.61	0.680
ASSIST tobacco	16.36	2.78	15.51	3.83	0.208
ASSIST alcohol	19.64	5.93	20.55	4.38	0.415
ASSIST cannabis	15.56	5.90	13.2	5.38	0.325
Craving (VAS)	3.99	3.95	4.2	3.94	0.782
Craving (CCQ)	28.86	12.25	29.07	12.73	0.929
Depression	17.90	5.91	18	6.25	0.931
Anxiety	13.56	5.89	13.5	6.00	0.961
Impulsivity (total)	76.42	13.56	74.67	14.71	0.521
Impulsivity (motor)	28.24	5.80	26.45	6.57	0.131
Impulsivity (attentional)	19.25	4.35	18.65	4.64	0.487
Impulsivity (non-planning)	28.28	5.11	28.77	4.78	0.610
Quality of life (physical)	69.16	23.62	66.42	23.83	0.553
Quality of life (mental)	36.45	23.46	38.25	27.49	0.711
Changes in drug use behavior	34.61	3.26	34.57	4.29	0.963
Personal flourishing	60.24	23.95	59.47	21.4	0.864
Spirituality	48.25	9.29	48.95	9.45	0.701
Organizational religiosity	2.83	1.77	3.02	2.04	0.602
Non-organizational religiosity	4.71	1.79	4.67	2.08	0.927
Intrinsic religiosity	11.47	3.74	12.55	2.97	0.114
Positive religious coping	26.91	7.53	26.75	6.99	0.910
Negative religious coping	22.44	7.98	24.92	5.67	0.082
Social support (family)	17.40	7.98	15.37	7.81	0.189
Social support (friends)	13.57	7.99	12.75	7.62	0.592
Social support (others)	20.39	6.81	18.7	6.77	0.202

Data presented as mean (SD).
ASSIST = Alcohol, Smoking and Substance Involvement Screening Test; CCQ = Cocaine Craving Questionnaire; FI = Flourishing Intervention; UC = usual care; VAS = Visual Analog Scale.

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