Religiosity/spirituality, motivation and self-efficacy in the treatment of crack users

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ABSTRACT

Introduction: Religiosity and spirituality (R/S) are protective factors for substance use disorders. Despite that, few studies have evaluated the impact of R/S on motivation and self-efficacy for abstinence, especially for crack-dependent patients.
Objectives: To verify the association between R/S, self-efficacy and motivation for change among crack users undergoing treatment.
Method: Quantitative study conducted with 50 patients from a CAPS AD III located in Porto Alegre from March to October 2018. Assessments include the Duke Religion Index (DUREL), the World Health Organization Quality of Life, Spirituality, Religiousness and Personal Beliefs instrument (WHOQOL-SRPB), the University of Rhode Island Change Assessment (URICA) and the Drug Abstinence Self-Efficacy Scale (DASE).
Results: WHOQOL-SRPB (*beta* 0.519, p=0.00) and intrinsic religiosity (*beta* 0.475, p=0.00) were statistically significant correlated with drug abstinence self-efficacy, controlling for socio-demographics. Intrinsic religiosity (r=0.32, p=0.02), non-organizational religiosity (r=0.28, p=0.04), WHOQOL-SRPB (r=0.29, p=0.03) and WHOQOL-SRPB connect (r = 0.40, p = 0.00), meaning (r = 0.31, p = 0.02), spiritual strength (r = 0.41, p = 0.00), and faith (r = 0.32, p = 0.02) were associated with the longest time in abstinence in life.
Conclusion: Results demonstrates that different aspects of R/S have a positive impact on the treatment of crack dependent patients.

Introduction

The World Drug Report 2018 estimates that about 5.6% of the world's population, about 275 million people make use of illicit substances at least once a year[1]. In 2014, a national study showed that the consumption of crack has already reached about 0.8% of the population in Brazilian capital cities, which represent approximately 370 thousand regular users, as well as in about 98% of the Brazilian municipalities, also including those with less than 20,000 inhabitants[2].

Most crack users (62.8%) present positive criteria for dependence even at the beginning of consumption, where there is also a high rate of relapses even among those who are recovering due to periods of intense craving associated with other withdrawal symptoms such as fatigue, anhedonia and depression[3]. Studies carried out aiming to qualify the offer of treatments for crack addicts demonstrate that this population presents difficulties in seeking and accessing health equipment, low motivation and high rate of discharge due to evasion upon request and indiscipline[4,5].

Among the therapeutic interventions that can favor adherence to treatment and encourage changes in addictive behavior of crack users, the Transtheoretical Model developed by Prochaska and Di Clemente[6] stands out. It is based on the premise that behavioral change happens along a process in which people go through different levels of motivation to change[6,7]. Such levels are known as Stages of Change. The pre-contemplation stage reflects the perceptions of the individuals not intending to make changes in their drug consumption patterns, the contemplation involves the recognition of problems and a wish to undertake changes, the action

stage reflects the initial changes in additive behaviors, whereas the maintenance stage reflects the intent to sustain effective behavior modifications and prevent relapses related to drug consumption[8]. Appropriate therapeutic interventions are necessary to identify the stage in which the patient is (pre-contemplation, contemplation, preparation, action or maintenance) in order to use the appropriate tools for the effectiveness of treatment[8]. Other factors that stimulate motivation are the Mechanisms of Change, which are formed by internal and external constructs that directly interfere in the process of change between stages[9]. Among the mechanisms of change the Abstinence Self-Efficacy stands out. It is defined as the set of beliefs that people have about their own abilities, which is important to deal with risk situations for relapse[10,11].

Another dimension that has been studied in its importance for the recovery of drug addicts is that of Religiosity/Spirituality (R/S). For Koenig[12], religion can be defined as an organized system of beliefs, practices, rituals and symbols designed to facilitate proximity to the sacred or transcendent. Spirituality is understood as the personal search for answers to the final questions about life and about the relationship with the sacred or transcendent, which may (or may not) lead to the development of religious rituals. The importance of these dimensions in the area of substance use disorders has been growing based on studies with large population groups and meta-analyses, which have already demonstrated an inverse correlation between drug use and religious involvement[13]. In a prospective study carried out in the United States with more than 10,000 people undergoing treatment for addiction, it was concluded that high rates of R/S involvement contributed to a reduction in relapse rates as well as in a frequency and quantity

decrease of use of all different drug types[14].

Thus, seeking to broaden the understanding of factors that can contribute to the recovery of crack addicts, the objective of the present study is to verify the existence of a relationship between R/S, motivation for change and self-efficacy for abstinence, understanding how greater or lesser levels of religiosity interfere with the acquisition of skills to perform the treatment interventions for crack use. The research was conducted at a Psychosocial Attention Center for Alcohol and Drugs - CAPS AD III where crack users undergoing treatment were interviewed. So far, we are unaware of other studies that have evaluated the same constructs for this population.

Method

Study Design and Sampling

This research was characterized as quantitative cross-sectional study, where 50 crack users in treatment were interviewed at the Psychosocial Attention Center for Alcohol and Drugs - CAPS AD III of Grupo Hospitalar Conceição in Porto Alegre-RS in the period between March to October 2018. Originally a sample size of 68 individuals was estimated to identify moderate effect size correlations (>0.30) between religiosity domains, motivation and self-efficacy, for a level of statistical significance with a p <0.05. During the research, 50 individuals were identified for interviews by one of the authors (AE) available for in person interviews once a week at CAPS AD III. Inclusion criteria were being over 18 years old, presenting a diagnosis of current crack addiction based on the ICD-10 and being linked to the treatment offered at CAPS AD. The exclusion criteria include the existence of cognitive deficits or psychiatric comorbidity that could affect the understanding of the questions asked. Patients who met the inclusion criteria were personally approached by the author while waiting for consultations, being invited to participate in the study. All approached patients accepted the invitation and 47 of them completed all the assessments. The Free and Informed Consent Term was read for all the patients, which was duly signed in compliance with the current ethical standards.

Research Instruments

Socio-demographics, consumption patterns and religiosity/ spirituality

For the purpose of this study, a structured questionnaire was designed by the researchers in order to collect data on age, residence conditions, education, work, perception of relevance of religiosity/ spirituality in the treatment and the religious profile of the sample. Social economic classes were evaluated according the Brazilian Economic Classification Criteria[15].

One question retrieved from the "Addiction Severity Index (ASI)" validated into Brazilian Portuguese, was adapted to evaluate the frequency of crack consumptiom reported by patients within the last 30 days of the interview (e.g. 1-3 times a month, 1-2 times per week, 3-6 times per week, daily consumption, abstinent more than a month) [16]. We carried out a pilot interview test before data collection.

The Duke University Religion Index (DUREL)

We used the DUREL scale, which is a five-item measurement of religious involvement[17]. This scale was translated and validated for the Brazilian population[18]. It measures three of the main dimensions of religious involvement, relating them to health

outcomes: organizational religiosity (OR) (attendance to religious activities); non-organizational religiosity (NOR) (frequency of private religious activities such as prayers, meditation or religious readings) and intrinsic religiosity (IR) (internalization and inner experience of religiosity).

Spirituality and Quality of Life Questionnaire WHOQOL-SRPB

We also used the WHOQOL-SRPB in the measurement of spirituality, which is an instrument developed to assess how spirituality, religion and personal beliefs (SRPB) are related to quality of life (QOL) in health and health care[19]. It is a specific module developed by the World Health Organization Quality of Life in the context of the WHOQOL-100 instrument, domain SRPB (Spirituality, Religiousness and Personal Beliefs), which has eight facets: meaning of life, awe, wholeness and integration, spiritual strength, inner peace/serenity/harmony, hope and optimism and faith. Each facet is evaluated by four questions, totaling 32 questions[20].

University of Rhode Island Change Assessment (URICA)

To assess motivational stages for change we used the URICA scale originally developed in 1983 by McConnaughy, Prochaska and Velicer[21]. The URICA scale was validated and adapted for Brazil by Szupszynski and Oliveira[7] to be used in psychoactive substance users. It consists of 24 items answered with the Likert scale of one to five items, where four motivational stages are evaluated and divided into six items: pre-contemplation, contemplation, action and maintenance.

Drug Abstinence Self-Efficacy (DASE)

We used the DASE scale to measure the self-efficacy, which aims to measure confidence and the ability to maintain abstinence in situations of contexts for the use of substances from the Likert scale of one to five items, measuring the potential for self-efficacy in 24 questions. This scale was translated and validated for Brazil by Freire et al[11]

Statistical Analysis

We used a descriptive approach to assess the clinical and socio-demographic variables of the individuals under study, describing their profiles. Linear regression analyses were used to evaluate the association between R/S, motivational stages for change and drug abstinence self-efficacy, controlling for the main sociodemographic variables (age, sex and education). As secondary outcomes Pearson correlation analysis evaluated the univariate associations between R/S, age of first crack consumption, age of search for treatment and the longest time of crack-cocaine abstinence in life after the first crack consumption. For the performed analyses, a level of statistical significance was used with a p <0.05.

Ethical Aspects

The study was approved by the Research Ethics Committee of Grupo Hospitalar Conceição (CAAE 79747217.1.0000.5530).

Results

Socio-Demographic Profile

We investigated the socio-demographic profile of the participants, where 86% were male with an average age of 40.9 years, with a minimum age of 21 years and a maximum of 64 years. The majority referred to themselves as white (60%) and single (52%) or separated (32%). Respondents in general had low education with an average of 7.3 years of study and most of them were unemployed (34%)

or working informally (28%). Only two respondents were working at a regular job at the time of the survey. 40% of respondents said they received some type of social benefit such as: sick pay (45%), family allowance (25%) and disability retirement (15%). Housing conditions varied between owing a house (36%), renting a house (18%) and being homeless (22%). The economic characteristics of the interviewees' demonstrated situations of social vulnerability, where most of them could be classified as belonging to social class E (Table 1).

Substance Use

Regarding their history of substance use, 98% of the interviewees reported the use of some substance associated with crack, among the most frequent were tobacco (78%), alcohol (76%), marijuana (54%) and inhaled cocaine (48%). Only one (01) interviewee declared to use crack exclusively. The pattern of use demonstrated that when relapsing, 48% of respondents used crack daily and 23% about 3

to 6 times a week. The average age of first-time crack consumption was 27.5 years, and an average age for seeking treatment of 31.5 years, with an average of 3.9 years interval between the age of use onset seeking for treatment. Most of the interviewees (96%) had already undergone previous treatments for crack use, where the longest abstinent time between first time consumption and the current time has an average period of 18.5 months. The treatment places prior to CAPS AD were: Hospitalizations (80%), Therapeutic Communities (60%), Mutual Aid Groups (46%) and Primary Care (26%) (Table 1).

Religious Profile, Crack Addiction Treatment and Abstinence

The interviewees' religious denominations in order of frequency were: Catholic (44%), Evangelical (18%), Spiritual But Not Religious (18%), Spiritism (8%), Afro-Brazilian Religions (6%) and Others (2%). Two respondents (4%) claimed to be atheists. Twenty-

Table 1. Clinical and Sociodemographic Characteristics of Crack Dependent Patients at CAPS AD III (n = 50)

	Frequency	Percentage (%)
Sex		
Female	7	14.0 %
Male	43	86.0 %
Skin Color		
White	30	60.0 %
Brown/Black	20	40.0 %
Marital Status		
Never had a partner	26	52.0 %
With partner	8	16.0 %
Separated	16	32.0 %
Widower/widow	0	0
Socioeconomic Classes*		
B2 (average income 4.850 BR)	3	6.0 %
C (average income 2000 BR)	15	30.0 %
D (average income 714 BR)	10	20.0 %
E (average income 477 BR)	22	44.0 %
Crack Usage Frequency		
1-3 times a month	5	10.0 %
1-2 times a week	8	16.0 %
3-6 times a week	13	26.0 %
Daily	24	48.0 %
Associated Substance Use		
Tobacco	39	78.0 %
Alcohol	38	76.0 %
Inhaled Cocaine	24	48.0 %
Marijuana	27	54.0 %
Benzodiazepines	5	10.0 %
Solvents	8	16.0 %
Amphetamines	1	2.0 %
Hallucinogens	3	6.0 %
Previous Treatment		
Without previous treatment	2	4.0 %
Primary care	13	26.0 %
Private care	6	12.0 %
Self-help groups	23	46.0 %
CAPS (Psychosocial Attention Center)	40	80.0 %
Psychiatric Hospitalizations	40	80.0 %
Therapeutic Communities	30	60.0 %

*For patients reporting abstinence for over one month (17/50)
* Average family income estimated in Brazilian Reais (BR) by the Brazilian Economic Classification Criteria (2010).

Table 1. Continuation for continuous variables.

	Variation	Average	(Standard Deviation)
Age, Education and Crack Treatment			
Age (n=47)	21-64	40.9	9.4
Years of study (n=50)	1-17	7.3	3.3
Age of crack use onset (n=50)	12-53	27.5	11.1
Age of seeking for treatment (n=50)	12-55	31.5	10.8
Current abstinent time in months* (n=17)	1-48	7.91	15.3
Longest abstinent time lifetime in months (n=50)	0-96	18.1	21.1
Individual income (BRL) (n=50)	BRL 0-2.500,00	BRL 765,00	BRL 599,00
URICA Motivation Scale (n=50)			
Pre-contemplation	6-23	14.2	2.8
Contemplation	12-27	22.6	2.5
Action	12-29	23.8	3.2
Maintenance	8-30	23.3	3.9
Self-Efficacy Scale (n=50)	24-113	66.3	20.3
*From 50 patients interviewed, 17 reported being abstinent of crack consumption for a month or more.			

four percent said they attended more than one religion. Most of the interviewees (94%) said they considered important questioning on the part of health professionals about spirituality and religiosity, however only 24% stated that this issue had already been addressed in consultations (Table 2).

No statistically significant associations were identified between the domains of the WHOQOL SRPB and the DUREL religiosity scale with age of first crack consumption or age of seeking treatment.

The longest time in abstinence in life after the first crack consumption was positively correlated to intrinsic religiosity (r=0.32, p=0.02), non-organizational religiosity (r=0.28, p=0.04), the global score of the WHOQOL-SRPB (r=0.29, p=0.03) and WHOQOL-SRPB domains connect (r = 0.40, p = 0.00), meaning in life (r = 0.31, p = 0.02), spiritual strength (r = 0.41, p = 0.00), and faith (r = 0.32, p = 0.02).

Religiosity/Spirituality and Motivation for Change

A multilinear regression model evaluated the association between R/S variables and motivational stages for change, controlling for age, sex and education. The WHOQOL-SRPB was statistically significant associated with pre-contemplation stage (*beta* 0.351, p=0.01) and action stage (*beta* 0.273, p=0.05). No statistically significant associations were identified between the WHOQOL SRPB with contemplation and maintenance stages <table 3>.

No statistically significant associations were identified between the DUREL dimensions and the motivational stages of pre-contemplation, contemplation, action and maintenance stages on the URICA scale <table 3>.

Religiosity/Spirituality and Drug Abstinence Self-Efficacy

A linear regression model evaluated the association between R/S variables and self-efficacy for drug abstinence scale (DASE), controlling for age, sex and education levels <Table 4>. The WHOQOL-SRPB (*beta* 0.519, p=0.00) and intrinsic religiosity (*beta* 0.475, p=0.00) were statistically significant associated with self-efficacy for abstinence, controlling for socio-demographics (Table 4).

Discussion

The present study has identified a significant association between different domains of religiosity/spirituality and self-efficacy and longer time in abstinence lifetime in patients with crack addiction treated at a CAPS AD III in Porto Alegre-RS.

The profile of those surveyed was similar to that found in a national survey of crack users residing in Brazilian capitals, that is, mostly young men with little education who do not have a job/fixed income[2]. In relation to other studies that present a profile of young users[2,22-24], generally in the 30-year age range, our sample differed by the significantly higher average age (40.9 years), showing variations in the population profile from one region to another, where the use of crack has become popular among users of all ages. We also observed the large number of respondents declaring themselves single or separated (84%), exceeding the same proportion of people living without a partner in the Brazilian population (65.1%) as according to the 2010 Census[25]. This data, also found in similar studies, may indicate that the use of crack causes damage to the constitution and maintenance of the family group. The question of skin color was different from other studies, where 60% of users referred to themselves as being white, even surpassing national epidemiological data, where the white population is estimated in 48%[25], which we believe may be related regional specificities. Anyway, the social vulnerability condition was evident, both related to the low level of education of most of the interviewees, as well as in the occupational condition and the social class identified through questions about housing conditions and income.

The vast majority of patients (98%) claimed to consume substances other than crack, with a predominance of tobacco (78%) and alcohol (76%), similarly to that found in the epidemiological survey conducted by Senad[23], characterizing crack users as multi-users and this substance being one more in a broad "portfolio" of psychoactive substances. The short period of time between the beginning of consumption and seeking for care (less than 4 years) can indicate immediate harmful effects related to the use of crack,

Table 2. Religiosity and Spirituality in Crack Dependent Patients seen at CAPS AD III in Porto Alegre, Brazil (n = 50)

Religious Denomination	Freq.	Pct. (%)
Catholic	22	44.0%
Evangelic	9	18.0%
Spiritism	4	8.0%
Afro-Brazilian Religions	3	6.0%
Without religion, with spirituality	9	18.0%
Atheist	2	4.0%
Attends more than one religion	12	24.0%
Organizational Religiosity (DUREL 1) *	Freq.	Pct. (%)
More than once a week	8	16.0%
Once a week	10	20.0%
Two to three times a month	16	32.0%
A few times a year	7	14.0%
Once a year or less	7	14.0%
Never	2	4.0%
Non-Organizational Religiosity (DUREL 2) **	Freq.	Pct. (%)
More than once a day	14	28.0%
Two or more times a week	1	2.0%
Once a week	9	18.0%
A few times a month	20	40.0%
Rarely or never	6	12.0%
Intrinsic Religiosity (DUREL 3-5) ***	Freq.	Pct. (%)
High (> = 10 points)	35	70.0%
WHOQOL Spirituality, Religiosity and Personal Beliefs (SRPB)	Avg.	Standard Deviation
Connection with self or spiritual strength	3.1	1.1
Meaning in life	3.4	0.95
Admiration	3.8	1.0
Wholeness & integration	3.0	0.92
Spiritual strength	3.3	1.0
Inner peace	2.8	1.0
Hope and optimism	3.3	0.92
Faith	3.4	1.1
Total	13.2	3.2
Questionnaire on religiosity and treatment	Pct. (%)	
Do you think it is important for health professionals to ask about religiousness and spirituality in health care?	Yes (94.0%) No (6.0%)	
Have any health professionals ever asked about your religious beliefs or spirituality in your health care?	Yes (24.0%) No (76.0%)	
Patients who underwent treatment in therapeutic communities (n=33)		
Does the therapeutic community have a religious orientation?	Yes (97.0%) No (3.0%)	
Was the religious orientation the same as yours?	Yes (43.8.0%) No (56.3%)	
Do you feel that your religious belief was respected?	Yes (78.1%) No (21.9%)	

*Church, temple or other religious gathering attendance. **Individual religious activities such as prayers, meditations, reading the Bible or other religious texts. ***Subjective perception and degree of motivation and involvement with religiosity.

Table 3. Multilinear regression models of religiosity dimensions and motivational stages for change among crack-cocaine patients (N=47)

Predictors	Pre-Contemplation				Contemplation			
				Adjusted R-Square				Adjusted R-Square
Model 1	Beta	t	Sig.	(0.16, P=0.01)	Beta	t	Sig.	(0.08, P=0.09)
Age	-0.354	-2.584	0.01		0.183	1.270	0.21	
Sex	-0.036	-0.259	0.79		0.192	1.334	0.18	
Education (years of study)	-0.121	-0.871	0.38		0.221	1.517	0.13	
WHOQOL-SRPB	0.351	2.525	0.01		0.260	1.784	0.08	
				Adjusted R-Square				Adjusted R-Square
Model 2	Beta	t	Sig.	(0.07, P=0.12)	Beta	t	Sig.	(0.03, P=0.23)
Age	-0.305	-2.124	0.04		0.213	1.459	0.15	
Sex	-0.042	-0.291	0.77		0.184	1.242	0.22	
Education (years of study)	-0.203	-1.407	0.16		0.178	1.210	0.23	
Organizational Religiosity (DUREL)	0.170	1.195	0.23		-0.134	-0.926	0.36	
				Adjusted R-Square				Adjusted R-Square
Model 3	Beta	t	Sig.	(0.08, P=0.09)	Beta	t	Sig.	(0.02, P=0.31)
Age	-0.359	-2.447	0.01		0.207	1.363	0.18	
Sex	-0.046	-0.320	0.75		0.185	1.241	0.22	
Education (years of study)	-0.184	-1.285	0.20		0.170	1.150	0.25	
Non-organizational Religiosity (DUREL)	0.209	1.438	0.15		0.038	0.253	0.80	
				Adjusted R-Square				Adjusted R-Square
Model 4	Beta	t	Sig.	(0.10, P=0.07)	Beta	t	Sig.	(0.02, P=0.28)
Age	-0.348	-2.424	0.02		0.203	1.358	0.18	
Sex	-0.061	-0.424	0.674		0.180	1.206	0.23	
Education (years of study)	-0.149	-1.037	0.30		0.184	1.225	0.22	
Intrinsic Religiosity (DUREL)	0.237	1.643	0.10		0.083	0.556	0.58	

*statistically significant results in bold.

Table 4. Continuation. Multilinear regression models of religiosity dimensions, pre-contemplation and readiness for change among crack addicted patients (N=47)

Predictors	Action				Maintenance			
				Adjusted R-Square				Adjusted R-Square
Model 1	Beta	t	Sig.	(0.16, P=0.02)	Beta	t	Sig.	(0.009, P=0.47)
Age	0.375	2.726	0.00		0.253	1.672	0.10	
Sex	0.129	0.938	0.35		0.022	0.143	0.88	
Education (years of study)	0.048	0.343	0.73		0.135	0.881	0.38	
WHOQOL-SRPB	0.273	2.964	0.05		-0.041	-0.267	0.79	
				Adjusted R-Square				Adjusted R-Square
Model 2	Beta	t	Sig.	(0.14, P=0.03)	Beta	t	Sig.	(0.005, P=0.44)
Age	0.415	3.000	0.00		0.246	1.643	0.10	
Sex	0.125	0.895	0.37		0.022	0.144	0.88	
Education (years of study)	-0.021	-0.153	0.87		0.148	0.986	0.33	
Organizational Religiosity (DUREL)	0.215	1.565	0.12		-0.073	-0.491	0.62	
				Adjusted R-Square				Adjusted R-Square
Model 3	Beta	t	Sig.	(0.09, P=0.09)	Beta	t	Sig.	(0.003, P=0.39)
Age	0.402	2.747	0.00		0.275	1.795	0.08	
Sex	0.122	0.849	0.40		0.024	0.157	0.87	
Education (years of study)	-0.006	-0.041	0.96		0.139	0.929	0.35	
Non-organizational Religiosity (DUREL)	0.033	0.231	0.81		-0.116	-0.763	0.45	
				Adjusted R-Square				Adjusted R-Square
Model 4	Beta	t	Sig.	(0.11, P=0.05)	Beta	t	Sig.	(0.01, P=0.31)
Age	0.383	2.698	0.01		0.275	1.837	0.07	
Sex	0.111	0.782	0.43		0.034	0.229	0.82	
Education (years of study)	0.022	0.155	0.87		0.113	0.752	0.45	
Intrinsic Religiosity (DUREL)	0.164	1.147	0.25		-0.169	-1.123	0.26	

Table 4. Multilinear regression models of religiosity dimensions and drug abstinence self-efficacy among crack dependent patients (N=47)

Predictors	Drug Abstinence Self-Efficacy			
				Adjusted R-Square
Model 1	Beta	t	Sig.	
Age	-0.119	-0.895	0.37	
Sex	-0.154	-1.161	0.25	
Education (years of study)	0.263	1.953	0.05	(0.23, P=0.00)
WHOQOL-SRPB	0.519	3.850	0.00	
				Adjusted R-Square
Model 2	Beta	t	Sig.	
Age	-0.050	-0.348	0.73	
Sex	-0.126	-0.859	0.39	
Education (years of study)	0.144	0.988	0.32	(0.06, P=0.15)
Organizational religiosity (DUREL)	0.321	2.214	0.03	
				Adjusted R-Square
Model 3	Beta	t	Sig.	
Age	-0.144	-0.983	0.33	
Sex	-0.150	-1.045	0.30	
Education (years of study)	0.177	1.234	0.22	(0.09, P=0.08)
Non-organizational religiosity (DUREL)	0.375	2.563	0.01	
				Adjusted R-Square
Model 4	Beta	t	Sig.	
Age	-0.131	-0.952	0.34	
Sex	-0.187	-1.365	0.18	
Education (years of study)	0.245	1.773	0.08	(0.18, P=0.01)
Intrinsic Religiosity (DUREL)	0.475	3.423	0.00	

which leads the person to seek for help and hospital admissions are the most used means of treatment.

When it comes to the characterization of religiosity the results showed a high level of religious involvement, where 78% said they had some religious denomination, 18% had no religion, but cultivated some kind of spirituality and only 2% said they were atheists. The data are slightly different from those found in the Brazilian population, where 95% said they have a religion[26], probably due to the inclusion of the option spiritual without religion, which was absent in that study.

From this research it was possible to state that crack users who had a higher score on the intrinsic religiosity measure (DUREL) have a higher self-efficacy index for abstinence, being more able to abstain from addictive behavior, improving the chances of recovery. Better self-efficacy rates for abstinence were also found in patients who had better scores on the WHOQOL-SRPB scale, demonstrating greater spirituality from better scores on constructs such as connection with some higher power, peace and meaning in life, capacity for admiring things around its surroundings and wholeness and integration to the environment.

Research indicates that low self-efficacy is associated with relapse and conversely, self-efficacy is positively correlated with abstinence[27]. Likewise, it can be said that stronger spirituality and religious involvement can reduce relapse rates, favoring recovery[24]. These data were based on the present study, since the interviewees who obtained the best scores in spirituality/religiosity, mainly intrinsic religiosity (IR) and the connection domains (r = 0.40, p = 0.00), meaning in life (r = 0.31, p = 0.02), spiritual strength (r = 0.41, p = 0.00), and faith (r = 0.32, p = 0.02) as well as in the general

score of the scale WHOQOL-SRPB were also the ones who had the longest periods of abstinence. In this particular association, to remain abstinent for longer, it seems to matter less the individual's religious denomination and frequency in places of organized religion, and more what we can call spirituality, related to faith, spiritual connection and capacity to perceive a meaning in life. In another study, the intrinsic religiosity (IR) measure was associated with less desire to consume the substance and a better quality of life in all dimensions evaluated[24].

Regarding motivational stages, the pre-contemplation and action stages, were both differently associated with WHOQOL-SRPB scores. In this respect, the association between WHOQOL-SRPB with pre-contemplation might be explained by the fact that in the early stages of drug consumption individuals might present more difficulties to perceive or report problems or interferences in their spirituality or quality of life. The association with WHOQOL-SRPB with the action stage, otherwise, might be explained by an increase in spiritual quality of life observed with initial changes and movements toward crack-cocaine recovery. We question whether abstinence causes people to seek more religious involvement, feeling more integrated with their spirituality and developing their faith more, or whether it is the recovery process, in the success in carrying out the tasks of each phase that strengthens the religious or spiritual practice. We believe more in the second hypothesis, since the increase in self-efficacy for abstinence, which is a construct of motivation, was directly related to all the R/S measures used in the study.

Most respondents (94%) considered the questioning about R/S in treatment contexts important, although only a small portion

(24%) was questioned about the subject during some type of health care. These data reinforce assumptions recommended by the World Psychiatric Association[28], showing that values, beliefs and practices related to R/S remain relevant to the majority of the world population and that patients would like to have their R/S issues addressed in health care. Therefore, there is a demand for inclusion of these dimensions in the assistance to crack users, who often end up being delegated to religious institutions that carry out some type of intervention with chemical dependents. A recent study carried out in an inpatient unit for detoxification demonstrated the need to expand and diversify activities aimed at addressing patients' spirituality to the detriment of group activities aimed at religious beliefs, thus respecting the necessary secularism in health services[29]. In this sense, it is important to consider the patients' religious beliefs and practices as an essential component of the collection of psychiatric history, where spiritual anamnesis has been widely used in clinical practice, which already has more than twenty-five validated instruments aiming to improve patient's adhesion to treatment, satisfaction with received care and general health outcomes[28,30].

As suggestions for future studies, we understand there is a need to expand the assessment of religiosity/spirituality with crack users in other contexts and different locations in the country, as well as new research that can deepen the knowledge of the relationship between R/S and motivation, maybe acting as the basis for new interventions in this area.

The results presented need to be observed considering some limitations. The cross-sectional evaluation between the variables does not allow causal inferences and prospective studies need to be carried out to better understand the relationship between religiosity, spirituality, motivation and self-efficacy. The profile of crack-dependent patients seen at a CAPS AD III, located in the southern Brazil, which is already linked to treatments, may not represent the entire population of users. The study additionally do not control for the effects of multiple psychiatric and social variables that might interfere with results, including for instance psychiatric comorbidities or the effects of other substances. However, the originality of the findings and the consistency of the correlations between religiosity, spirituality and self-efficacy, corroborated by a longer period of abstinence throughout life, strengthen the study and its validity when considering the importance of these dimensions in the treatment of dependent individuals, which should be considered in the treatment of crack-dependent patients and are still infrequently addressed in clinical practice. Although generally unrelated to early motivational stages, religiosity and spirituality showed a significant association with self-efficacy and increased abstinence lifetime after the first crack consumption. Such findings reinforce the importance of addressing these dimensions in the treatment of addiction disorders.

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REFERENCES

1. United Nations Office on Drugs and Crime- UNODOC. World Drug Report 2018. New York: United Nations publication, 2018.
2. Bastos FI, Bertoni N. Pesquisa Nacional sobre Uso de Crack: quem são os usuários de crack e/ou similares no Brasil? Quantos são nas capitais brasileiras? Rio de Janeiro: Editora ICICT/FIOCRUZ; 2014.
3. Associação Brasileira de Psiquiatria. Abuso e Dependência: Crack. Ver Assoc Med Bras. 2012;58(2):141-53.
4. Ribeiro M, Laranjeira R, organizadores. O Tratamento do Usuário de Crack. Porto Alegre: Artmed; 2012.
5. Ferreira ACZ, Capistrano FC, Maftum MA, Kalinke LP, Kirchhof ALC. Caracterização de internações de dependentes químicos em uma unidade de reabilitação. Cogitare Enferm. 2012;17(3):444-51.
6. Prochaska JO, Diclemente C. Transtheorical therapy: Toward a more integrative model of change. Psycotherapy: Theory, Research and Practice. 1982;20:161-73.
7. Szupzynski KPDR, Oliveira MS. O Modelo Transteórico no tratamento da dependência química. Psicologia: teoria e prática. 2008;10(1):162-73.
8. Ávila AC, Yates MB, Silva DC, Rodrigues VS, Oliveira MS. Avaliação da autoeficácia e tentação em dependentes de cocaína/crack após tratamento com o modelo transteórico de mudança (MTT). Aletheia. 2016;49:74-88.
9. Szupsynski KPDR, Sartes LMA, Andretta I, Oliveira MS. Processos de mudança cognitivos e comportamentais em usuários de crack em tratamento. Revista Brasileira de Terapias Cognitivas. 2014;10(1):11-18.
10. Diclemente CC, Fairhurst SK, Piotrowski NA. Self-efficacy and addictive behaviors. In Maddux JE (Ed.), Self-efficacy, adaptation and adjustment: theory, research and application New York, NY: Plenum Press, p.109-141; 1995.
11. Freire SD, Silva DC, Ávila AC, DiClemente C, Oliveira MS. Adaptation and Validation of the Brazilian DASE and TUD Scales for Cocaine/Crack Users. Paidéia . 2017;27(67):93-99.
12. Koenig H. Handbook of religion and health: a century of research reviewed. University Press, Oxford, 2001.
13. Moreira-Almeida A, Lotufo Neto F, Koenig HG. Religiousness and mental health: a review. Brazilian Journal of Psychiatry. 2006;28(3):242-250.
14. Schoenthaler SJ, Blum K, Braverman ER, Giordano J, Thompson B, Oscar-Berman M, et al. NIDA-Drug Addiction Treatment Outcome Study (DATOS) Relapse as a Function of Spirituality/Religiosity. J Reward Defic Syndr. 2015;1(1):36-45.
15. Associação Brasileira de Empresas de Pesquisa- ABEP. Critério de Classificação Econômica Brasil. [Internet]. São Paulo: ABEP; 2019.
16. Kessler F, Cacciola J, Alterman A, Faller S, Souza-Formigoni ML, Cruz MS, et al. Psychometric properties of the sixth version of the Addiction Severity Index (ASI-6) in Brazil. Brazilian Journal of Psychiatry. 2010;34(1),24-33.
17. Koenig HG, Meador K, Parkerson G. Religion Index for Psychiatric Research: a 5-item Measure for Use in Health Outcome Studies. Am J Psychiatry. 1997;154:885-86.
18. Taunay TCD, Gondim FAA, Macêdo DS, Moreira-Almeida A, Gurgel LA, Andrade LMS et al. Validação da versão brasileira da escala de religiosidade de Duke (DUREL). Rev. psiquiatr. clín. [online]. 2012;39(4):130-35.
19. Fleck MP; Skevington S. Explicando o significado do WHOQOL-SRPB. Rev. psiquiatr. clín. [online]. 2007;34(1):146-49.
20. Fleck MP, Borges ZN, Bolognesi G, Rocha NS. Desenvolvimento do WHOQOL, módulo espiritualidade, religiosidade e crenças pessoais. Rev. Saúde Pública. 2003;37(4):446-55.
21. Mcconnaughy EA, Prochaska JO, Velicer WF. Stages of change in psychotherapy: measurement and samples profiles. Psychotherapy: Theory, Research & Practice. 1983;20(3):368-75.
22. Horta RL, Horta BL, Rosset AP, Horta CL. Perfil dos usuários de crack que buscam atendimento em Centros de Atenção Psicossocial. Cad. Saúde Pública. 2011;27(11):2263-70.
23. Ministério da Saúde (BR). Secretaria Nacional de Políticas sobre Drogas. Perfil dos usuários de crack e/ou similares no Brasil. [Internet]. Brasília: SENAD; 2013.
24. Rezende-Pinto A, Moreira-Almeida A, Ribeiro M, Laranjeira R, Vallada H. The effect of religiosity during childhood and adolescence on drug consumption patterns in adults addicted to crack cocaine. BJPsych Open. 2018;4(5):324-31.
25. Instituto Brasileiro de Geografia e Estatística (IBGE). Censo Demográfico 2010- Características gerais da população, religião e pessoas com deficiência. Rio de Janeiro: IBGE; 2010.
26. Moreira-Almeida A, Pinsky I, Zaleski M, Laranjeira R. Envolvimento religioso e fatores sociodemográficos: resultados de um levantamento nacional no Brasil. Rev. psiquiatr. clín. 2010;37(1):12-15.

27. Figlie NB, Bordin S,Laranjeira R, organizadores. Aconselhamento em dependência química. São Paulo: Roca; 2004.

28. Moreira-Almeida A, Sharma A, Van Rensburg BJ, Verhagen PJ, Cook CC. WPA Position Statement on Spirituality and Religion in Psychiatry. World Psychiatry. 2016;15(1):87-8.

29. Ely A, Calixto AM. Religiosidade e espiritualidade no tratamento hospitalar das adições. Rev. Bioét. [Internet]. 2018;26(4):587-596.

30. Moreira-Almeida A, Koenig HG, Lucchetti G. Clinical implications of spirituality to mental health: review of evidence and practical guidelines. Rev. Bras. Psiquiatr. 2014;36(2): 176-182.