

INTEGRATIVE LITERATURE REVIEW ARTICLE

SUICIDAL BEHAVIORS IN PEOPLE WITH SUBSTANCE-RELATED DISORDERS COMPORTAMENTOS SUICIDAS EM PESSOAS COM TRANSTORNOS RELACIONADOS A SUBSTÂNCIAS CONDUCTAS SUICIDAS EN PERSONAS CON TRASTORNOS RELACIONADOS CON SUSTÂNCIAS

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Objective: to identify the aspects associated with suicidal behaviors in people with substance-related disorders. Method: this is a bibliographic, descriptive study, of the integrative-review type, of publications between 2006 and 2016, LILACS, CINAHL and MEDLINE. The data were analyzed descriptively from figures. Results: the search identified 78 aspects associated with suicidal behavior among 54 articles in the sample, which were classified into sociodemographic and economic; clinical and biological aspects; related to cognition, behavior, emotion and thought; to stressful life events; the manifestation of symptoms and disorders; the use of substances; and to their own suicidal behaviors. Conclusion: one emphasizes the complexity of suicidal behaviors in people with substance-related disorders regarding the heterogeneity of the identified aspects. Descriptors: Mental Health; Substance-Related Disorders; Suicidal Ideation; Suicide, Attempted; Suicide; Risk Factors.

RESUMO

Objetivo: identificar os aspectos associados aos comportamentos suicidas em pessoas com transtornos relacionados a substâncias. Método: trata-se de um estudo bibliográfico, descritivo, tipo revisão integrativa, de publicações entre 2006 e 2016, nas Bases de dados LILACS, CINAHL e MEDLINE. Analisaram-se os dados de forma descritiva a partir de figuras. Resultados: identificaram-se 78 aspectos associados aos comportamentos suicidas, dentre 54 artigos da amostra, os quais foram classificados em aspectos sociodemográficos e econômicos; clínicos e biológicos; relacionados à cognição, comportamento, emoção e pensamento; aos eventos de vida estressante; a manifestação de sintomas e transtornos mentais; ao uso de substâncias; e aos próprios comportamentos suicidas. Conclusão: enfatiza-se a complexidade dos comportamentos suicidas em pessoas com transtornos relacionados a substâncias frente a heterogeneidade dos aspectos identificados. Descritores: Saúde Mental; Transtornos Relacionados ao Uso de Substâncias; Ideação Suicida; Tentativa de Suicídio; Suicídio; Fatores de Risco.

RESUMEN

Objetivo: identificar los aspectos asociados con las conductas suicidas en personas con trastornos relacionados con sustancias. Método: este es un estudio bibliográfico, descriptivo, del tipo revisión integradora de publicaciones entre 2006 y 2016, LILACS, MEDLINE y CINAHL. Los datos fueron analizados descriptivamente a partir de cifras. Resultados: se identificaron 78 aspectos relacionados con la conducta suicida entre 54 artículos en la muestra, que se clasificaron en aspectos económicos y sociodemográficos, clínicos y biológicos; relacionados con el comportamiento, la cognición, la emoción y el pensamiento; a eventos estresantes de la vida; la manifestación de síntomas y trastornos; el uso de sustancias; y sus propios comportamientos suicidas. Conclusión: pone de relieve la complejidad de las conductas suicidas en personas con trastornos relacionados con sustancias con relación a la heterogeneidad de los aspectos identificados. Descriptores: Salud Mental; Transtornos Relacionados com Substancias; Ideación Suicida; Intento de Suicidio; Suicidio; Factores de Riesgo.

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How to cite this article

Ferreira ACZ, Capistrano FC, Maftum GJ, Kalinke, LP, Maftum MA. Suicidal behaviors in people with substance-related disorders. J Nurs UFPE on line. 2019;13:e241446 DOI: https://doi.org/10.5205/1981-8963.2019.241446

This manuscript was extracted from the thesis << Suicide attempt by people with substance-related disorders under treatment at Centers for Care to Alcohol and other drugs III >> Federal University of Paraná/UFPR. Curitiba (PR), Brazil.

INTRODUCTION

Suicide is the 15th leading cause of death in the world, comprising 1.4% of all mortality, whose estimates show that every 40 seconds a person dies from suicide in the world, and the rate of deaths per 100,000 inhabitants, corresponding to 15 for men and eight for women.¹

Suicidal behaviors are a public health problem with significant impacts on individuals and in the family and social contexts,2 which can be understood as a series of behaviors aiming at death, represented by suicide, suicide attempt, suicidal ideation and suicide planning¹.

Scientifically, there is a strong association between the diagnosis of substance-related disorders and suicidal behaviors.3 These disorders are a set of signs and symptoms, from the frequent consumption of licit and/or illicit psychoactive substances, which cause cognitive, behavioral and physiological changes pathological mode.4

Substance-related disorders are chronic health conditions related to the intense use of some of the following substances: Alcohol, hallucinogens, stimulants, inhalants, cannabis, opiates, sedatives and hypnotics and other substances.4 There arises a condition of low control of consumption, social degradation, risky use of the substance and pharmacological changes to the individual.4

In a study developed at a Spanish service of attention to people with substance-related disorders, among 149 patients had had at least one episode of suicidal ideation during life, 39,6 % had attempted at least once against their lives. The previous history of ideation or suicide attempts relates to a greater severity of substance-related disorders and manifestation of symptoms.5

Suicidal behaviors are complex phenomena that involve multiple psychosocial aspects, being one of the main causes of premature death.1 The suicide events vary according to the geographic location, the individual, social, economic and political aspects, which differently correlate to risk factors, demonstrating a multifactorial aspects.6

Various aspects intensify the risk of suicide in people with substance-related disorders, such as: episode of poisoning by substances, suicide attempt, previous experience of stressful events, personality traits, history of abuse and psychiatric comorbidities.⁷ From the heterogeneity of these better understanding aspects, sociodemographic, clinical and psychological characteristics may facilitate the identification of individuals with higher risk of suicide and, in this way, the planning of preventive strategies.6

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The efforts and actions aimed at prevention of suicide, at national and international level, must grounded on scientific knowledge, epidemiological surveillance and understanding of associated with suicidal behavior, especially in specific populations with greater vulnerability.1

Exploring aspects associated with suicidal behavior in people with substance-related disorders is fundamental for planning and implementing preventive and health promotion measures.

OBJECTIVE

• To identify aspects associated with suicidal behavior in people with substance-related disorders.

METHOD

This is a bibliographic, descriptive study, of the integrative literature review type, based on six stages: selection of the review question, sampling, representation of the characteristics of the primary research, analysis of findings, interpretation of results and presentation of the review.8

The first step consists of the formulation of the question, which used the PECO strategy (acronym for population, exposure, control, and outcome) to assist in the systematization and rigor of the construction of the question.9 This strategy is intended for observational studies, in which each letter of the acronym represents one component of the guestion.9

The research guiding question was: "What are the scientific evidences associated with suicidal behaviors in people with substance-related disorders?". The first element of the strategy (P) were people with substance-related disorders; (E), associated factors; and (0), suicidal behaviors. Since this study do not aim to make comparisons, the component (E) was not used for the formulation of the question.

The second step were the procedures used to contemplate the study sample. The inclusion criteria were original articles published between January 2006 and December 2016, complete, in English, Spanish and Portuguese and addressing associated with suicidal behavior in people with substance-related disorders; the exclusion criteria were editorials, literature review, experience, reflection and review reports, and those whose study object were children and/or adolescents.

The search occurred in April 2017 on the following electronic databases: Latin American and Caribbean Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Cumulative Index to Nursing and Allied Health Literature (CINAHL). It should be emphasized that in order to have access to the

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publications in its entirety, the searches were performed on a computer with access to data bases provided by the Integrated Library System of the Federal University of Paraná.

Figure 1 shows the search strategy, structured from the combination of controlled descriptors indexed on Medical Subject Headings (MeSH) and Health Sciences Descriptors (Decs), using the Boolean operators AND and OR.

Database	Search strategy	Total of article
LILACS	(("suicide") or "suicidal ideation")	86
	or "suicide attempt" [Subject descriptor] and ((((((((("substances related disorders") or "alcohol-related disorders") or "ALCOHOLISM") or "related disorders amphetamines") or "cocaine-related disorders") or "inhalant abuse") or "abuse of marijuana") or "opioid-related disorders") or "morphine dependence") or "morphine dependence") or phencyclidine abuse") or "abuse of intravenous substances") or "detection of substances abuse" [Subject descriptor]	
MEDLINE	(("Suicide" [Mesh] OR "Suicidal Ideation" [Mesh]) OR "Suicide, Attempted" [Mesh]) AND (((((((((((("Substance-Related Disorders" [Mesh:noexp] OR "Alcohol-Related Disorders" [Mesh:noexp]) OR "Alcoholism" [Mesh]) OR "Amphetamine-Related Disorders" [Mesh]) OR "Cocaine-Related Disorders" [Mesh]) OR "Inhalant Abuse" [Mesh]) OR "Marijuana Abuse" [Mesh]) OR "Opioid- Related Disorders" [Mesh]) OR "Heroin Dependence" [Mesh]) OR "Morphine Dependence" [Mesh]) OR "Phencyclidine Abuse" [Mesh]) OR "Substance Abuse, Intravenous" [Mesh]) OR "Substance Abuse Detection" [Mesh]) AND "loattrfree full text" [sb] AND ("2006/01/01" [PDAT] : "2016/12/31" [PDAT]) AND "humans" [MeSH Terms] AND (English [Lang] OR Portuguese [Lang] OR Spanish [Lang]) AND "adult" [MeSH Terms])	332
CINAHL	#S1 (MH "Alcoholism") OR (MH "Alcohol-Related Disorders") OR (MH "Alcohol Abuse") OR (MH "Substance Abuse Detection") OR (MH "Substance Abuse") OR (MH "Substance Abuse, Intravenous") OR (MH "Inhalant Abuse") OR (MH "Substance Use Disorders") OR (MH "Substance Use Rehabilitation Programs") OR (MH "Substance Abusers") OR (MH "Substance Abusers") OR (MH "Substance Abusers") OR (MH "Alcohol Rehabilitation Programs") #2 (MH "Suicide") OR (MH "Suicide, Attempted") OR (MH "Suicidal Ideation") #51 AND S2 Limits - Complete text; Date of publication: 20060101-20161231 Restrict by SubjectAge: - all adult Search modes - Booleano/Frase	232

Figure 1. Search strategies used on databases. Curitiba, PR, Brazil, 2019.

The search on databases returned 650 publications, as shown in Figure 2, of these, 142 were read in their entirety; 88 were excluded by: addressing the use of substances without configuring substance-related disorders (40), not contemplating suicidal behaviors (18), not addressing the issue in the results (17), adolescents as study object (five), factors

associated with suicidal behavior in people with psychiatric comorbidity (five), not being original articles (two) and data inconsistency (one).

Fifty-four articles were considered eligible to compose the sample, from a selection performed by two researchers independently; the differences, expressed in seven articles, were resolved in discussion in the research group.

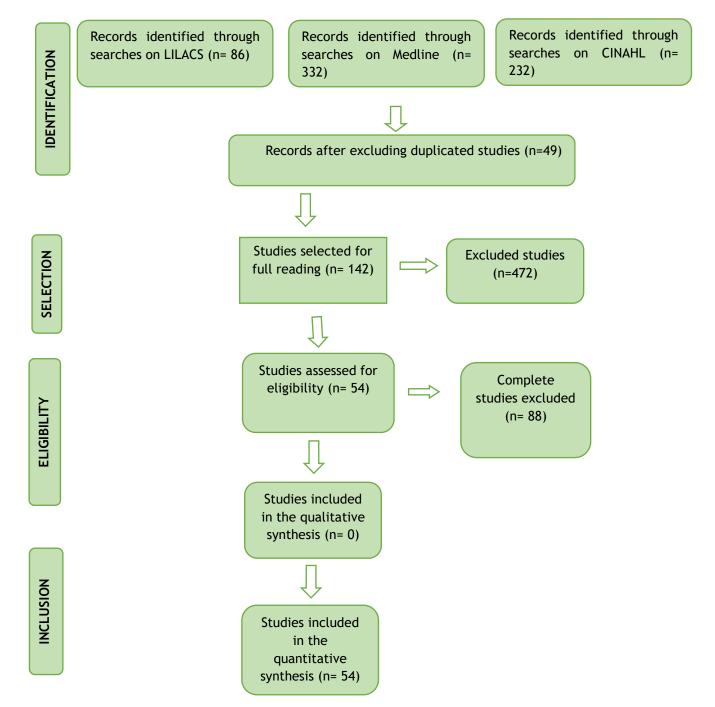


Figure 2. Flowchart of selection of studies according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2009). Curitiba (PR), Brazil, 2019.

The critical evaluation of researches used the adapted instrument Critical Appraisal Skills Program (CASP), which comprises 10 questions to be scored: 1) objective and background; 2) the appropriateness of the methodological design; 3) characteristics of theoretical and methodological procedures; 4) definition of the study sample; 5) detailing of the data collection; 6) relationship between researcher and participant; 7) ethical considerations; 8) accuracy of data analysis; 9) presentation of results and discussion; 10) contributions and limitations of the study¹⁰.

The application of the CASP classified the researches in level A for studies with a score between 6 and 10 points, which corresponds to a good methodological quality and reduced bias in the study; and level B with a score equal to or less than five, identified with satisfactory methodological quality with increased risk of bias. This instrument was used regarding the possibility of assessing the quality of research in a thorough, systematic and objective way. The studies with a score equal to or less than five, identified with satisfactory methodological quality with increased risk of bias. This instrument was used regarding the possibility of assessing the quality of research in a thorough, systematic and objective way.

To assess the level of evidence, the Hierarchical Classification of Evidence Evaluation of Studies¹¹ was used, which proposes seven increasing levels of evidence, from the strongest to the weakest: Level I - meta-analysis or systematic reviews of randomized clinical studies or guidelines for evidence-based practice; level II - randomized clinical trials; level III - nonrandomized controlled clinical trials; level IV case-control and cohort studies; level V systematic reviews of qualitative and descriptive studies; level VI - evidence of descriptive or qualitative study; level VII - opinion of authorities and/or committee of experts.

In the third step, representation of the characteristics of the primary research, the data of the articles were extracted from publications from a drawn up instrument, with the following items: title, language, year, type of substance, type of suicidal behavior, introduction, methodology, results and conclusion.

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The step of analysis of findings selected the aspects associated with suicidal behavior identified from the inferences of the authors of publications and of quantitative univariate, bivariate and multivariate analyses and, subsequently, a descriptive analysis of the collected data was performed.

The last stages of the integrative review, interpretation of results and presentation of the review, comprised the results and discussion supported by literature, which will be presented in the next topics.

RESULTS

The final sample consisted of 54 final articles¹²⁻⁶⁵, as shown in Figure 3, with two indexed on LILACS, 15 on CINAHL and 37 on Medline. Of these, 52 articles were in English, one in Spanish and one in Portuguese.

The countries of origin of production of articles are: United States of America (21), Poland (eight), Australia (five), China (four), Sweden (three), Brazil (two) and Taiwan (two); and one for each of the following countries: Germany, Austria,

Colombia, South Korea, Egypt, India, England, Italy, Japan and Wales.

Fifty-one articles were considered as level A and three as Level B, according to the CASP adapted instrument. The articles were classified according to the levels of evidence, with 38 corresponding to level VI since they portraye descriptive quantitative studies, 15 to level IV being cohort or case-control studies and one to level II for being a randomized clinical trial. All studies used the quantitative approach.

Author	Year	Country	Type of Study
Deisenhammer, Lechner-Schoner, Kemmler, Ober, Braidt, Hinterhuber. 12	2006	Austria	Cross-sectional
Tiet, Ilgen, Byrnes, Moos. 13	2006	United States of America	Cross-sectional
Hunt, Kapur, Robinson, Shaw, Flynn, Bailey, et al.	2006	England and Wales	Quantitative. National clinical research
Chen, Lin, Huang, Su, Hsiao, Chiang. 15	2007	China	Clincal research
Ilgen, Harria, Moos, Tiet. ¹⁶	2007	United States of America	Longitudinal
Maloney, Degenhardt, Darke, Mattick, Nelson. 17	2007	Australia	Case-control
Lloyd, Ricketss, Havens, Cornelius, Bishai, Huettner, et al. ¹⁸	2007	United States of America	Cross-sectional
Lim, Oh, Shin, Kang, Kim, Park, et al. 19	2008	Korea	Cross-sectional
Wojnar, Ilgen, Jakubczyk, Wnorowska, Klimkiewicz, Brower. ²⁰	2008	Poland	Longitudinal
Maloney, Degenhardt, Darke, Nelson. ²¹	2009	Australia	Quantitative. Data extracted from a case-control study
Maloney, Degenhardt, Darke, Nelson. ²²	2009	Australia	Case-control
Wojnar, Ilgen, Czyz, Strobbe, Klimkiewicz, Jakubczyk, et al. ²³	2009	Poland	Cross-sectional
Martinotti, Carli, Tedeschi, Di Giannantonio, Roy, Janiri, et al. ²⁴	2009	Italy	Case series
Sublette, Carballo, Moreno, Galfalvy, Brent,	2008	United States	Quantitative;
Birmaher, et al. ²⁵		of America	retrospective
Eggleston, Calhoun, Svikis, Tuten, Chisolm, Jones. 26	2009	United States of America	Cross-sectional
Ilgen, Chermack, Murray, Walton, Barry, Wojnar, et al. ²⁷	2009	United States of America	Quantitative. Screening data of participants for a randomized clinical trial
Zhang, Conner, Phillips. ²⁸	2010	China	Quantitative. Psychological autopsy.
Erfan, Hashim, Shaheen, Sabry. ²⁹	2010	Egypt	Case-control
Oquendo, Currier, Liu, Hasin, Grant, Blanco. ³⁰	2010	United States of America	Epidemiological
Maloney, Degenhardt, Darke, Nelson.31	2010	Austrália	Case-control
Vinod, Kassir, Hungund, Cooper, Mann, Arango. ³²	2010	United States of America	Clinical research
Chen, Lin, Lee, Lai, Chen, Ferri, et al. ³³	2010	Taiwan	Cross-sectional
Britton, Conner. ³⁴	2010	United States of America	Longitudinal
Howard, Perron, Sacco, Ilgen, Vaughn, Garland, et al. ³⁵	2010	United States of America	Cross-sectional
Wrzosek, Łukaszkiewicz, Wrzosek, Serafin, Jakubczyk, Klimkiewicz, et al. ³⁶	2011	Poland	Clinical research
Mattisson, Bogre, Öjehagen, Nordström, Horstmann. ³⁷	2011	Sweden	Longitudinal
Bohnert, Roeder, Ilgen. ³⁸	2011	United States of America	Cross-sectional
Conner, Gunzler, Tamg, Tu, Maisto. ³⁹	2011	United States	Quantitative. Data

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Liu, Vassileva, Gonzalez, Martin. 40 2012 United States of America	, , , ,			
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Figure 3. Results found in the studies according to the author, year of publication, country and type of study. Curitiba (PR), Brazil, 2019.

Among the classifications of the disorders, most articles discussed alcohol-related disorders (21), multiple substances (17) and opiates (11).

Suicidal ideation was measured in 18 articles, being assessed for the presence of thoughts of death at any time during the life (eight), in the last week (two), in the last two weeks (three), in the last month (three), in the last six months (two) and in the last year (one).

Suicide attempt was the most assessed suicidal behavior, corresponding to 35 studies of the sample, investigating since attempt history during life (29), in the last month (three), in the last two weeks (one), in the last three months (one), in the last six months (one) and in the last year (two).

The onsummation of suicide was investigated in nine studies, identified, in their entirety, from records of national databases.

Figure 4 summarizes the 78 aspects associated with suicidal behavior, which correspond to a frequency of 237 citations. These behaviors were correlated 46 times to sociodemographic and economic aspects; 14 to clinical and biological aspects; 22 to cognition, emotion and thoughts; 29 to stressful life events; 56 to manifestations of symptoms and disorders; 47 to the use of substances; and 23 to suicidal behaviors.

		-	
			n
Ę	Female sex		11
ар	Younger individuals		8
<u>100</u>	Low economic condition		4
٤	Low social support		4
Socioeconomic and demographic aspects	Male sex		4
ts d	Caucasian		3
ec ec	Older invididuas		3
ic and o	Male sex		3
j <u>E</u> ø	Unemployment		2
2	• •		
0	Married		1
ě O	Without stable marital status		1
Ğ	Higher education level		1
So	Living in the rural zone		1
	Total		46
<u></u>			n
<u>:</u>	Biochemical/genetic changes		3
Ë	Difficulties to sleep		3
cl ts	Clinical comorbidity		2
ic and c	Lower level of general functioning		2
s c	Higher level of pain		2
9 <u>7</u> .	Greater gravity in clinical area		1
음			1
Biologic and clinical aspects	Increased triglycerides		•
_	Total		14
ج ۔			n
Aspects related to cognition, behavior and thoughts	Aggressive behavior		7
ects related to cogniti behavior and thoughts	Impulsiveness		5
DG US	Risk behavior - sharing syringes and needles		2
υğ	Low self-esteem		1
무유	Low traits of kindness		1
ا کی ا	Low traits of conscientiousness		1
ate r a	Self-injurious behavior		1
je je	Cognitive deficit to understand information		1
s r lav	Depreciation on delayed reward		1
e g	Chronic stress		1
9 d	Expression of anger		1
Ş	Total		22
	TOLAI		
đ)	IPotential and the second second		n
ຸ ຊ ≝	History of sexual abuse		10
ָּבֶּ בְּׁ לֵּבָּ בַּבְּ בָּבָּ לָבָּ	History of physical abuse		9
Aspects elated t essful li events	Trauma / maltreatment / neglect history		4
Aspects related to stressful life events	History of psychological abuse		3
r. str	Experience of stressful life events		3
	Total		29
			n
	Depressive disorders/depressive episodes		23
. <u>.</u>	Personality disorders		7
i j	Psychiatric symptoms		5
iat orc	Bipolar affective disorder		4
ch His c	Psychiatric comorbidity (general)		3
l c	Panic disorder		2
) p			
<u> t</u>	Family history of mental disorder		2
ed 	Anxiety disorders		2
lat nd	Post-traumatic stress disorder		2
<u>a</u> .	Low adherence to mental health treatment		1
ES _	Social Phobias		1
ect to	History of mental health treatment		1
Aspects related to psychiatric symptoms and mental disorders	Greater severity of problems in the psychiatric area		1
آ ج ک	Fewer criteria for depressive disorder		1
•	Conduct Disorders		1
	Total		56
	1 4 200,		

		n
	Alcohol-related disorders	6
	Disorders related to cocaine derivatives	5
	Greater severity of substance-related disorders	5
Se	History of treatment for substance-related disorders	4
	Higher intensity and/or frequency of substance use	4
کر	Early start of use of psychoactive substances	
tar	Disorders related to sedatives and hypnotics	3
ps	Non-fatal overdose history	3 3 2
ns	Marijuana-related disorders	2
ţ	Disorders related to multiple substances	2
D	Disorders related to illicit substances	2
ate	Tobacco-related disorders	2
e.	Early onset of problems caused by the substance	1
Aspects related to substance use	Participate in self-help groups	1
ect .	Relapse	1
spe	Disorders related to stimulants (general)	1
<	Methamphetamine-related disorders	1
		1
	Ecstasy-related disorders	1
	Use of substance to deal with daily life problems	•
	Total	47
		n
다 다	Suicide attempt history	7
Z ig	History of suicidal ideation	5
ato	History of suicidal behavior by relatives or friends	4
le le	Multiple suicide attempts	2
Aspects related to suicidal behavior	Being under substance use during suicide attempt	2
eci	Low self-efficacy to avoid suicidal behavior	1
Ğ.Ÿ	Health services appointments before suicide	1
∀ ⁵	Unplanned suicide attempt	1
	Total	23

Figure 4. Results found in the studies according to factors associated with suicidal behavior in people with substance-related disorders. Curitiba (PR), Brazil, 2019.

DISCUSSION

The results show that most studies were developed in North America and Europe, representing a gap in knowledge about suicidal behaviors among people with substance-related disorders in South America, especially in Brazil.

Suicide attempt during life was the most investigated suicidal behavior, being, in the literature, the most poignantly risk factor for subsequent suicidal behavior. Estimates show that for every death from suicide, approximately twenty people attempted against their life, causing significant family, social and economic impacts. 1

Among the sociodemographic and economic aspects, the female sex was one of the most prevalent in the literature. 13,15,17,21,35,38-40,43-44,53. A case-control study, developed in Australia with people with opiate-related disorders, revealed that women presented a greater propensity to verbalize persistent suicidal thoughts, history of suicide attempts and multiple attempts during the life when compared to men with the same disorder. 17

The female sex was the most prone to developing ideation, history of suicide attempts and hospitalizations resulting from this behavior, thus, the global burden of morbidity and mortality related to suicidal behavior is higher in women when compared to men. 66 This fact possibly results from the vulnerability regarding gender, mental

disorders and psychosocial stressors specific to this population.⁶⁶

Younger people were more likely to have suicidal behaviors, especially suicide attempts. 12-13,23,33,38-39,43,45 A study, which evaluated risk factors for suicide in 1,420 Japanese people with substance-related disorders, showed that being younger is associated to a higher severity for the risk of suicide. 43 This fact possibly correlates to patients that begin the consumption of illegal substances earlier by difficulties and psychosocial problems in childhood and/or adolescence. 43

The results show that low socioeconomic and demographic conditions are aspects related to suicidal behavior, particularly regarding issues of social vulnerability, such as unemployment, unfavorable financial conditions and low social support.

A study conducted in Brazil aiming to analyze the association between suicide rates in the country and income inequality identified that socioeconomic aspects are relevant risk factors for suicide, especially regarding the high income inequality that increases the vulnerability of the disadvantaged, as well as low per capita income.⁶⁷

A study developed with the population of the United States of America (USA) showed that higher poverty indices were associated to deaths from suicide in both sexes. Unemployment rates in people who committed suicide were mediated by higher rates of poverty.⁶⁸ Unemployment is a frequent practice in the context of people with substance-related disorders regarding the

consequences of consumption, which comprise the difficulty to perform activities of daily living, work absenteeism and the devaluation of self-image.⁶⁹

The studies reveal that, among the social losses caused by the consumption of illegal substances, the low social and/or family support is a relevant aspect associated with suicidal behavior in people with abuse of substances. 33,46,56,62

In the prospective study conducted with the Japanese population, with 26,672 men and 29,865 women, people with higher levels of social support had a lower risk of suicide; regarding the type of social support, women who have support for esteem, have someone who supports their opinions and acts showed reduction of suicide, while in men, the decreased risk is associated with the fact of having more than four friends.⁷⁰

Biochemical and genetic changes may favor the development of suicidal behavior, specifically in people with alcohol-related disorders. ^{32,36,59} A study that investigated the presence of abnormalities in the endocannabinoid system of suicidal people with alcohol-related disorders showed that there is higher levels of CB1 receptors in the ventral striatum and G protein signaling mediated by the CB1 receptor between alcoholics who committed suicide. ³²

Some genetic changes act on the dopaminergic⁵⁹ and the serotoninergic³⁶ system, which may result in a higher probability of developing suicidal behavior in alcoholics.

In clinical conditions, sleep problems are often associated with suicidal ideation and/or history of suicide attempt. 46,60,62 A study conducted with alcoholics in the USA highlighted that individuals with reduced sleep duration showed greater susceptibility to suicidal ideation in the past 12 months; the symptoms included difficulty to sleep, to keep the sleep and the low quality of sleep. 60

The literature points out that the effects of the substances allow the intensification of emotional and behavioral changes, especially those with suicidal behaviors. ⁵⁰ Greater traits of aggression, impulsivity, and history of trauma in life can exert influences in the pathogenesis of suicidal behavior in alcoholics. ⁶⁵

People using substances with suicidal ideation for the first time and with difficulties to control violent behaviors are more likely to act impulsively, directing the aggressive behavior to themselves.¹³

The literature points out that people with substance-related disorders with higher trait of impulsivity are more prone to have history of suicidal behavior. ^{22-23,50,65} Users of substances with suicidal ideation showed greater manifestation of attentional impulsivity regarding the difficulty to concentrate and more unstable thoughts, trend of fiery behaviors, and lack of planning and guidance for the future. ⁵⁰

Among the stressful life events, a study⁵⁶ developed with 386 alcoholic Polish people showed significant association between suicide attempt and history of sexual and physical abuse in childhood, as well as revictimization of abuse in adulthood; these people have a higher propensity

for developing manifestations of symptoms in mental health and having a family member with more severe mental disorders, intensifying the social vulnerability.⁵⁶

The manifestation of symptoms and mental disorders reveals the presence of psychiatric comorbidities such as one of the prominent aspects associated with suicidal behavior, particularly in relation to depressive disorders and/or symptoms, identified in 23 studies. Depressive symptoms, hopelessness, pain, suffering, difficulty to deal with problems and presence of other mental disorders are often associated with suicide attempts and suicide.⁷¹

In a study with 111 patients under treatment for substance-related disorders, based on the evaluation of the depression/suffering model of amplification, the increased risk of suicide in this population is due to the increased sensitivity to anxiety by cognitive concerns in people with major depressive episode.⁶⁴

Personality disorders were also often associated with suicidal behavior, with predominance of borderline personality disorder. Approximately 78% of people with borderline disorders present concomitantly a substance-related disorder, thus becoming more impulsive, with higher rates of suicidal behavior, low adherence to the proposed treatment and smaller periods without consumption of substances.⁷²

Among the aspects associated with the use of substances, alcohol was the substance most often related to suicidal behaviors. Alcohol favors the suicidal risk relating to disinhibition and impulsivity, as well as its consequences of consumption, such as social isolation, difficulty of relationships, social vulnerability and breaking of affective bonds.⁷³

Cocaine and its derivatives are one of the main substances associated with suicidal behavior. A longitudinal study developed with 2996 patients under treatment for substance-related disorders highlights the increased probability of suicide attempt in cocaine users at the beginning of treatment; and for those who made daily use of cocaine during the follow-up period of one year.³⁴

A study conducted in the United States of America, with people under treatment for substance abuse, highlights that the consumption of cocaine in the last month intensifies the suicide rates in approximately two times; 35% of those who have used cocaine reported suicide attempt in the last month compared to 16% who did not consume it.¹³

The consumption of cocaine, as well as other substances, may be associated with a response of the individual to cope to stress and stressful events, but it cannot minimize them completely. The consequences in cognition and affective dysregulation among users of cocaine may increase the risk for developing suicidal behavior. 13

One of the factors associated with suicidal behaviors is the greater severity of disorders related to alcohol and other substances. A study developed in Poland, with alcoholics under treatment, explains that individuals attempted suicide during an episode of heavy drinking showed higher levels of severity of alcohol-related disorders.45

A case-control study conducted with people under treatment showed that people with substance-related disorders with a history of suicide attempt were more likely, in the univariate analysis, to present higher scores for severity of alcohol dependence and severity of dependence on other substances when compared to those without history of attempt. 44

The recurrence of suicidal ideation and, primarily, of suicide attempt stand out among the aspects specific to suicidal behaviors. A study conducted in China with alcoholic men showed that approximately one third of individuals who committed suicide had at least one previous attempt, favoring a correlation between the abusive use of alcohol and recurring suicidal behaviors.²⁸

Suicide attempts favor significant social and economic impact and burden to health services for the treatment of physical and psychological damage related to suicidal behavior, as well as long-term disabilities.¹ Therefore, monitoring cases of people with this history becomes important for preventing suicide.1

Family history of suicide or close people are factors associated with suicidal behavior in people substance-related with disorders. Α study conducted with 154 alcoholic people under treatment identified that people with a history of suicide attempt were more likely to verbalize presence of history of suicide in their family when compared to those without prior suicide attempts.23

The family core stands out as a positive and negative direct influencer of its members. When facing the death of a family member from suicide, the person can experience feelings of guilt, anger, helplessness, loneliness and sadness, thus, when experiencing suicide in his/her family context, he/she needs space for listening and support for the resignification of possible behaviors of selfdestruction.74

CONCLUSION

This study identifies the complexity of suicidal behaviors in people with substance-related disorders regarding the heterogeneity of the biopsychosocial aspects involved, all associated with the sociodemographic, economic, clinical, biological, cognition, behavioral, emotional and thought aspects, stressful life manifestation of symptoms and mental disorders, substance use and suicidal behaviors.

Mental health services and professionals must adopt multiple therapeutic approaches that contemplate the care integrality with a view to minimizing the risk of suicide, as well as the of active listening and identification of these factors, especially those who present history of suicide attempt and depressive symptoms.

This study identified gaps in knowledge about suicidal behaviors in people with substancerelated disorders in South America specifically, in Brazil, considering the scarcity of in Therefore, studies this location. development of researches in the South American region becomes relevant, considering that the pattern of consumption of substances and the profile of the population change according to the geographic location. There is need for investment in studies with higher levels of evidence that contribute to the identification of the aspects associated with suicidal behaviors population.

FINANCING

Pridutividade CNPq scholarship. "Suicidal ideation and behaviors in people with substance-related disorders";

Coordination for Higher Level Personnel Improvement scholarship - Doctorate Degree.

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Submission: 2019/06/08 Accepted: 2019/06/19 Publishing: 2019/08/13 Corresponding author

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