FACTORS ASSOCIATED WITH SUICIDE ATTEMPT BY PEOPLE WITH MENTAL DISORDER

FATORES ASSOCIADOS À TENTATIVA DE SUICÍDIO POR PESSOAS COM TRANSTORNO MENTAL FACTORES ASOCIADOS AL INTENTO SUICIDA DE PERSONAS CON TRASTORNOS MENTALES

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ABSTRACT

Objective: to identify the factors associated with a suicide attempt by people with mental disorders. **Method:** observational and cross-sectional study carried out with 300 people with mental disorders undergoing treatment in two Psychosocial Care Centers II in *Curitiba*-PR from April to June 2014. Descriptive, univariate and multivariate analyses were performed, using logistic regression. **Results:** the prevalence of a history of suicide attempt was 67.7%, with a significant association in the multivariate analysis, in people of the "female gender" (p = 0.004), with "education level between zero and eight years" (p = 0.016), with "education level between nine and 12 years" (p = 0.013), with "perception of health as bad and regular" (p = <0.001) and "non-adherence to drug therapy" (p = 0.037). **Conclusion:** female, with a low level of education, perceiving health as bad and regular and not adhering to drug therapy were the prominent factors associated with the history of attempted suicide.

Keywords: Mental Health; Mental Disorders; Suicide, Attempted.

RESUMO

Objetivo: identificar os fatores associados à tentativa de suicídio por pessoas com transtorno mental. Método: estudo observacional e transversal realizado com 300 pessoas com transtorno mental em tratamento em dois Centros de Atenção Psicossocial II de Curitiba-PR no período de abril a junho de 2014. Foram realizadas análises descritivas, univariadas e multivariadas, empregando a regressão logística. Resultados: a prevalência de histórico de tentativa de suicídio foi de 67,7%, com associação significante na análise multivariada, entre as pessoas do "sexo feminino" (p=0,004), com "escolaridade entre zero e oito anos" (p=0,016), com "escolaridade entre nove e 12 anos" (p=0,013), com "percepção da saúde como ruim e regular" (p=<0,001) e "não adesão à terapêutica medicamentosa" (p=0,037). Conclusão: ser do sexo feminino, com baixo nível de escolaridade, perceber a saúde como ruim e regular e não aderir à terapêutica medicamentosa foram os proeminentes fatores associados ao histórico de tentativa de suicídio

Palavras-chave: Saúde Mental; Transtornos Mentais; Tentativa de Suicídio.

RESUMEN

Objetivo: identificar los factores asociados al intento suicida en personas con trastornos mentales. **Método:** estudio observacional y transversal realizado con 300 personas con trastornos mentales en tratamiento en dos Centros de Atención Psicosocial II en Curitiba-PR de abril a junio de 2014. Se realizaron análisis descriptivos, univariados y multivariados mediante regresión logística. **Resultados:** la prevalencia de antecedentes de intentos suicidias fue del 67,7%, con asociación significativa en el análisis multivariado entre personas de "género femenino" (p = 0,004), con "escolaridad entre cero y ocho años" (p = 0.016), con "escolaridad entre nueve y 12 años" (p = 0.013), con "percepción de salud como mala y regular" (p = <0.001) y "no adhesión al tratamiento farmacológico" (p = 0.037). **Conclusión:** los factores más importantes asociados con el historial de intentos suicidas fueron: ser del sexo femenino, con bajo nivel de escolaridad, con percepción de la salud como mala y regular y no adhesión al tratamiento farmacológico.

Palabras clave: Salud Mental; Trastornos Mentales; Intento de Suicidio.

INTRODUCTION

Data from the World Health Organization (WHO) showed that more than 800,000 people worldwide die by suicide each year, being the second cause of death among young people between 15 and 29 years old. It is estimated that for each consummated suicide, there are approximately more than 20 attempts, and most of them are not reported.¹

Conceptually, the suicide attempt has any non-lethal suicidal behavior related to an intentional act against one's own life.¹ Studies have shown that the risk of suicide increases proportionally to the number of attempts, tending to be recurrent, emphasizing that the history of attempted suicide is the main risk factor for a new attempt.^{2,3} This fact could be confirmed in a study developed in Taiwan, which followed 2,070 people who attempted suicide between 2006 and 2010 for at least one year, and 18.1% of this sample had more than an attempted suicide.²

Considering another study in Scotland, we found an even higher frequency of suicide attempts, in which 24.6% of patients hospitalized for attempted suicide returned to the service in up to four years because of this same cause.⁴

The risk of suicide is higher in people with mental disorders when compared to the psychologically healthy population since international records showed that approximately 90% of people who commit suicide have some type of mental disorder, with emphasis on mood, psychotic, anxiety, and personality disorders and the use of psychoactive substances.^{1,5,6}

Research addressing this theme contributes to the expansion of knowledge about the main factors associated with the history of suicide attempts in people with mental disorders, especially those patients undergoing out-of-hospital treatment. Also, they support the multidisciplinary health team in the preparation and planning of preventive health actions and assisting intervention in people at risk of suicide, to reduce the rates of suicide attempt and the act itself and its consequences.^{7,8}

There are multiple factors associated with the suicide attempt of people with mental disorders, including social, biological, family and physical and mental health factors. The identification of these factors can be useful to recognize warning signs of possible suicidal behavior, favoring the anticipation of more effective interventions for its prevention.³

Discussing the factors associated with the suicide attempt is also in line with the strategies of the WHO regarding the expansion of knowledge on the topic, planning appropriate strategies to prevent suicides.¹ Thus, the objective of this study was to identify factors associated with suicide attempts by people with mental disorders.

METHOD

This is an observational and cross-sectional study carried out in two Psychosocial Care Centers (*Centro de Atenção Psicossocial -* CAPS) in *Curitiba* (PR), from April to June 2014, with 300 people with mental disorders. The study included people over 18 years old who attended the service during the data collection period. Those who were in a situation of crisis, eventual assistance and who were not able to answer the questions were excluded, according to the evaluation of the multi-professional service team.

Three-hundred and seventy patients of the total of 510 with mental disorders registered in the two CAPS were approached by a verbal invitation, in which 300 of them accepted to participate after signing the informed consent form, 14 patients refused to participate and 56 did not fit the inclusion criteria. The 140 individuals who were not approached did not attend the CAPS during the data collection period.

We collected data through structured interviews and consultation of medical records. The collection was simultaneously in both services and carried out by 10 trained interviewers, who remained on the place during the service's opening hours. This allowed all participants who met the inclusion criteria to be addressed.

We used an instrument developed for this research, consisting of 23 questions related to the participant's demographic, socioeconomic, clinical and pharmacotherapeutic characteristics. The dependent variable was suicide attempt, and the independent variables were gender, religion, marital status, education, work situation, use of alcohol, use of illicit drugs, clinical comorbidity, family history of mental disorder, perception of their health, adherence to drug therapy, psychiatric diagnosis, psychiatric comorbidity, self-administration of medications for the treatment of mental disorders, family participation in treatment and other therapeutic activities.

For the statistical analysis, there was a double-check of the tabulation and codification of the questions. We inserted the data into an Excel® database and, after checking and correcting typing errors, we transferred them to the SPSS Statistics version 20® program.

Frequencies and percentages described the results of the qualitative variables. The Fisher's exact test, Williams's G test or the chi-square test assessed the association between suicide attempt and qualitative variables. For the multivariate analysis, a logistic regression model was adjusted considering suicide attempt as the answer variable and including explanatory variables those that presented p <0.25 in the univariate analysis.

We used the Wald test to assess the significance of the variables included in the final model. The estimated values of Odds Ratio with 95% confidence intervals showed the measures

of association between each variable and the suicide attempt. From the estimated coefficients, we calculated the probabilities of suicide attempt according to patient profiles, defined from the variables that remained in the final multivariate model, with p < 0.05 values being statistically significant.

The Research Ethics Committee of the *Universidade Federal* do *Paraná* approved the study under number 406,158/2013, and it was conducted in accordance with Resolution 466/2012.

RESULTS

Two-hundred and three (67.7%) of the 300 participants reported having attempted suicide at any time, 63 (31%) reported more than three attempts, with exogenous intoxication being the most used method (132, 41%), and among the substances of choice, medication use was reported 125 times (79.2%) by the participants.

Table 1 shows the variables related to the suicide attempt presented by gender since the scientific literature shows that suicide attempts differ between men and women. In this study, the chi-square test showed a statistically significant difference (p=0.0003) between suicide attempts and gender; however, there was no statistical significance in the association between gender and number of attempts, method, and substance used.

Table 2 shows the independent variables significantly associated with attempted suicide: marital status (p = 0.003), education level (p = 0.018), clinical comorbidity (p = 0.002) and perception of their health (p < 0.001).

The highlighted variables statistically associated with treatment in mental health and attempted suicide were: adherence to drug therapy (p = 0.001), diagnosis of depression (p = 0.001) and diagnosis of schizophrenia (p < 0.001).

In the univariate analysis, we included the variables that were significantly associated with the outcome in a logistic regression model. For each of them, the null hypothesis of no association between suicide attempts and the hypothesis that there is an association was tested. Thus, in the final model, the variables remained: gender, education, perception of their health and adherence to drug therapy.

Table 4 shows that a woman with a mental disorder has 2.26 chances of a suicide attempt than a man with a mental disorder. Also, those people with an education level of zero to eight and nine to 12 years have a chance of 3.37 and 3.70, respectively, of attempting suicide when compared to those with more years of study.

The results also indicated that perceiving their health as bad/regular increases the probability of attempting suicide by 8.37 times than those who perceive their health as very good. Also, people with mental disorders who do not adhere

to drug treatment have a 1.82 chance of attempting suicide than those who adhere to drug therapy.

After combining the four variables included in the multivariate model, we identified that the profile of the person with mental disorder most likely to attempt suicide (95.7%) is female, with education up to 12 years, considering their health bad/regular and do not adhere to drug therapy. The profile with the least probability of attempting suicide (14.5%) is a male patient, with an education of 13 years or more, who considers his health very good/excellent and adheres to drug treatment in mental health.

DISCUSSION

During the analysis of the characteristics of people with mental disorders undergoing treatment at CAPS, there was a predominance of people with a history of previous suicide attempts in 67.7% of the sample, 20.3% were men and 47.3% were women. In the method used in the suicide attempt, there was a prevalence of exogenous drug intoxication.

Corroborating this finding, a study developed in emergency service in Teresina-PI showed that in 277 victims of self-inflicted violence due to exogenous intoxication, 59.5% used psychotropic drugs and 18.4% used rodenticides.⁸ The most used drug classes for the suicide attempt were drugs with priority action on the central nervous system.⁹

In the univariate analysis, there was an association with marital status with a history of attempted suicide, with a higher prevalence among divorcees, similar to the findings of research developed in South Korea, whose aim was to analyze the national suicidal tendency. This research found that unmarried people are more likely to commit suicide, specifically divorced people, sequenced by those who never married and by widowers.¹⁰

The relationship with intimate partners has direct influences on the intensification and development of suicide and suicide attempts, especially when considering that the low quality of relationship and situations of divorce and separation are also risked factors for suicidal behaviors and stimuli for have a suicide attempt.¹¹

In the clinical comorbidities, a study aimed at investigating the risk of suicide among the American population with impaired physical health conditions showed that in 2,674 individuals who died from suicide, 62% had at least one clinical problem in the year before death. Among the health conditions associated with suicidal behavior are: sleep disorders, an acquired immunodeficiency syndrome (AIDS), brain trauma, migraine, epilepsy, chronic obstructive pulmonary disease (COPD), heart failure, cancer, and back pain.¹²

Table 1 - Distribution of patients with mental disorders by gender according to variables related to a suicide attempt (N = 300), *Curitiba, Paraná*, Brazil, 2014

	Gender							
Variables					Total			
Suicide attempt								
Yes	61	20.3	142	47.3	203	67.7		
No	50	16.7	47	15.7	97	32.3		
Total	111	37	189	63	300	100		
Quantity of attempts							0. 0693**	
1 attempt	21	10.3	40	19.7	61	30		
2 attempts	17	8.4	22	10.9	39	19.2		
3 attempts	10	4.9	23	11.3	33	16.3		
> 3 attempts	11	5.4	52	25.6	63	31		
Not informed	2	1	5	2.5	7	3.5		
Total	61	30	142	70	203	100		
Method used							0.2318**	
Variables				Suicide a	ttempt			
Exogenous poisoning	32	9.9	100	31.1	132	41		
Cold weapon	19	5.9	45	14	64	19.9		
Hanging	19	5.9	28	8.7	47	14.6		
Running over	10	3.1	21	6.5	31	9.6		
Precipitating	6	1.9	19	5.9	25	7.8		
Others	10	3.1	13	4	23	7.1		
Total	96***	29.8	226***	70.2	322***	100		
Variables	Substance used in exogenous poisoning 0.0926**							
Medicine	27	17.1	98	62.1	125	79.2		
Rodenticide and pesticide	8	5.1	11	6.9	19	12		
Others	4	2.5	9	5.7	13	8.2		
Not informed	1	0.6	0		1	0.6		
Total	40	25.3	118	74.7	158***	100		

Source: the authors (2014).

Notes: *Chi-square test; **Williams G test; ***The question could have more than one possibility of an answer.

Table 2 - Univariate analysis of the association between suicide attempt and demographic, socioeconomic and clinical variables of people with mental disorders (N = 300), *Curitiba, Paraná*, Brazil, 2014

Variables	Suicide attempt					
variables		No n (%)	Total			
Religion				0.622		
Catholic	81 (64.3)	45 (35.7)	126 (42)			
Evangelical	75 (67.6)	36 (32.4)	111 (37)			
Spiritist	-	4 (100)	4 (1,3)			
Multiple	12 (75)	4 (25)	16 (5.3)			
Others	4 (80)	1 (20)	5 (1.9)			
Without religion	21 (55.3)	17 (44.7)	38 (12.7)			
Total	193 (64.3)	107 (35.7)	300 (100)			

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Table 2 - Univariate analysis of the association between suicide attempt and demographic, socioeconomic and clinical variables of people with mental disorders (N = 300), *Curitiba, Paraná*, Brazil, 2014

	Suicide attempt						
	Yes n (%)	No n (%)	Total				
Marital status	·			0.003			
Single	77 (57.5)	57 (42.5)	134 (44.7)				
Married	70 (72.2)	27 (27.8)	97 (32.3)				
Divorced	49 (83)	10 (17)	59 (19.7)				
Widow	7 (70)	3 (30)	10 (3.3)				
Total	203 (67.7)	97 (32.3)	300 (100)				
Education level				0.018			
0 to 8 years	87 (71.3)	35 (28.7)	122 (40.7)				
9 to 12 years	107 (68.6)	49 (31.4)	156 (22.4)				
13 years or more	9 (40.9)	13 (59.1)	22 (7.3)				
Total	203 (67.7)	97 (32.3)	300 (100)				
Work situation				0.944			
Working	24 (64.9)	13 (35.1)	37 (12.3)				
Unemployed	77 (67)	38 (33)	115 (38.3)				
On leave from work	60 (69)	27 (31)	87 (29)				
Retired due to illness	38 (70.4)	16 (29.6)	54 (18)				
Retired for working time or age	4 (57.1)	3 (42.9)	7 (2.3)				
Total	203 (67.7)	97(32.3)	300 (100)				
Use of alcoholic beverages				1.0			
Yes	22 (66.7)	11 (33.3)	33 (11)				
No	181 (67.8)	86 (32.2)	267 (89)				
Total	203 (67.7)	97 (32.3)	300 (100)				
Use of illicit drugs				0.411			
Yes	185 (68.5)	85 (31.5)	270 (90)				
No	18 (60)	12 (40)	30 (10)				
Total	203 (67.7)	97 (32.3)	300 (100)				
Clinical comorbidity				0.002			
Yes	136 (74.3)	47 (25.7)	183 (61)				
No	67 (57.3)	50 (42.7)	117 (39)				
Total	203 (67.7)	97 (32.3)	300 (100)				
Family history of mental disorder **				0.160			
Yes	132 (70.6)	55 (29.4)	187 (62.8)				
No	69 (62.2)	42 (37.8)	111 (37.2)				
Total	201 (67.4)	97 (32.6)	298 (100)				
Perception of their health			, ,	<0.001			
Very good	10 (29.4)	24 (70.6)	34 (11.3)				
Good	38 (52.1)	35 (47.9)	73 (24.3)				
Regular and bad	155 (80.3)	38 (19.7)	193 (64.3)				
Total	203 (67.7)	97 (32.2)	300 (100)				

Source: the authors (2014).

Notes: *Chi-square test; †Fisher's exact test; **Two people could not answer.

Table 3 - Univariate analysis of the association between suicide attempt and variables related to mental health treatment (N=300), *Curitiba*, *Paraná*, Brazil, 2014

	Suicide	Attempt		
Variables		No n (%)	Total	
BAD diagnosis [†]				0.900
Yes	84 (68.3)	39 (31.7)	123 (41)	
No	119 (67.2)	58 (32.8)	177 (59)	
Diagnosis of depression				0.001
Yes	57 (83.8)	11 (16.2)	68 (22.7)	
No	146 (62.9)	86 (37.1)	232 (77.3)	
Diagnosis of schizophrenia				<0.001
Yes	35 (50)	35 (50)	70 (23.3)	
No	168 (73)	62 (27)	230 (76.67)	
Mental comorbidity				0.068
Yes	49 (77.8)	14 (22.2)	63 (21)	
No	154 (65)	83 (35)	237 (79)	
Adherence to drug therapy				0.001
Yes	90 (58.8)	63 (41.2)	153 (51)	
No	113 (76.9)	34 (23.1)	147 (49)	
Self-administration of medicines to treat MD [§]				0.711
Yes	110 (66.7)	55 (33.3)	165 (55)	
No	93 (68.9)	42 (31.1)	135(45)	
Family participation during the treatment				0.120
Yes	145 (65)	78 (35)	223(77.7)	
No	58 (75.3)	19 (24.7)	77 (25.7)	
Participation in other activities				0.569
Yes	155 (68.6)	71 (31.4)	226 (75.3)	
No	48 (64.9)	26 (35.1)	74 (24.7)	

Source: the authors (2014).

Notes: *Chi-square test; †Fisher's exact test; †BAD: bipolar affective disorder; §MD: mental disorder.

Table 4 - Logistic regression model of the association between suicide attempt and gender, education level, perception of health and adherence to drug therapy (N = 300), *Curitiba, Paraná*, Brazil, 2014

Variable		Cuicido ettempt	n volue*	Opt	CI [95%] [‡]
variable	n	Suicide attempt	p-value*	OR [†]	CI [95%]'
Gender					
Male [§]	111	61 (54.9%)			
Female	189	142 (75.1%)	0.004	2.26	1.29 – 3.97
Education level					
0-8 years	122	87 (71.3%)	0.016	3.70	1.28 – 10.70
9 a 12 years	156	107 (68.6%)	0.013	3.75	1.33 – 10.60
13 years or more [§]	22	9 (40.9%)			
Perception of their health					
Very good/excellent [§]	34	10 (29.4%)			
Good	73	38 (52.1%)	0.031	2.73	1.09 – 6.83
Bad/regular	193	155 (80.3%)	< 0.001	8.37	3.55 – 19.74

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Table 4 - Logistic regression model of the association between suicide attempt and gender, education level, perception of health and adherence to drug therapy (N = 300), *Curitiba, Paran*á, Brazil, 2014

Variable	n	Suicide attempt	p-value*	OR [†]	CI [95%] [‡]
Adherence to drug therapy					
Adherence [§]	153	90 (58.8%)			
Not adherence	147	113 (76.9%)	0.037	1.82	1.04 - 3.21

Source: the authors (2014).

Note: *Logistic regression model and Wald test p<0,05; †OR: Odds Ratio; †CI [95%]: 95% confidence interval; \$reference category.

In addition to clinical conditions, psychiatric diagnoses are also frequently associated with suicide attempts, predominantly mood disorders, psychotic disorders, substance-related disorders and anxiety disorders.¹³ Similar to the findings of this study, national and international studies showed that the diagnosis of depression represents a positive relationship with suicide attempts.^{5,14} Data from a study carried out in China with 409 people with a history of attempted suicide and 409 controls demonstrated that the diagnosis of major depressive disorder is associated with a high risk of suicide attempt in people between 35 and 70 years old and, mainly, female.¹³

Another study developed in the city of *Recife*-PE seeking to understand the psychiatric and socio-demographic aspects related to suicide attempt by exogenous intoxication explained that in 120 patients who attempted suicide, 55.4% also had symptoms corresponding to the depressive episode, while 16.9% of the control group - who reported no attempt history - had these symptoms.¹⁴

Consistent with this perspective, Turecki and Brent contextualize that, in the interpersonal factors that intensify the risk for the development of suicidal behaviors, the intense feeling of hopelessness, helplessness, failure, and devaluation were highlighted, which can be characteristic of diagnostic depressive symptoms.⁵

Besides the mood disorders, the data in this study show a significant correlation between schizophrenia diagnosis and a history of attempted suicide. Similar to this, the literature mentioned that 25 to 50% of people with schizophrenia try against their own lives at some point in their lives, while 4 and 13% commit suicide.¹⁵

A similar characteristic was found in a study with the Canadian population, in which 39.2% of the total number of people diagnosed with schizophrenia (n = 101) had a history of attempted suicide, while 2.8% of the population without the diagnosis (n = 21,643) had this history, showing that people with schizophrenia are six times more likely to attempt suicide. Scientific advances have revealed that people with schizophrenia, mental comorbidities, substance abuse, suicidal behaviors and who do not adhere to therapy proposal have an increased risk of committing suicide. Scientific advances have revealed that people with schizophrenia, mental comorbidities, substance abuse, suicidal behaviors and who do not adhere to therapy proposal have an increased risk of committing suicide. Scientific advances have an increased risk of committing suicide.

In the multivariate analysis, we identified an association between attempted suicide during life and socio-demographic and clinical variables. There was a significance for females, low education level, bad/regular health condition and low adherence to drug therapy. In this sense, women are more likely to have a history of attempted suicide than men, including the likelihood of subsequent suicide attempts.^{1,2,5}

A national study carried out in a city in *Minas Gerais* to identify the epidemiological profile of suicide attempts and the act itself showed that women were 16.5 times more likely to go against their own lives than men.¹⁷

The literature shows that women are more likely to show suicidal ideation and attempted suicide and, consequently, they need hospitalization for this act. When considering the total burden of mortality and morbidity together, the burden of suicidal acts by women is higher than in men.¹⁸

Contrarily to this finding, a study in CAPS in the state of *Minas Gerais* based on the analysis of the medical records of 410 people with mental disorders showed rates lower than the history of attempted suicide in women, with 22.1% having this history.⁷

We believe that women are more at risk of committing suicidal acts due to gender vulnerability associated with psychopathology and biological, psychological and social stressors. According to WHO, the reasons for distinguishing between suicidal behavior rates in men and women are due to gender inequality, the access and the preference for suicide methods, the pattern of use of psychoactive substances and, mainly, to the different rates of demand for psychiatric treatments between men and women. 1

As the findings of this investigation, the literature showed that low education is directly associated with a history of previous suicide attempts.^{13,19} A study with the Chinese population reported that people with a history of previous suicide attempts with some psychiatric diagnosis are more prone to social and economic disadvantages.¹³

In a competitive society, the educational level affects the means of promoting work and the individual's financial condition, thus, education is a relevant predictor for obtaining work.¹⁹ Thus, we suggest that low socioeconomic conditions

are associated with increased attempted suicide and suicide, especially when considering the possible exacerbation of psychological suffering caused by social disadvantages.²⁰

In this study, individuals with self-perceived health as bad or regular were more likely to have a history of attempted suicide. Considering this perspective, a cohort study conducted with the French population to assess the population's self-perceived health up to 15 years before death statistically proved that individuals who died by suicide over 15 years before death were more likely to rate their health as bad.²¹

The literature explained that self-rated health represents an individual perception, predominantly subjective, which includes diverse intrinsic and extrinsic factors to the individual. A study developed in the United States of America that investigated changes in self-perceived health and mortality identified that self-perceived health is one of the prominent predictors of population mortality, representing a relevant aspect in the psychosocial approach on which health systems are based.²²

The low adherence to drug therapy in this study was associated with a history of a suicide attempt during life. This finding corroborates research conducted with 150 patients with diagnostic criteria for type I bipolar disorder in South India, which reported that approximately 40% of people with a history of attempted suicide did not satisfactorily adhere to psychopharmacological therapy.²³

Therefore, drug therapy causes the minimization and remission of psychiatric symptoms and active thoughts of death. Although when they do not adhere to the proposed therapy, the worsening of the clinical condition intensifies and, consequently, favors the development of multiple suicide attempts and need for hospitalization.²⁴

CONCLUSION

We concluded that being female, with a low level of education, perceiving health as bad and regular and not adhering to drug therapy were the prominent factors associated with the history of a suicide attempt during life in people with mental disorders undergoing treatment in a CAPS from *Curitiba*. While the profile of men, with more education level, who consider their health to be very good or excellent and who adhere to drug therapy were less likely to have attempted a previous suicide.

We emphasize that the cross-sectional design of this research does not enable to make causal inferences about the factors associated with suicide attempt in people with mental disorders. Thus, the results obtained must be applied with weight in this population. Longitudinal studies are recommended to better examine the risk factors for attempted suicide, considering different contexts and the specificity of each psychiatric diagnosis.

REFERENCES

- World Health Organization. Preventing suicide: a global imperative. Geneva: World Health Organization; 2014[cited 2017 July 04]. Available from: http://apps.who.int/iris/bitstream/10665/131056/8/9789241564878_eng. pdf?ua=1&ua=1
- Huang YC, Wu YW, Chen CK, Wang LJ. Methods of suicide predict the risks and method-switching of subsequent suicide attempts: a community cohort study in Taiwan. Neuropsychiatr Dis Treat. 2014[cited 2017 July 04];10:711-8. Available from: https://dx.doi.org/10.2147%2FNDT.S61965
- Teti GL, Rebok F, Rojas SM, Grendas L, Daray FM. Systematic review of risk factors for suicide and suicide attempt among psychiatric patients in Latin America and Caribbean. Rev Panam Salud Pública. 2014[cited 2017 July 04];36(2):124-33. Available from: https://www.scielosp.org/article/rpsp/2014. v36n2/124-133/pt/
- O'Connor RC, Smyth R, Ferguson F, Ryan C, Williams JMG. Psychological processes and repeat suicidal behavior: a four-year prospective study. J Consult Clin Psychol. 2013[cited 2017 Nov 18];81(6):1137-43. Available from: https://psycnet.apa.org/fulltext/2013-25313-001.html
- Turecki G, Brent DA. Suicide and suicidal behaviour. Lancet. 2016[cited 2017 Nov 18];387:1227-9. Available from: http://dx.doi.org/10.1016/S0140-6736(15)00234-2.
- Gómez-Durán EL, Forti-Buratti MA, Gutiérrez-López BG, Belmonte-Ibánez A, Martin-Fumadó C. Trastornos psiquiátricos en los casos de suicidio consumado en un área hospitalaria entre 2007-2010. Rev Psiquiatr Salud Ment. 2016[cited 2018 June 01];9(1):31-8. Available from: https://medes. com/publication/107762
- Botti NCL, Cantão L, Silva AC, Dias TG, Menezes LC, Castro RAS.
 Características e fatores de risco do comportamento suicida entre homens e mulheres com transtornos psiquiátricos. Cogitare Enferm. 2018[cited 2018 June 01]:23(2):e54280. Available from: http://dx.doi.org/10.5380/cev/3i154280
- Veloso C, Monteiro CFS, Veloso LUP, Figueiredo MLF, Fonseca RSB, Araújo TME, et al. Violência autoinfligida por intoxicação exógena em um serviço de urgência e emergência. Rev Gaúcha Enferm. 2017[cited 2018 June 18];38(2). Available from: http://dx.doi.org/10.1590/1983-1447.2017.02.66187
- Vieira LP, Santana VTP, Suchara EA. Caracterização de tentativas de suicídios por substâncias exógenas. Cad Saúde Colet. 2015[cited 2018 June 11];23(2):118-23. Available from: http://dx.doi.org/10.1590/1414-462X201500010074
- Kim JW, Jung HY, Won DY, Noh JH, Shin YS, Kang TI, et al. Suicide trends according to age, gender, and marital status in South Korea. Omega (Westport). 2017[cited 2018 June 13]. Available from: https://doi. org/10.1177/0030222817715756
- Kazan D, Calear AL, Batterham PJ. The impact of intimate partner relationships on suicidal thoughts and behaviours: a systematic review. J Affect Disord. 2016[cited 2018 May 12];190:585-98. Available from: https://doi.org/10.1016/j.jad.2015.11.003
- Ahmedani BK, Peterson EL, Hu Y, Rossom RC, Lynch F, Lu CY, et al. Major physical health conditions and risk of suicide. Am J Prev Med. 2017[cited 2018 June 14];53(3):308-15. Available from: https://doi.org/10.1016/j. amepre.2017.04.001
- Liu BP, Qin P, Liu YY, Yuan L, Gu LX, Jia CX. Mental disorders and suicide attempt in rural China. Psychiatry Res. 2018[cited 2018 Feb 06];261:190-6. Available from: https://doi.org/10.1016/j.psychres.2017.12.087
- Santos MSP, Silva TPS, Pires CMZ, Ramos PGX, Sougey EB. Identificação de aspectos associados à tentativa de suicídio por envenenamento. J Bras Psiquiatr. 2017[cited 2018 June 02];66(4):197-202. Available from: http:// dx.doi.org/10.1590/0047-2085000000171
- Lee H, Lee K, Koo J. Suicide in patients with schizophrenia; a review on the findings of recent studies. Korean J Schizophr Res. 2015[cited 2018 Jan 21];18(1):5-9. Available from: https://doi.org/10.16946/kjsr.2015.18.1.5
- Fuller-Thomson E, Hollister B. Schizophrenia and suicide attempts: findings from a representative community-based Canadian sample. Schizophr

- Res Treatment. 2016[cited 2018 Mar 23]. Available from: http://dx.doi. org/10.1155/2016/3165243
- Ribeiro NM, Castro SS, Scatena LM, Haas VJ. Análise da tendência temporal do suicídio e de sistemas de informações em saúde em relação às tentativas de suicídio. Texto Contexto Enferm. 2018[cited 2018 June 27];27(2):e2110016. Available from: http://dx.doi.org/10.1590/0104-070720180002110016
- Vijayakumar L. Suicide in women. Indian J Psychiatry. 2015[cited 2018 June 15];57(Suppl. 2):233-8. Available from: http://dx.doi.org/10.4103/0019-5545 161484
- Kim JL, Kim JM, Choi Y, Lee TH, Park EC. Effect of socioeconomic status on the linkage between suicidal ideation and suicide attempts. Suicide Life Threat Behav. 2016[cited 2018 Mar 22];46(5):588-97. Available from: http://dx.doi.org/10.1111/sltb.12242
- Knipe DW, Carroll R, Thomas KH, Pease A, Gunnell D, Metcalfe C.
 Association of socio-economic position and suicide/attempted suicide in low and middle-income countries in South and South-East Asia a systematic review. BMC Public Health. 2015[cited 2019 June 02]:15:1055.

 Available from: http://doi.org/10.1186/s12889-015-2301-5

- Stenholm S, Kivimäki M, Jylhä M, Kawachi I, Westerlund H, Pentti J, et al.
 Trajectories of self-rated health in the last 15 years f life by cause of death.
 Eur J Epidemiol. 2016[cited 2018 Jan 21];31(2):177-85. Available from: http://dx.doi.org/10.1007/s10654-015-0071-0
- Schnittker J, Bacak V. The increasing predictive validity of self-rated health. PLos ONE. 2014[cited 2018 Mar 15]:9(1):e84933. Available from: https://doi.org/10.1371/journal.pone.0084933
- Kattimani S, Subramanian K, Sarkar S, Rajkumar P, Balasubramanian S. History of Lifetime suicide attempt in bipolar I disorder: its correlates and effect on illness course. Int J Psychiatry Clin Pract. 2017[cited 2018 May 16];21(2):118-24. Available from: https://doi.org/10.1080/13651501.2016.12 50912
- Ferreira ACZ, Brusamarello T, Capistrano FC, Marin MJS, Maftum MA. A vivência do portador de transtorno mental no uso de psicofármacos na perspectiva do pensamento complexo. Texto Contexto Enferm. 2017[cited 2018 June 17];26(3):e1000016. Available from: http://dx.doi. org/10.1590/0104-07072017001000016