

The association between traumatic experiences and suicide attempt in patients treated at the Hospital de Pronto Socorro in Porto Alegre, Brazil

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Abstract

Objective: To analyze associations between attempted suicide and childhood trauma.

Methods: A seven month comparative case-control study (28 subjects – patients with suicide attempt; 56 controls – patients without suicide attempt). The following instruments were used: Childhood Trauma Questionnaire (CTQ), Mini International Neuropsychiatric Interview (MINI), and Medical Outcomes Study (MOS).

Results: The group with suicide attempt had significantly higher scores for some variables: emotional abuse ($p < 0.001$), physical abuse ($p < 0.001$), emotional neglect ($p < 0.001$), and physical neglect ($p < 0.001$).

Conclusions: The results suggest that variables related to previous trauma may influence future suicide attempts. The adoption of preventive and therapeutic actions related to mistreatments during child development is a crucial factor in reduction of suicide risk.

Keywords: Childhood trauma, suicide attempt, psychological suffering, abuse, neglect.

Introduction

Suicide is a multi-causal problem for which, to date, no unified reference theory has been identified. It may be the result of a multifaceted interaction between biological, genetic, psychological, social, and cultural factors. Suicide behavior must be confronted as a public health problem. This is a broad task, because it involves training healthcare professionals for suicide risk (SR) detection as well as prevention and immediate treatment at the different levels of care.^{1,2} Suicide is an ancient and cross-cultural theme and remains a public health problem worldwide.³

One recent meta-analysis by Zatti et al.⁴ identified childhood trauma as a modifiable risk factor for lifetime suicide attempts. In that study, sexual and emotional abuse and physical neglect (considered psychological traumas) were associated with suicide attempt (SA). Other studies have reported findings pointing in the same direction.⁴

For example, Araújo⁵ studied suicidal behavior and childhood trauma in a database of 71,429 volunteers. The results illustrated an association between childhood emotional abuse and suicidal behavior and the author concluded that the most serious suicide attempts were associated with severe emotional abuse.

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The results of a study conducted in Rio de Janeiro with patients who attempted suicide showed a significant difference between cases and controls, with less social support among the suicide attempt cases analyzed.⁶ The present study is justified by the importance of investigating factors that can foment SR, such as traumatic experiences, mental illnesses, and loss of a significant relative. No data were found in the suicide attempt literature that directly relate recent losses with suicide attempt.

Considering the relevance of what has been outlined above, this study's main objective was to analyze the association between childhood trauma and suicide attempt in patients who needed hospital admission due to suicide attempts at the Hospital de Pronto Socorro (HPS) in Porto Alegre, Brazil. Secondary objectives were to assess the quality of the support networks of patients with and without SA; to analyze the distribution of current suicide attempts over the days of the week; and to investigate associations between SA and significant dates. The study's main contribution is confirmation of the hypothesis that people with childhood traumas are at higher risk of attempted suicide.

Method

A case-control design was used in the study. Data were collected at the HPS in Porto Alegre, Brazil. The hospital is open 24 hours a day, offering urgent and emergency care for the entire population of Porto Alegre. Suicide attempt is one of several different urgent and emergency situations seen by the healthcare teams working at the HPS. The hospital is run according to SUS regulations (the SUS is Brazil's universal access public healthcare service) and it is the primary emergency service in the state of Rio Grande do Sul.

The number of participants was calculated using data published by Roy,⁷ who compared childhood trauma in groups of patients with and without suicide attempt. According to Roy's study, standard deviations (SD) for the variable "childhood trauma" were ± 3.24 and ± 5.07 in groups with and without SA respectively. To achieve 80% power and a significance level of 5%, using a proportion of two controls per case, and with the goal of detecting a 3-point difference in total CTQ scores, we selected 84 participants (56 controls and 28 cases). The calculation was performed using WINPEPI Version 11.43. Participants were patients admitted via or seen in the HPS emergency room because of SA between August 20, 2015 and March 21, 2016.

The total number of suicide attempt cases seen during the study period was 37. Nine cases were excluded from this study because of refusal to participate

(n = 4) or because the patient was unresponsive to verbal interaction (n = 5). The participants were 28 cases and 56 controls. Controls were paired for gender and age and were recruited from patients seen on the same day as the cases for any reason other than suicide attempt and with no previous record of suicide attempt. The inclusion criteria stipulated that patients should be at least 18 years old, be able to reply to the questionnaires verbally, and be free from psychotic symptoms. They should also have agreed to participate in the study and provided signed informed consent to be included in the study. Patients were approached and data were collected at the bedside during the patients' time in hospital. Data were collected by a researcher with experience in suicidal behavior.

Instruments

Childhood Trauma Questionnaire (CTQ)

The CTQ is an adapted and validated tool that has been widely used to investigate the occurrence of abusive situations during childhood.⁸ The CTQ was developed by Bernstein et al.,⁹ and translated and validated for Portuguese by Grassi-Oliveira et al.¹⁰ It is used to assess childhood trauma and abuse. This instrument can be administered to adolescents (12+ years of age) and adults. There are two versions of the CTQ: the first has 70 items and the second is a brief version with 28 items, with five-point Likert response scales.⁹ The CTQ investigates five dimensions of trauma in childhood: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. Scores range from 25 (absence of any trauma) to 125 (the maximum score when all traumas are present).⁸

Medical Outcomes Study (MOS)

This is a social support survey that evaluates the following dimensions: tangible support (provision of practical resources and material aid), affectionate support (physical demonstrations of love and affection), emotional support (capacity of the social network to satisfy individual needs related to emotional problems), informational support (counting on people who can offer guidance, information, and counsel), and positive social interaction (having people to relax and have fun with). The MOS was developed by Sherbourne & Stewart,¹¹ and translated and validated for Portuguese by Griep et al.¹²⁻¹⁴ Answers to items "a" to "t" are distributed along a five-point Likert scale.¹⁵

Mini International Neuropsychiatric Interview (MINI)

A short, standardized diagnostic interview (15-30 minutes). The Brazilian translation of version 5.0 for the DSM IV was used.¹⁶

Sociodemographic questionnaire

Used to collect general information such as gender, age, education, income, marital status, and occupation. As an additional item, the researcher also surveyed the medical team's clinical impression of the severity and lethality of each suicide attempt, case by case. The lethality of each attempt was scaled by the doctors as: 1, mild (no clinical complications, no admission required); 2, moderate (with clinical complications, requiring hospital admission); or 3, serious (with critical complications, requiring Intensive Care Unit admission or special medical care).

Ethical aspects

All subjects were given the necessary clarifications. Procedures followed ethical standards, such as confidentiality of personal identity. Data collection tools were not administered to patients who refused to participate and their medical care at the hospital was unaffected.

The protocol for this study was approved by the research ethics committees at the Hospital de Clínicas de Porto Alegre (HCPA; protocol 150267; CAAE 44823315.1.0000.5327, opinion 1.111.108/2015) and the Porto Alegre Municipal Health Department (opinion 1.180.317/2015). The committees were informed of the data collected in the project.

All participants were cared for by the HPS Psychology Service while in hospital, which also dealt with referrals for subsequent treatment as needed.

Statistical analysis

Attribute variables were expressed as absolute and relative frequencies. Quantitative variables were expressed as means and SD or medians and interquartile ranges, depending on the results of the Shapiro-Wilk test.

Groups were compared in terms of sociodemographic variables using the Chi-square test, the *t* test for independent samples, or the Mann-Whitney test, depending on the types of variables and their distribution.

A generalized estimating equation (GEE) was used to compare means or proportions between groups. A correct analysis should consider paired subjects a single unit (1 case for 2 controls of the same gender and age). A covariance matrix with robust estimator was used with an exchangeable working correlation matrix for the GEE model. For the MOS questionnaire variables, a normal distribution and link identity function was used for the variable number of friends and relatives. Binomial distributions with logit link function were used for the variables recent loss of someone and childhood loss. The means of each variable on the CTQ questionnaire were compared for the factors 'group' and 'gender' and

the interaction 'group × gender'. A gamma distribution with log link was used. The Bonferroni post-hoc test was conducted for analyses that exhibited statistical significance.¹⁷

For the MOS questionnaire, odds ratios were calculated using conditional logistic regression.

Some variables consisted of one item with multiple answers. These variables were analyzed in descriptive form. Analyses were performed using SPSS v.18 software. The level of significance adopted was 0.05.

Results

Participants (*n* = 84) had similar distribution with regards to gender (M/F = 46.4%/53.6%) and mean age was 35.6 years (SD = 12.8). The mean number of years in education was 9.9 (SD = 4.6). Almost half of the participants were in a stable relationship (48.8%). During the interviews, 61.9% said they were employed, 27.4% were unemployed, and 10.7% were retired or students (Table 1).

26.2% of the subjects had a history of mental disorder; 56.3% reported at least one close family member with a history of mental disorder; 54.8% reported the loss of a significant other by death during their childhood; and 47% reported recent loss of a significant other by death. In 46.4%, hospital admission coincided with a significant date, regardless of the reason for admission or emergency room visit. There were no statistically significant differences in sociodemographic characteristics.

When evaluated separately, the control group had only a 7.3% prevalence of previous mental disorder, while the case group had a 64.3% prevalence (*p* < 0.001). In the control group, 64.3% reported loss of a significant other during childhood, in contrast with 35.7% in the case group (*p* = 0.025).

Sixteen of the case group subjects had a history of previous mental disorder; 62.5% (*n* = 10) were on psychiatric treatment; 12.5% (*n* = 2) were being seen by a psychologist, and 25% (*n* = 4) were receiving both psychiatric and psychological treatment. Fourteen (50%) of the subjects who attempted suicide (*n* = 28) had a record of previous suicide attempt and eight of these attempts were made in 2015-16.

The SA methods used were: ingestion of medication (53%), cutting weapon/firearm (3.1%), hanging (6.3%), overdose (6.3%), burning (9.4%), jumping out of a moving car or from a great height (9.4%), cuts to wrist and neck (9.4%), and poisoning (lye, naphthalene, rat poison) (9.4%). The total number of answers was 32, because four SAs used more than one method.

Seven people (28%) wrote a suicide letter or left a message on smartphone apps and 13 people (46%) tried to commit suicide in the presence of someone else. Four patients (14%) reported that their chosen suicide method was not easy to acquire (for instance, buying rat poison or lye in agriculture/animal supply stores), while 24 subjects (85%) described using means available in their own homes. Half of the participants (14 people, 50%) reported that the index attempt was not their first suicide attempt and one subject reported eight suicide attempts over the course of his life.

The most frequent days of the week for SA were: Mondays and Tuesdays (43%) and the most frequent time of day was in the morning, between 7:00 am and 10:00 am.

There were no statistically significance differences in CTQ results between men and women ($p \geq 0.05$). Case and control groups had different means for the following variables: emotional abuse, physical abuse, emotional neglect, and physical neglect ($p < 0.001$ for all variables), with case means always higher than control means (Table 2). Emotional abuse was the variable with the highest difference between means

for cases and controls, followed by emotional neglect (5.3 and 5.1, respectively). Regarding gender, women presented significantly higher means than men for the variables: emotional abuse ($p < 0.001$), physical abuse ($p = 0.020$), sexual abuse ($p = 0.037$), and emotional neglect ($p < 0.001$) (Table 2).

In the case group, 23 participants (82.1%) were classified as being at high risk for suicide, half of whom ($n = 14$; 50%) presented suicidal ideation at the time of the interview, while 18 (64.3%) cases had a history of psychiatric disease in the family. Fifty-five people (98.2%) in the control group had neither suicide risk nor suicidal ideation.

With regard to social support, for the whole sample, the mean number of family supporters was 3.4 (SD = 3.3) and mean number of close friends was 1.90 (SD = 2.8). The control group had a mean of 6.6 support people, including both family and close friends, in contrast with 2.5 in the case group ($p < 0.001$).

Still with relation to the MOS results, Table 3 shows the results for the dimensions: The control group presented means equal to or above 4.4 in all dimensions. In contrast, all means were below 3.4

Table 1 - Sociodemographic characteristics by group

Variable	Controls (n = 56)	Cases (n = 28)	p
Gender			
Male	26 (46.4)	13 (46.4)	> 0.999
Female	30 (53.6)	15 (53.6)	
Age, mean (SD) [min-max]*	35.6 (12.9) [19-66]	35.4 (12.8) [20-71]	0.933
Years in education, mean (SD) [min-max]*	10.1 (4.9) [1-25]	9.7 (4.0) [2-18]	0.707
Income, Q2 (Q1-Q3) [min-max]†	2.000 (1.250-3.650) [233-33.000]	2.000 (1.360-3.500) [0-5.000]	0.611
Marital status			
Single	20 (35.7)	10 (35.7)	0.177
Long-term relationship	30 (53.6)	11 (39.3)	
Widowed	1 (1.8)	0 (0)	
Separated	5 (8.9)	7 (25)	
Occupation			
Unemployed	14 (25.0)	9 (32.1)	0.522
Employed	37 (66.1)	15 (53.6)	
Retired or student	5 (8.9)	4 (14.3)	
Prior psychiatric history	4 (7.1)	18 (64.3)	< 0.001
Family psychiatric history	27 (48.2)	18 (64.3)	0.246
History of significant loss in childhood	36 (64.3)	10 (35.7)	0.025
Commemorative date near hospitalization	29 (51.8)	10 (37)	0.305
Recent loss (death) of someone	24 (42.9)	15 (53.6)	0.486
Suicide attempt (in last 3 months), Q2 (Q1-Q3) [min-max]		1 (0-1) [0-3]	

Data presented as n (%), unless otherwise specified.

Min-max = minimum-maximum; Q = quartile; SD = standard deviation.

* t test for independent samples.

† Brazilian reais (BRL) per month; Mann-Whitney U test.

Table 2 - Inter-group comparison of mean Childhood Trauma Questionnaire (CTQ) scores, using generalized estimating equation model analysis with gamma distribution

Type of trauma	Control n = 56	Case n = 28	Total n = 84	P _{group}	P _{gender}	P _{interaction}
Emotional abuse						
Male	6.4 (5.7-7.1)	10.6 (7.9-13.4)	8.2 (7.1-9.3)			
Female	9.0 (7.1-10.9)	15.6 (12.5-18.7)	11.8 (10.1-13.6)			
Total	7.6 (6.7-8.5)	12.9 (10.8-15.0)				
Physical abuse						
Male	5.9 (5.4-6.4)	10.2 (7.2-13.3)	7.8 (6.6-9.0)	< 0.001	0.020	0.672
Female	7.9 (6.5-9.4)	12.5 (9.6-15.3)	9.9 (8.6-11.3)			
Total	6.9 (6.2-7.5)	11.3 (9.2-13.4)				
Sexual abuse						
Male	5.3 (4.8-5.9)	7.0 (4.8-9.2)	6.1 (5.1-7.1)	0.067	0.037	0.927
Female	7.0 (5.7-8.3)	8.9 (5.8-12.1)	7.9 (6.5-9.3)			
Total	6.1 (5.5-6.8)	7.9 (6.0-9.8)				
Emotional neglect						
Male	7.0 (5.8-8.1)	10.8 (9.0-12.5)	8.7 (7.5-9.8)	< 0.001	< 0.001	0.676
Female	10.1 (8.1-12.2)	17.0 (13.7-20.3)	13.1 (11.6-14.6)			
Total	8.4 (7.3-9.5)	13.5 (11.8-15.3)				
Physical neglect						
Male	7.1 (6.7-7.5)	8.3 (6.6-10.0)	7.7 (6.9-8.5)	< 0.001	0.064	0.162
Female	7.5 (6.5-8.6)	10.8 (8.9-12.7)	9.0 (7.8-10.2)			
Total	7.3 (6.8-7.9)	9.5 (8.2-10.8)				
Total Score						
Male	31.7 (29.9-33.7)	46.9 (39.7-55.4)	38.6 (35.2-42.3)	< 0.001	< 0.001	0.731
Female	41.6 (35.6-48.6)	64.8 (54.8-76.7)	51.9 (46.6-57.8)			
Total	36.3 (33.4-39.5)	55.1 (49.0-62.1)				

Results expressed as mean (95% confidence interval).

p_{group} = p value for the effect of the group; p_{gender} = p value for the effect of gender; p_{interaction} = p value for the effect of the group × gender interaction.

Table 3 - Previous/recent losses by death and Medical Outcomes Study (MOS) results: evaluation of dimensions

	Control Mean (95%CI)	Case Mean (95%CI)	p	Conditional logistic regression		
				OR	95%CI	p
Family+Close friends	6.6 (5.2-8.0)	2.5 (1.4-3.7)	< 0.001	0.76	(0.64-0.91)	0.003
MOS_Tangible	4.6 (4.4-4.8)	3.4 (2.9-3.8)	< 0.001	0.20	(0.08-0.51)	< 0.001
MOS_Affection	4.6 (4.4-4.8)	3.4 (2.9-3.9)	< 0.001	0.31	(0.15-0.63)	< 0.001
MOS_Emotional	4.4 (4.2-4.6)	3.0 (2.4-3.5)	< 0.001	0.45	(0.29-0.69)	< 0.001
MOS_Informational	4.5 (4.3-4.7)	3.1 (2.6-3.5)	< 0.001	0.29	(0.15-0.57)	< 0.001
MOS_PositiveSocialInteraction	4.5 (4.3-4.7)	2.9 (2.4-3.4)	< 0.001	0.35	(0.20-0.62)	< 0.001
MOS_f1_Aff_PosSoc	4.5 (4.3-4.7)	3.1 (2.6-3.6)	< 0.001	0.30	(0.15-0.59)	< 0.001
MOS_f2_Em_Inf	4.5 (4.2-4.7)	3.0 (2.5-3.5)	< 0.001	0.37	(0.22-0.62)	< 0.001
MOS_f3_Tangible	4.6 (4.4-4.8)	3.4 (2.9-3.8)	< 0.001	0.20	(0.08-0.51)	< 0.001
Recent loss of someone	57.1 (45.3-69.0)	46.4 (28.0-64.9)	0.382	1.46	(0.62-3.45)	0.388
History of childhood loss	35.7 (23.7-47.7)	64.3 (46.5-82.0)	0.013	0.32	(0.12-0.84)	0.021
Childhood + Recent loss*	67.9 (57.7-78.0)	78.6 (63.4-93.8)	0.312	0.75	(0.42-1.34)	0.334

95%CI = 95% confidence interval.

All variables with normal distribution in the generalized estimating equation (GEE); * binomial distribution in the GEE.

in the case group, presenting significant values in all dimensions ($p < 0.001$).

As can be observed from the table, having an extra family member and/or friend to count on offers 24% protection against suicide risk and one additional point of tangible support is associated with 80% protection. One additional point of affectionate support offers 69% protection against risk of suicide attempt; emotional support provides 55% ($p < 0.001$); informational support provides 71% ($p < 0.001$); and positive social interaction offers 65% protection. When combined, affectionate support and social interaction offer 70% protection ($p < 0.001$) with one additional point. Combining emotional support with informational support gives 63% ($p < 0.001$).

Family history data is shown in Table 4. Forty-three subjects responded to a parallel investigation about

adverse events, memories, or significant dates and 65% ($n = 28$) exhibited proximity between the date of admission and anniversaries of these items, whether related to the patients themselves or to a close family member.

Table 5 shows that 10 people admitted due to SA reported 11 events: 54.5% (6 events) related to anniversaries and 45.5% (5 events) related to holidays. In the control group, 29 people reported 32 events: 68.8% (22 events) were anniversaries and 15.6% (5 events) were holidays.

An additional investigation asked the medical team to give their impression of the seriousness and lethality of the SA. They classified 32% ($n = 9$) of the SA as 'Mild', 18% ($n = 5$) as 'Moderate', and 50% ($n = 18$) as 'Serious'. Most of the cases (93%, $n = 26$) believed that their self-destructive act had caused some kind of emotional impact on a family member or friend.

Table 4 - Family psychiatric disorders

	Control	Case
Relationship		
Mother	11 (29.7)	8 (28.6)
Father	10 (27.0)	8 (28.6)
Child	4 (10.8)	3 (10.7)
Sibling	12 (32.4)	9 (32.1)
Total responses	37 (100)	28 (100)
Total subjects	27	18
Type of disorder*		
Depression	16 (8.7)	11 (10.8)
Suicide attempt	4 (2.2)	8 (7.8)
Suicide	2 (1.1)	0
Bipolar disorder	1 (0.5)	2 (2)
Alcohol problems	14 (7.6)	12 (11.8)
Drug problems	9 (4.9)	7 (6.9)
Psychiatric hospitalization	2 (1.1)	0
Psychiatric treatment	5 (2.7)	6 (5.9)
Total responses	184 (100)	102 (100)
Total subjects	56	28

* Collected using the sociodemographic questionnaire.

Table 5 - Analysis of Reasons for Hospitalization, by Adverse Events

Hospitalization reason	Birthdays	Traumatic memory/fight	Stressful event	Holidays*	Total [†]
SA	6 (60)	0 (0)	0 (0)	5 (50)	10
Accident (traffic/work/domestic)	12 (75)	0 (0)	1 (6.3)	5 (31.3)	16
Illness	6 (66.7)	2 (22.2)	2 (22.2)	0 (0)	9
Assault	4 (100)	0 (0)	0 (0)	0 (0)	4
Total [‡]	28	2	3	10	39

* Easter, Christmas, New Year, Carnival.

[†] Total number of people

[‡] Total number of responses.

Discussion

This study evaluated situations of childhood trauma, social support, sociodemographic aspects, and loss of parents during childhood or recent losses. Suicide attempt, as a bid to end one's life, is considered a matter of public health.³ With that in mind, this research was conducted to evaluate suicide attempt in patients who were seen in the emergency room or needed admission or medical care at the Hospital de Pronto Socorro, in Porto Alegre, Brazil.

In the course of normal human development, all people may face traumatic events inherent to life. However, traumatic events can occur that exceed children's capacity to understand and then become etched on their minds. Occasions that trigger trauma leave painful marks in the psychic apparatus. Such traumatic experiences are continually relived through memories and, depending on the intensity, they can become overpowering in a person's life, causing mental disorder, suicide attempt, and completed suicide. Psychic pain can seriously damage human development, impairing cognitive and emotional development, and leading people to commit violent acts of self-harm.¹⁸

In the suicide attempt sample collected at the HPS, 28% of the participants wrote some kind of suicide letter or sent messages through smartphone apps, i.e., they sought to express their unbearable psychic pain. In many cases, suicide attempt is founded on an absence of psychic resources capable of containing the psychic pain.¹⁸

The results of the instrument for measuring social support for the sample as a whole showed that the mean number of relatives considered socially supportive was 3.4 (SD = 3.3), while the mean number of close friends was 1.9 (SD = 2.8). The sum of the mean numbers of relatives and close friends was higher for the control group (6.6) than for the case group (2.5) ($p < 0.001$). In other words, patients in the control group had more social support and were more likely to be active and interactive in their social environments.

We sought to understand whether support from family or close friends would protect against suicide risk. As mentioned above, having one additional relative and/or close friend lowered suicide risk by 24% and one extra point of instrumental support reduced risk by 80%. One extra point of affectionate support gave 69% protection against risk of suicide attempt, one point of emotional support gave 55% ($p < 0.001$), and one point of informational support gave 71% protection ($p < 0.001$). Combining affectionate support and informational support resulted in 63% protection ($p < 0.001$).

The authors of a study conducted to test the construct validity of the MOS stated that there was a positive association between relatives and close friends and emotional support/social companionship. Compared to those who reported having no close friends or relatives, the likelihood of perceiving strong support was around three times higher (OR = 3.3; 95%CI: 2.2-4.9) for those who had one to two friends and about 10 times higher (OR = 10.3; 95%CI: 6.9-15.4) for those who reported eight or more friends.¹⁰ However, a recent study by Zatti et al.¹⁹ with patients who attempted suicide found that the sample had severe symptoms of depressive disorder and social support rejection. The researchers calculated Pearson coefficients for correlations between the variable depressive disorder and the MOS dimensions and found significant and inverse relationships with tangible support, emotional support, social interaction, and emotional support; in other words, the higher the score for depressive disorder, the lower the scores for the MOS dimensions.¹⁹

Certain crises, such as vital (aging) and circumstantial (unexpected events), for example, may lead to what Botega²⁰ calls existential collapse. This collapse generates anguish, helplessness, incapacity, burnout, and lack of prospects for solutions and may increase vulnerability to suicide, which begins to seem like a solution for the unbearable pain.²⁰ We investigated whether such existential collapse can be triggered by anniversaries or special dates that bring back memories or whether such dates can become overwhelming due to the individual having suffered intensely, such as feeling abandoned, helpless, and lacking prospects. We analyzed the suicide attempt cases and obtained 11 positive answers for 11 anniversaries (including birthdays) and/or special dates: 54.5% (6 events) related to anniversaries and 45.5% (5 events) related to holidays. The feeling of abandonment or loneliness is often experienced in early childhood. In the analysis of loss of a significant other during childhood among subjects who had attempted suicide, 68% ($p < 0.001$) indicated that they had lost a significant other during childhood. This figure serves as an alert for existential crises.

Based on the above, some factors are associated with increased suicide risk: suicidal thoughts, mental disorder, physical diseases, childhood trauma, psychosocial issues, and psychological and demographic aspects.²¹ Our research findings are in line with these factors, since the prevalence of a previous psychiatric medical record was lower in the control group (7%) than in the case group (63.4%) ($p < 0.001$).

Concerning clinical implications, patients with these disorders and a record of childhood trauma must be

carefully evaluated for suicide risk as well as for impulsive and aggressive tendencies, which must be treated during mental health care follow-up with the aim of preventing suicidal behavior.²²

This study also investigated whether the patients had a history of disorders within their immediate families, and the most prevalent conditions reported were depressive disorder and alcoholism. During data collection, some histories appeared to show symptoms of trauma and suffering dating back to childhood that had been caused by witnessing constant fights/arguments within the immediate family, because of constant use of alcohol by caregivers. Adverse situations experienced during childhood, such as sexual, physical, and psychological abuse, as well as physical and emotional neglect, are strong risk factors for many of the main causes of psychic suffering, death, diseases, and incapacitation in all phases of development.^{23,24}

Effective interventions are needed to prevent mistreatment in childhood and it is important that such services are available for young people who may be at increased risk for suicide, given their prior history.²⁵ Studies state that the CTQ is an appropriate tool for retrospective measurement and evaluation of previous trauma in adolescents and adults.¹⁰ The estimates observed in our study showed that means for the case group were always higher than those for the control group. Emotional abuse and emotional neglect, in that order, were the variables with the highest differences between the two groups (differences of 5.3 and 5.1 respectively).

Studies that evaluated CTQ comparing cases with suicide attempt and controls without suicide attempt have shown that CTQ mean scores are higher in suicide attempt cases than in controls.²⁵ Analysis of childhood abuse results in our sample showed that women had higher means than men for the following variables: emotional abuse ($p < 0.001$), physical abuse ($p = 0.020$), sexual abuse ($p = 0.037$), and emotional neglect ($p < 0.001$). Results from several small studies across the world reveal alarming data concerning the level of abuse against women, beginning in childhood, as we can confirm.^{8,24}

The ARYS (At Risk Youth Study) collected data in Canada from 2005 to 2013. The street youths from this prospective cohort study were aged between 14 and 26 years and were involved with drugs and street life. Participants responded to the CTQ and, using the Cox regression model, the study examined associations between five types of mistreatment and suicide attempt, concluding that childhood mistreatment is associated with higher risk of suicidal behavior among youths.²⁶ Our study also corroborates these results,

since childhood traumas were statistically significant in our case group.

The presence of childhood mistreatment was strongly associated with risk of suicide attempt. Subjects who had a history of previous physical abuse, emotional abuse, or emotional neglect were 3 to 5 times more likely to report a suicide attempt. When examined in a combined statistical model, only physical abuse maintained an independent effect on risk of suicide attempt. Sexual abuse was the least common childhood trauma among those reported in this study. However, the authors did not rule out the possibility that the participants felt uneasy about communicating such experiences.²⁶ This corroborates our findings, since sexual abuse was the least common childhood trauma reported: only one person replied "always" to all of the assertions related to sexual abuse in the CTQ.

In a longitudinal study that followed 183 youths who had suffered sexual abuse for 9 years, analysis showed that the risk of suicide was 13 times higher than that observed in the general population.²⁷ Studies of childhood abuse and suicidal behavior state that the risk of suicidal behavior increases according to the intensity of the abuse during childhood.^{28,29}

Forty-three participants answered a parallel investigation about events, memories, or birthdays/anniversaries/important dates and 65% of them ($n = 28$) had an admission date near a birthday (the patient's own or that of a significant family member). These data expose unconscious aspects involved in traffic accidents and bias in suicide attempts concealed in traffic accidents, and thus not considered suicide attempts, since the majority of people in the group were admitted due to the former.³⁰ Traffic accidents concern authorities throughout the world, given the number of people involved in fatal events of this kind. The victims might be indulging a desire for competition, speed, and living dangerously, poised between life and death.^{31,32} The relationship between admission and commemorative dates suggests unconscious aspects to be analyzed. In short, we could suppose that presenting suicidal behavior or suicide risk represents sadistic fury against oneself. One of the limitations of this study is the number of participants, which prevents us from proposing generalizations.

Pompili conducted a bibliographic search on PubMed and PsycInfo for publications from 1955 to 2011 that reported evidence of a connection between drivers involved in traffic accidents and suicidal behavior.^{33,34} Some scientists emphasize that the suicidal motivations or self-destructive impulses in traffic accidents are unconscious.^{30,35} According to one estimate, by the year 2030, injuries caused by traffic accidents will be the

fifth largest cause of death in the world. However, the phenomenon is most often reported as an accidental act in national statistics.³³

In the conclusions to a meta-analysis of longitudinal studies from the last decade, Zatti et al.⁴ compared people who were exposed to traumatic events in childhood with the general population, showing that they are at increased risk of SA. Since the various forms of childhood trauma are preventable, there are strong reasons for governments to invest in programs, policies, and interventions to minimize childhood exposure to sources of severe adversity.⁴

Conclusion

The results of this study show that situations of abuse or neglect provoke unbearable psychic pain, many times impairing reality test performance. Such 'echoes' inside the individual may provoke a desire to interrupt life by ending it.

The results of this study suggest that a combination of factors, such as childhood trauma, lack of social support, and history of psychiatric diseases in the immediate family, are involved in risk of suicidal behavior. The profile of the patients who attempted suicide was associated with a history of psychiatric problems and physical/emotional abuse and neglect in childhood. Additionally, SA was associated with lower means in all domains of social support and with history of childhood loss. It is on these elements that we must focus attention, prevention, and intervention.

Finally, both the literature reviewed and the results of this study indicate that preventive and therapeutic measures act as key factors in reducing risk of suicide when administered to people who have suffered mistreatment during childhood development. The same preventive care is applicable when increased transgenerational self-destructive tendencies are observed.

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