Clinical and sociodemographic characterization of the suicide attempt in the Los Ríos Region, Chile.

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ABSTRACT

Introduction: *Suicidal attempt is one of the most relevant suicide risk factors, knowing associated variables and post-suicide attempt follow-up strategies contributes to preventing suicide.* ***Objective:*** *the objective of this work was to describe the clinical-sociodemographic characteristics of people who present a suicide attempt, and to present a strategy of clinical-epidemiological surveillance that is activated after the suicide attempt.* ***Methods:*** *A cross-sectional design was carried out, involving 170 subjects aged 15 and over admitted to the Unit for People with a suicide attempt between 2015 and 2018 in the Los Ríos region, Chile. Sociodemographic and clinical data, before and after the suicide attempt, were statistically evaluated.* ***Results:*** *The sociodemographic results show a predominance of attempts by women, with a sample that has its place of residence mainly in urban areas. In addition, it was observed that Catholic or evangelical religious affiliation could be associated with a higher risk of suicidal retry ($p = 0.014$).* ***Conclusions:*** *The clinical factors show that having previous suicide attempts, ongoing depression at the time of the suicide attempt, and partner conflicts are relevant factors to consider. The frequency of suicide and suicide retries in surveillance was low, so strengthening the continuity of care could play a preventive role in the suicide phenomenon.*

Key words: *suicide, suicide attempts, continuity of care.*

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INTRODUCTION

Globally, about 800,000 people commit suicide each year, representing the third leading cause of death for young people aged 15-19 years. Seventy-nine percent of suicides occur in low- and middle-income countries, and attempted suicide is the single most important risk factor[1]. Suicide is defined as any self-destructive behavior or act aimed at death, with a strong desire to die and with the knowledge, hope and belief that death can be achieved by the chosen method. Suicide attempt has a similar definition, only that the result is not death[2]. In the last 45 years, suicide has increased by 60%; of these cases, 60% visited a doctor in the previous month, and 40% the week before the suicide[1]. For every death, there are an estimated 25 non-fatal suicide attempts and millions more who experience suicidal thoughts.[3]

Research has focused on determining variables that allow the creation of predictive models to prevent and intervene in the early stages of the phenomenon[4]. In clinical terms, it has been found that at least one third of self-injuries coincide with recent suicide ideation or planning, this being an important marker when talking about suicide[5,6]. A clinically significant relationship has also been found between depressive symptoms and hopelessness, with suicide attempts and death[6-8]. In addition, alcohol consumption, drug abuse and smoking have been found to significantly increase the risk of suicidal ideation, suicide attempts and completed suicide[9-12]. On the other hand, completed suicide in a family member is associated with an eightfold increased risk of suicidal behavior.[13-15]

As a whole, suicidal behavior is more frequent in women, double that of men[16]. Other related aspects are associated with absent parents, family dysfunction, low self-esteem, recent suicidal ideation, individual distress, personal dissatisfaction and reasons for living, particularly those related to beliefs in one's own abilities and coping skills, as well as dysfunction in anger management.[10,12,16,17,18,19]

In Chile, one person dies by suicide every 5 hours, the mortality rate is 10.3 per 100,000 inhabitants, and in the Los Ríos Region 12.5 per 100,000 inhabitants. In men it is 4.8 times higher than in women, despite the fact that in recent years there has been an increase in the number of female suicides[20]. The suicide phenomenon increases in the spring season, in the months of November and December, on weekends and in the morning[9]. Hanging is the most common method of suicide, followed by the use of firearms and explosives in men, and poisoning in women[9,20]. In recent years, the rate in rural areas has doubled compared to urban areas.[20]

Within the framework of the national suicide prevention program, epidemiological surveillance tables were implemented in 2012. In the Los Ríos Region, in 2015 the "Unit for People with Suicide Attempts", hereinafter UPI, was created, a pioneering intervention and surveillance strategy[21]. This unit operates in Hospital Base Valdivia, and receives notifications of suicide attempts from the Region. Depending on the case, the affected person and a trusted person or family member are provided with support, guidance and follow-up by telephone or in person, to ensure a better opportunity for care and continuity of care.

The objective of this study is to report the results of the clinical-epidemiological surveillance conducted by the IPU and to make a clinical-sociodemographic description of people who presented suicide attempts in the Los Ríos Region, during the years 2015 and 2018.

MATERIALS AND METHODS

Study design

A quantitative methodology with a cross-sectional design was used. The participants corresponded to persons who attempted

suicide in the Los Ríos Region and who were notified from the emergency services. The main inclusion criterion was having presented at least one episode of suicide attempt in the last month. A semi-structured interview with a validated and calibrated assessment instrument was administered to each patient on admission. The interviewers were trained prior to the start of the study in order to achieve the highest level of concordance. The information was obtained from notifications and clinical records. The study population is a purposive sample of the total number of people under follow-up for suicide attempts, corresponding to the records of the base hospital of Valdivia, eliminating cases with incomplete data.

Instruments

The data collection instrument corresponded to a form based on the "Protocol of Structured Interview Psychological Autopsy", written by Gómez A, Ibañez C. and Gómez M[22]; For the calibration of the questionnaire we proceeded to the training of the reception staff of admission of patients referred for suicide attempt in the Region of Los Ríos, in order to achieve the highest concordance among the interviewers. In addition, the internal consistency was determined and the questions were validated through the opinion of experts and the instrument was applied inter-examiner.

The variables included were: clinical data such as history of chronic and psychiatric diseases in the subjects, together with associated treatments (continuous or refractory) and previous hospitalizations, previous suicide attempts, eating habits, sexual risk behaviors, alcohol and drug consumption and history of previous suicide attempts. We also inquired about a history of suicide attempts or completed suicides in parents. Sociodemographic information such as sex assigned at birth, sexual orientation, age, commune of residence, marital status, level of schooling, occupation, characteristics of the family structure, religion, sexual orientation, health network used. In addition, data were requested from the person accompanying the subject admitted to the IPU.

In addition, with respect to the suicide attempt, contextual information such as date, place and method used, clinical description prior to the suicide attempt, possible triggering factors and actions that led to clinical care after the suicide attempt were recorded.

Statistical analysis

From the data obtained, a data spreadsheet was created in Excel 2013 V15.0® software. The description of the results and analysis were obtained with STATA 12.0® statistical software.

For the characterization of both the suicide attempt and the associated factors, results were obtained from summary measures (average and standard deviation), as well as relative frequencies for the description of the categories of each variable. All results are presented in tables.

For bivariate analysis, Pearson's chi-square test was performed for categorical variables. Analysis was performed for suicide attempt through dichotomous categorization ("first suicide attempt event" vs "more than one suicide attempt event") and discrete categorization ("number of suicide attempt events"). Associations were determined with each of the variables collected and a significance level of $\alpha < 0.5$ was considered.

The study was unanimously approved by the scientific ethics committee of the Valdivia Health Service.

RESULTS

Sociodemographic description

The sample consisted of 170 people, 24.12% of whom were men and 75.88% were women, with a mean age of 31.7 years (SD=15.87). The marital status of 59.4% were single and 8.9% were living alone. A total of 28.2% had incomplete high school education and 87.6% identified themselves as

heterosexual. In addition, 82.3% indicated living in urban areas and 12.9% felt they belonged to the Mapuche people. In terms of religious affiliation, 40.5% identified themselves as Catholic, followed by 30.5% who declared themselves evangelical. The results are presented in **Table 1.**

Table 1. Characteristics of the sample.

Dimension	variables	Category	Relative or average frequency
Sociodemographics	Age	Years	31,77(S.D. 14,06)
		Age range	14 - 69 years
	Sex	Men	24,12% (n=41)
		Women	75,88% (n=129)
	Type of residence	Urbana	82,35% (n=140)
		Rural	15,88% (n=15)
	Commune of origin	Valdivia	44,71% (n=76)
		The Union	11,76% (n=20)
		Mariquina	9,41% (n=16)
		Mafil	7,06% (n=12)
		Panguipulli	7,06% (n=12)
		Paillaco	5,88% (n=10)
		Other	14,12% (n= 24)
	Belonging to a native people	Does not belong	62,35% (n=106)
		Mapuche	12,94% (n= 22)
		NS or NC	24,71% (n=42)
	Marital status	Single	59,41% (n=101)
		Married 1st time	15,29% (n=26)
		Married 2nd time or more	0,59% (n=1)
		Cohabitant	6,47% (n=11)
		Separated	7,65% (n=13)
		Divorced	0,59% (n=1)
		Widowed	5,29% (n=9)
	Educational level	Incomplete stocking	28,24% (n=48)
		Full stocking	17,65% (n=30)
		Basic incomplete	15,88% (n=27)
		Superior incomp.	15,88% (n=27)
		Basic complete	9,41% (n=16)
		Superior comp.	9,41% (n=16)
		No formal education	1,18% (n=2)
	Employment status	Student	28,24% (n=48)
		Unemployed	16,47% (n=28)
		Permanent full-time employment	14,71% (n=25)
		Homeowner	10,59% (n=18)
		Temporary part-time employment	9,41% (n=16)
		Other	20,58% (n=35)
	Sexual Orientation	Straight	87,65% (n=149)
		Homosexual	1,18% (n=2)
		Bisexual	2,35% (n=4)
		NS/NC	8,82% (n=15)
	Religious affiliation	Catholic	40,59% (n=69)
		Evangelical	30,59% (n=52)
		Not evaluated	9,41% (n=16)
		Believer without religion	5,88% (n=10)
		Others	13,53% (n=23)
Family characteristics	Coexistence	Couple with children	28,40% (n=48)
		With parents and siblings	23,08% (n=39)
		With one of the parents	9,46% (n=16)
		Lives alone	8,88% (n=15)
		Couple without children	8,28% (n=14)
		Lives with other family members	8,28% (n=14)
		Lives alone with children	7,10% (n=12)
		Others	11, 24% (n=19)
	Parenting characteristics	With both parents and siblings	55,88% (n=95)
		Single parent	13,53% (n=23)
		With other family members	13,53% (n=23)
		Parent only	4,12% (n=7)
		Others	12,94 (n=22)

Clinical history

Among the most relevant psychiatric history of the subjects studied, we found the presence of concomitant depressive disorder (42.94%), family psychiatric history (45.29%) and history of diagnosed psychiatric pathology (54.12%) and affective disorder (53.53%). The summary is shown in **Table 2**.

Table 2. History of psychiatric pathology and risk factors for suicide attempt.

Variables	Category	Relative frequency O absolute value
ICD-10 diagnosis of the subjects at the time of admission to IPU	Depressive disorder	42,94% (n=73)
	No syndromic diagnosis (On axis 1)	19,41% (n=33)
	Adaptive disorder	8,82% (n=15)
	Harmful use of alcohol/psychoactive drugs	8,24% (n=14)
	Recurrent depressive disorder	6,47% (n=11)
	Bipolar disorder	4,12% (n=7)
	Psychotic symptoms	3,43% (n=6)
	Others	6,47% (n=11)
Classification of suicide attempt	Serious suicide attempt	77,65% (n=132)
	Serious suicide gesture	15,29% (n=26)
	Deliberate self-harm	4,12% (n=7)
	Parasuicide	2,94% (n=5)
Family psychiatric history or suicide attempt/suicide of father/mother	Yes	45,29% (n=77)
	No	21,18% (n=36)
	Suicide attempt/suicide parent	14,71% (n=25)
	Suicide attempt/suicide other family members	5,29% (n=9)
	Unknown or no information	13,52% (n=23)
History of psychiatric illness	Yes	54,12% (n=92)
	No	35,29% (n=60)
	No response/no information	10,59% (n=18)
History of personality disorder	No diagnosis	63,53% (n=108)
	Borderline Disorder	20,00% (n=34)
	Immature disorder	8,24% (n=14)
	Dependent disorder	4,71% (n=8)
	Others	3,52% (n=6)
History of treatment with psychotropic drugs	Yes	7.65% (n=13)
	No	92.35% (n= 157)
History of substance abuse	Alcohol	
	Does not consume	39,64% (n=67)
	Occasional use	39,05% (n=66)
	Frequent use or abuse	17,16% (n=29)
	Dependency	3,55 % (n=6)
	Not specified/not recorded	1,17% (n=2)
	Tobacco	
	Does not consume	71,60% (n=121)
	Occasional use	7,69% (n=13)
	Frequent use or abuse	11,24% (n=19)
	Dependency	8,88% (n=15)
	Not specified/not recorded	0,59% (n=1)
	Marijuana	
	Does not consume	72,78% (n=123)
	Occasional use	13,02% (n=22)
	Frequent use or abuse	7,69% (n=13)
	Dependency	5,92% (n=10)
	Not specified/not recorded	0,59% (n=1)
	Cocaine	
	Does not consume	93,49% (n=158)
	Occasional use	1,18% (n=2)
	Frequent use or abuse	4,73% (n=8)
	Not specified/not recorded	0,59% (n=1)
History of psychiatric/psychological consultation in the last 12 months	Yes	40,00% (n=68)
	No	52,35% (n=89)
	No registration	7,65% (n=13)

Characteristics of the suicide attempt

The 48.24% (n=88) presented previous attempts at the time of admission, while the most important triggering factor prior to the suicide attempt was "partner conflict or breakup" (55.29%). In addition, the most frequently described method was "drug intake" (65.29%). The characteristics are presented in **Table 3**.

Table 3. Characteristics of suicide attempts in the Los Ríos Region, Chile 2015 - 2018.

Variables	Category	Relative frequency O absolute value
Number of subjects admitted for Suicide Attempts	Subjects with suicide attempt admitted to IPU between the years 2015 - 2018.	N = 170
Previous attempts	Yes	48,24% (n=82)
	No	51,76% (n=88)
No. of suicide attempt episodes	"An episode."	51,76% (n= 88)
	"Two episodes"	29,41% (n=50)
	"Three times"	4,71% (n=8)
	"Four times"	8,82% (n=15)
	"Five times	1,76% (n=3)
	"More than 5 times"	2,94% (n=5)
Triggering factors of suicide attempts	Conflict or breakup of a couple	55,29% (n=94)
	Serious family conflicts	11,18% (n=19)
	Conflict or poor relationship with parent	7,65% (n=13)
	Significant losses	4,71 (n=8)
	Event perceived as traumatic	4,71 (n=8)
	Financial/economic problems	2,35% (n=4)
	Academic problems	2,94% (n=5)
	Substance use	1,18% (n=2)
	Others	10,00% (n=17)
Suicide attempt planning	Yes	7.65% (n=13)
	No	92.35% (n= 157)
Method of suicide attempt	Hanging	12,35% (n=21)
	Drug	65,29% (n=111)
	Cuts	11,76% (n=20)
	Chlorine intake	2,35% (n=4)
	Jump into the river	2,35% (n=4)
	Launching a cell phone	2,35% (n=4)
	Others	8,5% (n=5)
Type of drugs used for suicidal intent	Psychotropics	37,65% (n=64)
	Multiple drugs	18,82% (n=3)
	Paracetamol	4,12% (n=7)
	Others	22,35% (n=38)
Place of suicide attempt	At home	82,25% (n=140)
	In another house	2,96% (n= 5)
	On public roads	6,51% (n= 11)
	Public place	1,78% (n= 3)
	At work	1,78% (n=3)
	Educational establishments	2,96% (n= 5)
	Other /does not specify	1,78% (n=3)

Analysis of suicide attempt with respect to variables recorded at admission.

Table 4 shows the results of the Chi-square test for each variable studied, as well as the statistical significance ($p<0.05$), finding a statistical difference in the "Ethnicity" variables ($p=0.01$).

In addition, analysis of the variables was performed with respect to the number of suicide attempts of the subjects studied, finding significance in "ethnicity" ($p=0.034$) and "religion" ($p=0.014$). No other statistical associations were found in the Chi-square test **(Table 5)**.

Table 4. Statistical significance analysis by Chi-square test of the variables collected at the time of admission to the IPU comparing subjects without previous suicide attempt and previous suicide attempts (n=170).

Variable	X2	p" value
Sex	2,93	0,087
Commune of origin	14,85	0,462
Ethnicity	**9,21**	**0,010**
Educational level	6,25	0,510
Employment status	8,60	0,377
Sexual orientation	4,72	0,193
Religion	9,88	0,524
Marital status	7,21	0,407
Coexistence	9,02	0,435
Triggering factors	17,23	0,305
Method used	6,99	0,637
Charact. Breeding	7,21	0,705
Tobacco use	1,45	0,835
Alcohol consumption	2,76	0,598
Marijuana Consumption	4,34	0,362
Cocaine use	3,48	0,322
History of sexual assault	3,76	0,584
Diagnosis ICD-10	16,29	0,178
Psychiatric history o Suicide attempt/suicide by father/mother	3,28	0,858
History of psychiatric disease	7,19	0,027
History of personality disorder	4,36	0,737
History of psychologist or psychiatrist check-up	4,37	0,112

Table 5. Statistical significance analysis by Chi-square test of the variables collected at the time of admission to the IPU comparing subjects with one suicide attempt and with more previous suicide attempts (as a discrete variable).

Variable	X2	p" value
Sex	7,86	0,248
Ethnicity	**22,33**	**0,034**
Educational level	50,68	0,168
Sexual Orientation	16,88	0,531
Religion	**86,59**	**0,014**
Marital status	36,11	0,726
Triggering factors	17,23	0,305
Commune	56,34	0,991
Method used	27,39	0,999
Parenting features	62,64	0,383
Alcohol consumption	2,19	0,901
Tobacco use	24,96	0,408
Marijuana Consumption	33,59	0,092
Cocaine use	13,01	0,791
History of sexual assault	29,32	0,500
Diagnosis ICD-10	78,57	0,278
Psychiatric history o Suicide attempt/suicide of father/mother	32,28	0,860
History of psychiatric disease	13,87	0,309
History of personality disorder	35,89	0,735
History of psychologist or psychiatrist check-up	19,47	0,078

DISCUSSION

In this study, clinical and sociodemographic characteristics of people who were treated after a suicide attempt in the IPU were described.

Regarding sociodemographic characteristics, a large part of the sample were young adult women without a history of previous attempts and single. Among the clinical characteristics, in line with the literature, the results show that at least 42% of the people who attempted suicide had depressive symptoms at the time of the suicide attempt, reinforcing the relevance of asking about suicidal thoughts when there are depressive symptoms[8,10,16]. Similar to other characterizations of suicide attempts, in this research it was observed that 45% have family members with psychiatric antecedents.[23,24]

In the characterization of the suicide attempt, relational conflicts appear as a relevant trigger. Nearly 55% identified a couple conflict as a trigger, which is in line with what is indicated in other studies[25]. It was also observed that the most frequent method of the attempt was the ingestion of drugs, which coincides with other Latin American experiences in this line of research.[26,27,28]

Regarding the number of previous attempts, the variables of ethnicity and religious affiliation stand out. Regarding the ethnicity variable, this result may be due to the fact that a significant part of the sample did not report feeling that they belonged to any ethnic group, which may have interfered with the results. Regarding the variable of religious affiliation, although in the national literature, religiosity and spirituality have been reported as a protective factor for suicidal risk in depressive women[29] and a lower risk of suicidal behavior in religious adolescents[30]; our results suggest that after the first attempt, the religious variable may play a role in the risk of suicide reattempt. These results show the relevance and need to continue exploring the variables of religiosity and its relationship with suicidality in future studies in the area.

Some studies report that 18-30% of patients with a suicide attempt will present a reattempt within 2 years, 60% within 6 months and 70% within the first year after the attempt, and mortality due to suicide after the attempt fluctuates between 5-30% [31,32,33,34,35,36]. However, in our follow-up, 0.36% consummated suicide, and 7% presented subsequent reattempts, with a continuity of care coverage close to 85%, compared to other studies in which 45% of patients are referred to a psychiatrist and about 25% continue care afterwards.[37]

This study is not without limitations. First, since the research design is cross-sectional, the clinical evolution of the participants over time is unknown. Secondly, we do not have complete information on all the cases, which is why, although the assessment guideline was applied cross-sectionally, for clinical reasons the psychiatric interview explores the dimensions in a heterogeneous manner as required. Thirdly, although the instrument was based on the one recommended by the Chilean health authority to be applied in the study of adult subjects with suicide attempt, for future research it is suggested to adapt the evaluation instrument to handle cultural and social variables with greater precision, for example, in religious adscription it is not precise if the person participates or not in a religious space. Fourthly, there are still suicide attempts in the region that are not investigated and therefore were left out of this research, either because they are not notified or because they do not consult after the attempt.

Finally, despite the considerations expressed above, we believe that the results of this research, and the context from which they arise, show an experience of clinical and epidemiological follow-up, focused on people with suicidal risk that can serve as an effective model of clinical and research intervention for the approach and prevention of people with suicidal attempts and therefore, with high risk of suicidality.

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