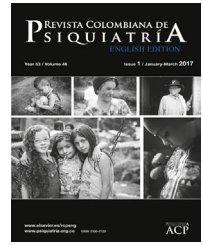




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Original article

Proximal characteristics of suicide attempts: a study in a public hospital in Spain



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ABSTRACT

Introduction: Different parameters of suicide attempts treated since the implementation of the Attention to Suicide Risk Program (ARSUIC) in 2012 at the Hospital Ramón y Cajal in Madrid Region are described in this paper.

Method: The sample was composed of 107 patients and the information was collected through a questionnaire created *ad hoc* with the following variables: type of suicidal ideation; drug use immediately prior to the attempt; method (in case of drug overdosing: drug/s used); location; accessibility to rescue; planning; intentionality; criticism; and brakes.

Results: Descriptive statistics were obtained and a comparison by gender was made through the χ^2 and contingency coefficients tests. The data from the retrospective longitudinal study showed that the most common profile was of patients with unstructured ideas of death and no previous drug use who took an unplanned drug overdose in the family home, with the intention of self-harm or avoidance of discomfort, especially with benzodiazepines. Patients tend to ask for help afterwards and criticise the attempt, but potential restraints are often not recorded in the clinical report. Regarding the dissimilarities based on gender, statistically significant differences were found in prior alcohol consumption, in favour of men and in the overdose method, specifically with benzodiazepines, in favour of women.

Conclusions: Knowing the types of attempts at self-harm is essential for improving prevention, understanding and patient management.

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Características proximales de intentos autolíticos: estudio en un hospital público de España

R E S U M E N

Palabras clave:

Intento autolítico
Intento de suicidio
Tentativa suicida
Características proximales
Tipología

Introducción: En el presente trabajo se describen distintos parámetros de las tentativas de suicidio atendidas desde la implementación del programa de Atención al Riesgo Suicida (ARSUIC) en 2012 en el Hospital Ramón y Cajal de la Comunidad de Madrid, España.

Métodos: La muestra estuvo compuesta por 107 pacientes y la información se recogió a través de un cuestionario creado *ad hoc* con las siguientes variables: tipo de ideación suicida, consumo de tóxicos inmediatamente antes, método (en caso de sobreingesta medicamentosa: fármaco/s utilizado/s), ubicación, accesibilidad al rescate, planificación, intencionalidad, crítica y frenadores.

Resultados: Se obtuvieron estadísticos descriptivos y se realizó una comparación por sexo a través de las pruebas de la χ^2 y coeficientes de contingencia. Los datos del estudio longitudinal retrospectivo mostraron como perfil más frecuente el de pacientes con ideas de muerte no estructuradas, sin consumo previo de tóxicos, que se realizan en el domicilio familiar de manera no planificada y con intención autolítica o evitativa del malestar de una sobreingesta medicamentosa, especialmente con benzodicepinas. Los pacientes tienden a solicitar auxilio posterior y realizar crítica del intento, y los potenciales frenadores con frecuencia no se recogen en el informe clínico. Respecto a las disimilitudes en función del sexo, se encontraron diferencias estadísticamente significativas en el consumo previo de alcohol, a favor de los hombres, y en el método sobreingesta, concretamente con benzodicepinas, a favor de las mujeres.

Conclusiones: Profundizar en las tipologías de los intentos autolíticos resulta fundamental para mejorar la prevención, la comprensión y el abordaje sanitario.

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Introduction

The term suicidal behaviour is a term which covers different circumstances, including completed suicide, suicide attempts and suicidal ideation.¹ Considering completed suicide, according to the Spanish Instituto Nacional de Estadística [National Institute of Statistics], over the ten years from 2008 it was the leading cause of unnatural death, with the official figure for 2018 being 3,539.² We then need to add to this figure that, for each suicide (according to the World Health Organization, there are nearly 800,000 deaths annually worldwide), there are many more suicide attempts³; for every 20 failed suicide attempts there is one completed suicide.⁴ However, we have no official record that quantifies the data on attempted suicide, so the figures could be even higher.

Over the last twenty or thirty years, different proposals have been put forward within hospital and clinical settings to improve the institutional response to and ultimately, the healthcare coverage provided to deal with, this growing demand. The Autonomous Region of Madrid developed the Atención al Riesgo Suicida (ARSUIC) [Suicide Risk Care Programme] within its 2010–2014 Strategic Mental Health Plan.⁵ One of its distinctive features is that patients with suicidal ideation or attempted suicide discharged from the Accident and Emergency department who do not have a healthcare pro-

fessional of reference in a specialist department - in other words, they were not previously under outpatient follow-up - will have an appointment with a mental health professional in less than a week. With this provision, once an imminent risk has been ruled out, priority, quality and specialised continuity of care is ensured.

For decades, studies have attempted to offer different predictive models of suicidal risk, as well as explore possible risk and protective factors, with an eminently explanatory, predictive and preventive purpose.^{6–8} One less explored line of research is the study of the parameters related to the proximal risk factors associated with failed suicide, such as the type of suicidal ideation, the consumption of toxic substances immediately prior to the attempt, the method used, the accessibility of rescue, the degree of planning of the attempt and its intent, the possible criticism of the attempt or those aspects that could stop, interrupt or inhibit the attempt itself. An approach to the characteristics or types of suicide attempts and their associated factors is essential if we consider that for so many years it has been empirically maintained that previous attempts are one of the factors most related to subsequent suicide risk.^{9–13}

The purpose of this study was to describe different parameters related to the suicide attempts of patients seen from implementation of the ARSUIC programme in December 2012 until August 2018 and from September 2019 to

January 2021 (for a few months, there was no data collection due to the deployment of the new HCIS medical record software) at Hospital Universitario Ramón y Cajal, referred to the Hortaleza Mental Health Clinic and treated at least once, and to identify any statistically significant differences based on gender. Our aim was to gain a more in-depth understanding of the proximal indicators of suicide attempts made by the population being supported through the programme.

Methods

Participants

The sample was made up of 107 patients who were referred through the ARSUIC programme after a suicide attempt from the Accident and Emergency Department of Hospital Universitario Ramón y Cajal to the Hortaleza District Mental Health Clinic. The participants were 23 men and 84 women aged between 18 and 89 (mean, 42.2 ± 16.6 years). The mean age of the men was 41.9 ± 16 years and of the women, 42.3 ± 16.8 years, with the Student's *t* statistic for independent samples. ($p > 0.05$) showing no statistically significant differences between the two groups. Regarding the psychosocial characteristics of the sample, 32.7% of the patients was married, 23.4% were single, 15.9% had a partner and lived with them, 11.2% had a partner but did not live with them, 11.2% were separated or divorced, 4.7% were widowed and for 0.9% (1 case) there was no information. Patients with children made up 35.4%, compared to 64.6% who had none. In terms of employment, 43.9% were actively working at the time they made the suicide attempt, compared to 25.2% who were unemployed, 5.6% who were studying, 5.6% who ran the household, another 5.6% who were retired, 3.7% who had an occupational disability and 10.3% for whom there was no data related to work activity. Regarding profession or occupation, 37.4% of the patients did unskilled work, 17.8% skilled work, and as already stated, 5.6% were students, another 5.6% ran the household and for 33.6% there were no data. Lastly, there were no data on the patients' religious beliefs in any of the clinical reports.

Analysing the longitudinal data of the 107 patients who attended the Hortaleza Mental Health Clinic referred through the ARSUIC programme for a first psychiatric assessment, 5.6% did not attend their appointment. Of the 95.4% who did attend, 61.7% attended one or more follow-up appointments; 23.4% abandoned the process voluntarily and did not attend the second check-up; and 9.3% were discharged at the first consultation.

Materials

Data collection was carried out using an *ad hoc* questionnaire with a closed, dichotomous or multiple and exclusive response which contained the following variables: type of suicidal ideation; consumption of toxic substances immediately before; method (if medication overdose: drug[s] used), location, accessibility to rescue, planning, intent, criticism and brakes.

Design

This was a retrospective longitudinal study. The information on patients referred to the Hortaleza Mental Health Clinic from Hospital Ramón y Cajal Accident and Emergency Department (A&E) through the ARSUIC programme was collected from the A&E discharge reports.

Procedure

The study was approved by the Independent Ethics Committee of Hospital Universitario Ramón y Cajal. To collect information, we selected all clinical reports of the patients treated in A&E who attended the Mental Health Clinic based on the clinical interview held by Psychiatry, and the categories were defined operationally from the terminology used in the clinical reports.

Data analysis

Statistical analyses were carried out with the SPSS 26.0 program. For the descriptive study, frequency tables of all the variables were obtained; for the gender-based comparison of the variable prior consumption of toxic substances, the χ^2 test was applied, and for the remaining variables, Cramer's *V* statistic, since the cross classification tables in these variables were greater than 2×2 and so the problem of the dependence of the result on the number of cells in the tables is corrected.

Results

The data are presented below in the order in which they were collected (Table 1).

In terms of the types of suicidal ideation experienced by all patients, the most common were unstructured ideas of death (67.3%), compared to passive ideas of death (18.7%) and structured ideation (14%). In a quarter of the cases (25.2%), there was consumption of toxic substances prior to the attempt and the most commonly used method was drug overdose (72%), followed by the combination of drugs and toxic substances (15%) and cutting (6.5%). Of the drugs, benzodiazepines were the most common (57%), followed by benzodiazepines combined with antidepressants (10.3%). In 16.8% of the cases, other types of substances were used (for example, analgesics-antipyretics, analgesics-anti-inflammatories or proton pump inhibitors) and in only one case, the attempt was exclusively with antidepressants.

The data relating to the context in which the attempts took place show that, for the most part, they were carried out in the family home (89.7%) and that, once the attempt was made, help was requested in almost half of the cases (44.9%), while in 35.5% a trail was left that could warn those close to them. Only 15.9% of the cases did not request help or leave a trail. Analysing information on planning and intent, most attempts were considered poorly planned (76.6%), even if the intent was suicidal (50%) or had the aim of escaping from pain (39.3%); only 2.8% of them were considered to have a high degree of planning, and 29.6%, moderate planning; the attempt being a cry for help was detected in 12.1% of the cases.

Table 1 – Variables related to the suicide attempt.

Variable	N	%	Male (n, %)	Female (n, %)	Variable	N	%	Male (n, %)	Female (n, %)
<i>Suicidal ideation</i>					<i>Accessibility to rescue</i>				
Structured	15	14	6; 26.1	9; 10.7	Does not request help	17	15.9	5; 21.7	12; 14.3
Unstructured	72	67.3	13; 56.5	59; 70.2	Leaves trails	38	35.5	7; 30.4	31; 36.9
Passive ideas of death	20	18.7	4; 17.4	16; 19	Requests help	48	44.9	10; 43.5	38; 45.2
Not stated	0	0	0; 0	0; 0	Not stated	4	3.7	1; 4.3	3; 3.6
<i>Prior consumption of toxic substances</i>					<i>Planning</i>				
Yes					Detailed	3	2.8	1; 4.3	2; 2.4
No	27	25; 2	11; 47.8	16; 19	Mean	21	19.6	8; 34.8	13; 15.5
Not stated	65	60.7	9; 39.1	56; 66.7	Low	82	76.6	14; 60.9	68; 81
	15	14	3; 13	12; 14.3	Not stated	1	0.9	0; 0	1; 1.2
<i>Method</i>					<i>Intent</i>				
Drugs	77	72	12; 52.2	65; 77.4	Suicide	50	46.7	14; 60.9	36; 42.9
Drugs and toxic substances	16	15	5; 21.7	11; 13.1	Escape from pain	42	39.3	8; 34.8	34; 40.5
Cutting	7	6.5	4; 17.4	3; 3.6	Cry for help	13	12.1	1; 4.3	12; 14.3
Traffic	1	0.9	1; 4.3	0; 0	Not stated	2	1.9	0; 0	2; 2.4
Several	2	1.9	0; 0; 1; 4.3	2; 2.4					
Other	4	3.7	0; 0	3; 3.6					
Not stated	0	0		0; 0					
<i>Drugs</i>					<i>Criticism</i>				
Without drugs	12	11.2	6; 26.1	6; 7.1	Adequate	67	62.6	14; 60.9	53; 63.1
Antidepressants	1	0.9	0; 0	1; 1.2	Partial	26	24.3	3; 13	23; 27.4
Benzodiazepines	61	57	6; 26.1	55; 65.5	None	11	10.3	4; 17.4	7; 8.3
Both	11	10.3	4; 17.4	7; 8.3	Not stated	3	2.8	2; 8.7	1; 1.2
Mood stabilisers	1	0.9	0; 0	1; 1.2					
Other									
Not stated	18	16.8	6; 26.1	12; 14.3					
	3	2.8	1; 4.3	2; 2.4					
<i>Location</i>					<i>Brakes</i>				
Remote	3	2.8	1; 4.3	2; 2.4	Yes; family	27	25.2	4; 17.4	23; 27.4
Not familiar; not remote	5	4.7	1; 4.3	4; 4.8	Yes; others	5	4.7	0; 0	5; 6
Family					Both	1	0.9	0; 0	1; 1.2
Not stated	96	89.7	19; 82.6	77; 91.7	No	28	26.2	9; 39.1	19; 22.6
	3	2.8	2; 8.7	1; 1.2	Not stated	46	43	10; 43.5	36; 42.9

Lastly, the study of the subsequent criticism made by the patients, as well as the brakes they referred to after the attempt, shows that, in general, adequate criticism predominated (62.2%) or partial (24.3%) and that this item was generally the least explored of all variables. In 43% of the cases, it was not assessed, and 30.8% of the sample reported having a potential inhibitor of taking the step to act, compared to 26.2% who denied having brakes. Of the brakes, thinking about family was the factor that patients considered most protective.

In the analysis of the differences in the gender-based variables, a significant difference was found in prior consumption of toxic substances in favour of men ($p < 0.05$) and that women used drug overdose as a method more than men ($p < 0.05$), specifically benzodiazepines ($p < 0.05$). In the remaining variables (type of suicidal ideation, location, accessibility, planning, intent, criticism and brakes), no statistically significant differences were found based on gender ($p < 0.05$).

Discussion

Knowing the factors associated with failed suicide attempts is a fundamental aspect for patient management and prevention. Different studies have attempted to establish what parameters may be associated with attempted suicide and with a possible greater or lesser suicidal risk. To analyse the factors associated with suicide attempts in more detail, this study collected data from the clinical reports of 107 patients treated through the ARSUIC programme and referred to the Mental Health Clinic. We included information about the type of suicidal ideation, consumption of toxic substances immediately before, method (if overdose, drugs used), location, accessibility to rescue, planning, intent, criticism and inhibitors. The results showed a more common profile of patients with unstructured ideas of death, who did not take toxic substances immediately before the attempt, who overdosed, especially with benzodiazepines, in the family home, poorly planned, with suicidal intent or to escape from pain, and who subsequently tend to request help and criticise the attempt in A&E. It is striking that information related to brakes is frequently omitted from the clinical report, although when this is explored, patients predominantly allude to having a factor that could have stopped the attempt. In terms of gender differences, males tended more frequently to consume toxic substances before the suicide attempt and women more frequently used overdose as a method, especially with benzodiazepines.

One of the largest national comparative studies of factors associated with suicide attempts was that of Ayuso et al.¹⁴ conducted in four health areas in Madrid Region. They analysed the different types of suicide attempts of 996 patients and found that suicidal ideation was generally absent (53.2%) or moderate/doubtful (23.7%) in attempted suicide. These rates are far from those found in the sample of patients who access the ARSUIC programme, who tend to more often exhibit unstructured suicidal ideation, and only 18.7% of cases have passive ideas of death. Our figures are also higher than those of Wei et al.¹⁵ and Goñi-Sarriés et al.,¹⁶ who found in a sample of patients who attempted suicide that more than twice as many had ideation as did not. Overdose was also the most

common method reported by Ayuso et al.¹⁴ and, as in our study, the most common location was the family home. Our data regarding the method used and the location of the suicide attempt also coincides with the study by García-Rábago et al.,¹⁷ who found that drug consumption and attempting suicide at home are the most common parameters, and with that of Sendra-Gutiérrez et al.,¹⁸ who found that suicide attempts in developed societies are more frequently related to medication overdose, especially benzodiazepines, followed by antidepressants, due to easy access and availability. Comparison of these data shows that more violent and lethal methods are more common in completed suicides.^{19,20} It is therefore essential that, when developing preventive strategies, emphasis be placed on restricting access to suicidal methods.²¹

Regarding previous substance consumption, 25.2% of the cases showed consumption of alcohol or other substances prior to the attempt, a figure higher than the 10.7% found by Ayuso et al.¹⁴ Cherpitel et al.²² found in their review that 10–73% of patients who attempted suicide had acute alcohol poisoning, with the average being 40% of cases. Other studies have also associated alcohol consumption prior to the attempt as a proximal risk factor.^{23,24} On the other hand, different studies have confirmed statistically significant differences between high- and low-lethality suicide attempts and previous alcohol consumption, in the sense that serious attempts are associated to a greater extent with previous alcohol consumption,^{17,25} especially in men.²⁶

Our figures for accessibility to rescue are slightly higher than those reported by Ayuso et al.,¹⁴ who found that 40.8% of the sample requested help, followed by 30.9% who left a trail and 28.2% who did not ask for help after the act. This last figure is higher than our study (15.9% of patients did not request help), which would indicate a possible longitudinal increase in the tendency to ask for help in patients who make a failed suicide attempt.

Different studies point out the relevance of impulsiveness as a factor associated with suicidal behaviour, which could predispose a person to carrying out the act.²⁷ In our case, considering the difficulties that other studies have highlighted regarding the conceptualisation of the term impulsiveness as unidimensional in this context,^{28–30} the descriptive category selected is planning, a variable generally collected in the healthcare and clinical context in the assessment interviews. In relation to planning of the attempt, Ayuso et al.,¹⁴ found that in 88% of the cases, prior organisation was poor, compared to 76.6% in our study. These authors, however, identified a larger percentage of patients who showed a high degree of prior planning (5.2%) compared to our study (2.8%); in general, it seems that attempts tend to exhibit some impulsiveness and less planning. Regarding intent, self-injury or escape from pain predominated, although different studies tend to relate lethality with the intention to die.^{31,32} Lastly, regarding their reaction to their attempt, patients in both studies tended to make adequate subsequent criticism. There was a slightly higher number of patients who made no criticism in the Ayuso et al. study than in ours.

When comparing the proximal risk factors of the suicide attempt based on gender, our data coincide with those of Azcárate-Jiménez et al.³³ and Ayuso et al.,¹⁴ who found

a higher rate of drug overdose in women than in men, although unlike us, they did not find a higher use of benzodiazepines as the main substance among women. The tendency among males to have previously consumed toxic substances more frequently than females has been reported in previous studies.^{14,26}

One of the main limitations of our study is that inherent to a retrospective study, where relevant information may have been lost. In this case, as the data collection process was based on the clinical report, with the main aspects of the interview between the psychiatrist and the patient, part of the data not included (which represents a percentage, except in the assessment of the brakes) could be explained either because they were unexplored variables, or because although they were assessed, they were not included in the discharge report. In the tenth edition of the International Classification of Diseases,³⁴ a series of recommendations are made for assessing the risk of suicide. However, several of the variables we selected for our study are not included and we therefore believe it is essential to continue refining the contents of the interview. Another limitation is descriptive studies, which do not allow causal relationships to be established, something that could represent a very relevant breakthrough. Also, having used a relatively small sample offers only preliminary results, which should be compared with future studies with larger samples.

As for future lines of research, we need to continue collecting descriptive data on the proximal circumstances in which suicide attempts are made if we are to further enhance our understanding of this phenomenon. Having more in-depth knowledge about these aspects would enable preventive interventions in the public health sector. It would also be of interest to be able to compare the factors identified in this study in different populations, such as patients who complete suicide and those who make a failed attempt. We also need to better define the contents that should be explored in assessment interviews in A&E, since this would help enable more relevant clinical information to be obtained.

Conclusions

In-depth analysis of the proximal risk factors associated with suicide attempts is essential for a better understanding of the phenomenon and for the purposes of prevention and providing therapy. Describing the types of patients who attempt suicide and improving clinical interviews in Accident and Emergency departments are fundamental research areas for improving our understanding in the area of suicide and failed attempts.

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Conflicts of interest

The authors declare they have no conflicts of interest.

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