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Differences between suicide attempts and other psychiatric hospital emergencies

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Introduction. In Spain, a comparative research study between those patients treated for suicide attempt and others treated by any other reason hasn't been found. The aim of this study is to describe the differences between both types of patients in relation to sociodemographic and clinic variables together with the adverse vital events and the suicidal ideation.

Methodology. A descriptive, multicentric and case-controlled study carried out in psychiatric hospital emergencies where 207 patients had been evaluated for a suicidal attempt (cases) and 233 were also evaluated by any other reasons (checkings).

Results. The cases presented a larger percentage of previous suicide attempts (45.4% vs. 30.0%; $p=0.001$) and a lower rates of prior emergency care (55.6% vs. 65.7%; $p=0.030$) of a history of mental disorder (77.8% vs. 86.7%; $p=0.014$) and follow-up in mental health. The 31.8% ($n=74$) exhibited suicidal ideation at the time of care and the 61.4% ($n=143$) expressed their desire to die when questioned.

Conclusions. Neither a specific sociodemographic nor clinic profile of those who try to commit suicide has been found. But a high percentage of patients with suicidal ideation were identified in people treated for other reasons. The results emphasize the need to consider and evaluate the ideation of death and the risk of suicide in all the patients treated in psychiatric hospital emergencies.

Keywords: Mental health, Psychiatric emergency, Suicide attempt, Suicidal ideation

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Diferencias entre los intentos de suicidio y otras urgencias psiquiátricas hospitalarias

Introducción. No se han encontrado estudios en España que comparen el perfil de los pacientes atendidos en urgencias de psiquiatría por un intento de suicidio con los que acuden por otro motivo. El objetivo de este estudio era describir las diferencias entre ambos tipos de pacientes en relación a variables sociodemográficas, clínicas, la presencia de acontecimientos vitales adversos y la ideación de suicidio.

Metodología. Estudio descriptivo, multicéntrico y caso-control realizado en urgencias de psiquiatría en el que se valoraron 207 pacientes que habían acudido por un intento de suicidio (casos) y 233 que habían acudido por otro motivo (controles).

Resultados. Los casos presentaban una mayor proporción de intentos de suicidio previos (45,4% vs. 30,0%; $p=0,001$), y menor de atenciones previas en urgencias (55,6% vs. 65,7%; $p=0,030$), de antecedentes de trastorno mental (77,8% vs. 86,7%; $p=0,014$) y de seguimiento en Salud Mental (57,0% vs. 65,7%; $p=0,024$). El 31,8% ($n=74$) de los controles mostraba ideación de suicidio en el momento de la atención y el 61,4% ($n=143$) verbalizó su deseo de morir.

Conclusiones. No se ha obtenido un perfil sociodemográfico ni clínico específico entre quienes realizan un intento de suicidio, y sí se ha encontrado un alto porcentaje de pacientes con ideación de suicidio en las personas atendidas por otro motivo. Los resultados encontrados subrayan la necesidad de tener presente y valorar la ideación de muerte y el riesgo de suicidio en todos los pacientes que acuden a urgencias de psiquiatría.

Palabras clave: Salud mental, Urgencias de psiquiatría, Intento de suicidio, Ideación suicida

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INTRODUCTION

Emergency rooms (ERs) are often the first contact point for people with physical, mental and suicidal behaviours; thus, they play a key role in the prevention¹, detection and treatment of suicide². Suicidal behaviour is a first-rate emergency. In the United States, the average annual rate of emergency room visits in the period from 1993–2008 for attempted suicide was 150/100,000³. In Spain, reliable or official records are not available because identifying attempted suicide incidences is methodologically a complex task due to the heterogeneity of the patients involved and the difficulties in registering these incidences in the information systems. According to a Spanish population study conducted between 2001 and 2002, the prevalence of attempted suicides was 1.5%⁴. In a 2008 study, 255 suicide attempts per year were observed per 100,000-individual population, excluding those who did not go to health centres, which would render this rate an underestimation⁵.

It is essential that ERs are well equipped with trained personnel to evaluate and manage these patients and that additional services are equipped with sufficient resources to follow up after discharge from the emergency room⁶. In addition, the use of risk assessment protocols and the application of brief, effective and viable interventions are recommended to improve health care for these patients⁷.

Research has highlighted a number of risk factors of suicidal behaviour. A suicide attempt is considered to be a clinically relevant predictor^{8–10} and is present in one-third of completed suicides. Another risk factor is suffering from a primarily mental disorder, affective disorders¹¹, substance abuse¹², adaptive disorders⁹ and personality disorders. The latter are generally associated with less severe attempts, and although patients tend to repeat the attempts¹³, the repeated attempts are less lethal¹². Stressful life events are also closely related to suicidal behaviour. Foster observed that in those cases in which the presence of a mental disorder cannot be established, certain stressors may act as risk factors¹⁴. Among these stressors are family and partner conflicts, family illnesses, economic difficulties¹⁵, lack of social support, living alone, unemployment⁹ and chronic, disabling diseases accompanied by chronic pain¹⁶. It is generally noted that women have higher rates of suicide attempts and lower suicide rates than men^{17,18}. The profile of a person who attempts suicide is generally that of a young woman with a psychiatric diagnosis and/or treatment and with a previous attempt^{19,20}. For other sociodemographic characteristics, the results vary. Different studies observed that the predominant profile is someone who is separated²¹, single²⁰ or who lived accompanied²². Similar results occurred with regard to the level of education.

In Spain, patients who had attempted suicide were compared with patients treated in the emergency department of a general hospital²³. However, no patients who visited the ER because of an autolytic attempt have been compared to patients who visited the psychiatric emergency room for another reason. Knowledge of the differences between these two patient profiles can help to establish intervention protocols more suited to patients' needs. Therefore, to overcome the lack of information, the objective of this study was to describe the differences between patients who come to psychiatric hospital emergency facilities for attempted suicide and those who do so for any other psychiatric reason; the study considers sociodemographics, clinical variables, the presence of adverse life events and suicidal ideation.

METHODOLOGY

The present investigation has the authorization of the Ethical Committee of Clinical Research of the Department of Health of the Government of Navarre (project no. 95/2014).

This was a descriptive, multicentred and case-controlled observational study in which a protocol was applied that included sociodemographic variables, clinical variables and a psychiatric evaluation of the patients who visited the Emergency Service of the Hospital Complex of Navarre and the Hospital "Reina Sofía" in Tudela between January and October 2015. When an attempted suicide was identified (case), the next patient was treated as a control. Cases were identified by a self-inflicted suicide attempt resulting from any behaviour with a potentially damaging, non-fatal result for which there was evidence, express or implied, of an intent to die.²⁴

The inclusion criteria were being over 18 years of age, going to a psychiatric emergency centre and signing an informed consent. The exclusion criteria were to decline participation, be unable to answer, have difficulty with the language or suffer mental disability.

The sociodemographic variables included age, gender, marital status, place of birth, occupation, level of education, socioeconomic level, marital/living status, children and religious beliefs.

The clinical variables were a personal history of mental disorder, previous suicide attempts, disabling physical illness, a family history of suicide, previous care in psychiatric emergency centres, previous admission to the Psychiatric Hospitalization Unit, currently being treated for mental health issues, receiving pharmacological treatment, current social/family support, a family history of mental disorder, drug adjustment in emergency and primary clinical diagnosis in the

ER according to the International Classification of Diseases (ICD-10).²⁵

Instruments

Brugha's Adverse Life Events Scale²⁶ is an inventory examining the vital events experienced by the patient in the previous 6 months. The scale comprises 12 dichotomous items that only allow two answers, present or absent. A larger number of events indicate greater severity.

The Global Assessment of Functioning (GAF)²⁷ is a hetero-applied instrument proposed by the DSM-III-R that assesses the general level of activity of the subject in the psychosocial and labour spheres. Scores range from 0 to 100. There are no cut-off points; higher scores indicate higher activity levels. The scale is scored according to the overall activity prior to the suicide attempt.

The full Columbia Scale (C-SSRS) Screening for Suicidal Ideation²⁸ is a semi-structured interview that reflects the severity and intensity of ideation, suicidal behaviour and lethality. This scale was recently validated with a Spanish sample²⁹. The current project used the screening version that collects 5 types of ideation of increasing gravity with an ordinal scale of 5 points (from 1 = wish to die to 5 = suicidal ideation with specific plan and intention) and one last question regarding suicidal behaviour.

Context of research

The two hospital centres that participated in the research shared an admission and care protocol in the emergency room. When a patient arrives at the service, properly trained health personnel triage the patient. Patients considered possible risks for suicide attempts are first treated by an emergency department doctor who, after stabilizing the organic situation, requests a consultation with psychiatry. These patients are evaluated by psychiatrists who develop an individualized treatment plan. Patients who go to the emergency room for other causes related to mental health are transferred directly from triage for psychiatric evaluation.

Process

The selection and evaluation of the sample were conducted by the members of the research team (physician specialists in psychiatry and clinical psychology and resident psychiatrists) by a clinical interview of the study subjects. To this end, the research team was trained in the administration of the evaluation protocol, and monthly meetings were conducted to review the application of the data collection protocol.

The interviews were conducted after selecting and stabilizing, if necessary, the clinical situation of the patient. First, the study protocol was explained to the patient, and after having obtained the Informed Consent, the interview began. The interview was conducted before discharge from emergency or after having spent sufficient time in the Emergency Room based on the physical and psychiatric situation. Patients who attempted greater lethality that was life threatening were recruited after consultation with psychiatry or during admission to the Psychiatric Hospitalization Unit.

Analysis of data

Descriptive analyses were conducted for all variables. For the bivariate comparisons between patients who had attempted suicide and those who had not, the χ^2 test or Student's *t*-test was used, according to the nature of the variables analysed, with $p < 0.05$ being considered significant. For the multivariate analysis of the variables related to belonging to each of the groups, a logistic regression analysis (stepwise forward method) was conducted in which the variables that showed statistically significant differences were incorporated. The input criterion for each variable was set at 0.05, and the retention criterion was set at 0.10. The Hosmer-Lemeshow test was used to assess the goodness of fit of the model. $p < 0.05$ was considered significant. All statistical analyses were performed using the SPSS statistical package (vs. 15.0).

RESULTS

Table 1 presents the main sociodemographic variables of the total sample, the group with attempted suicide and the group without intent. No statistically significant differences were identified among the groups in these variables.

Table 2 presents the clinical variables. Those patients who attempted suicide had a higher proportion of previous suicide attempts (45.4% vs. 30.0%, $p = 0.001$) and lower rates of prior emergency care (55.6% vs. 65.7%, $p = 0.030$), a history of mental disorder (77.8% vs. 86.7%, $p = 0.014$) and follow-up in mental health (57.0% vs. 65.7%, $p = 0.024$).

Of patients who did not visit the ER because of attempted suicide, more pharmacological adjustment occurred than in patients who did visit for attempted suicide ($p < 0.001$). The most represented clinical diagnoses in the total sample were affective disorders, adaptive disorders and substance use disorders. Affective, substance use and adaptive disorders appeared in greater proportion in patients who were there because of suicide attempts rather than for psychosis and anxiety disorders; those patients came for another reason ($p < 0.001$).

Table 3 presents the results of the Brugha Scale. In the suicide attempt group, a higher frequency of adverse events

Table 1	Description of sociodemographic variables							
	Total (N=440)		No suicide attempt (n=233)		Suicide attempt (n=207)		X ² (d.f.)	
	n	%	n	%	n	%		p
Gender								
Men	184	41.8	99	42.5	85	41.1	0.09 (1)	0.762
Women	256	58.2	134	57.5	122	58.9		
Marital status								
Single	166	37.7	96	41.2	70	33.8	5.16 (3)	0.161
Married or in a relationship	167	38.0	86	36.9	81	39.1		
Divorced or separated	88	20.0	39	16.7	49	23.7		
Widowed	19	4.3	12	5.2	7	3.4		
Born in Spain	378	85.9	201	86.3	177	85.5	0.05 (1)	0.819
Level of studies								
No studies	22	5.0	9	3.9	13	6.3	5.53 (3)	0.137
Primary studies	169	38.4	82	35.2	87	42.0		
Secondary studies	189	43.0	104	44.6	85	41.1		
University studies	60	13.6	38	16.3	22	10.6		
Occupation								
Employed	217	49.20	106	45.50	111	53.60	5.92 (2)	0.052
Not employed	108	24.50	55	23.60	53	25.60		
Retired	115	26.20	72	30.90	43	20.70		
Socioeconomic level								
Low	179	40.7	91	39.1	88	42.5	0.54 (1)	0.461
Medium	261	59.3	142	60.9	119	57.5		
Living situation								
Alone	80	18.20	45	19.30	35	16.90	3.56 (2)	0.168
Family	322	73.00	163	69.90	159	76.80		
Others	38	8.60	25	10.70	13	6.30		
Children	227	51.6	113	48.5	114	55.1	1.90 (1)	0.168
Religious belief								
No	190	43.2	98	42.1	92	44.4	0.58 (2)	0.747
Yes, non-practising	131	29.8	73	31.3	58	28.0		
Yes, practising	119	27.0	62	26.6	57	27.5		
	M	(SD)	M	(SD)	M	(SD)	t (d.f.)	p
Age	45.1	14.8	45.5	15.3	44.6	14.3	0.6 (438)	0.533

Table 2		Description of clinical variables							
		Total (N=440)		No suicide attempt (n=233)		Suicide attempt (n=207)		X ² (d.f.)	p
		N	%	n	%	n	%		
History of mental disorder		363	82.5	202	86.7	161	77.8	6.00 (1)	0.014
Previous suicide attempts		164	37.3	70	30.0	94	45.4	11.07 (1)	0.001
Disabling physical illness		89	20.2	42	18.0	47	22.7	1.49 (1)	0.223
Prior care in psychiatric emergency		268	60.9	153	65.7	115	55.6	4.70 (1)	0.030
Previous admission to psychiatric hospitalization unit		171	38.9	96	41.2	75	36.2	1.14 (1)	0.286
Current pharmacological treatment		355	80.7	193	82.8	162	78.3	1.47 (1)	0.225
Social/family support		364	82.7	190	81.5	174	84.1	0.48 (1)	0.486
Mental health care		271	61.6	153	65.7	118	57.0	5.10 (1)	0.024
Family history of mental disorder									
No		219	49.8	118	50.6	110	48.8		
Yes		178	40.5	93	39.9	85	41.1	0.17 (2)	0.920
Not known		43	9.8	22	9.4	21	10.1		
Family history of suicide		53	12	26	11.2	27	13	0.37 (1)	0.544
Pharmacological adjustment in ER		264	60.0	166	71.2	98	47.3	26.09 (1)	0.000
Emergency diagnosis									
No diagnosis		78	18.6	23	9.9	55*	26.6		
Consumption disorder		51	13.0	23	9.9	28	13.5		
Schizophrenia		22	5.6	16	6.9	6	2.9		
Other psychoses		36	9.2	27	11.6	9	4.3		
Bipolar disorder		25	6.4	20	8.6	5	2.4		
Affective disorders		76	19.3	37	15.9	39	18.8	96.30 (12)	0.000
Anxiety and obsessive-compulsive disorders		32	8.1	28	12.0	4	1.9		
Adaptive disorders		56	14.2	26	11.2	30	14.5		
Personality disorders		41	10.4	22	9.4	19	9.2		
Mental retardation		4	1.0	3	1.3	1	0.5		
Others **		19	4.8	8	3.4	11	5.3		

* Cases are included whose only diagnosis is the attempted suicide. ** Others include F09, F44, F45, F50-59, F84, Z Code

such as a severe economic crisis, a severe problem with a close person and breakup was observed; these differences are statistically significant.

Regarding the GAF (Table 3), more than half of the patient sample registered moderate and severe symptoms, with

no statistically significant differences between the two groups.

On the Columbia Scale, statistically significant differences were identified between the two groups in five of the six items on the scale (Table 3).

Table 3		Adverse Life Events, Global Assessment of Functioning								
		Total (N=440)		No suicide attempt (n=233)		Suicide attempt (n=207)		X²	d.f.	p
		n	%	n	%	n	%			
Adverse Life Events Scale										
Disease (self)		203	46.1	112	48.1	91	44.0	0.74	1	0.388
Severe problem with a close person		185	42.0	87	37.3	98	47.3	4.50	1	0.034
Family sickness		102	23.2	57	24.5	45	21.7	0.46	1	0.499
Severe economic crisis		96	21.8	38	16.3	58	28.0	8.81	1	0.003
Breakup		94	21.4	42	18.0	52	25.1	3.28	1	0.070
Employment lost or not found		73	16.6	41	17.6	32	15.5	0.36	1	0.547
Family death or friend 2nd degree		61	13.9	36	15.5	25	12.1	1.04	1	0.307
Separation		48	10.9	19	8.2	29	14.0	3.87	1	0.049
Problems with the police or legal problems		48	10.9	26	11.2	22	10.6	.032	1	0.859
Family death 1st degree		24	5.5	9	3.9	15	7.2	2.43	1	0.119
Theft or loss of valuables		23	5.2	12	5.2	11	5.3	.006	1	0.939
Job firing		19	4.3	11	4.7	8	3.9	0.19	1	0.659
Global Assessment of Functioning										
0-30		37	8.4	23	9.9	14	6.8			
40-60		254	57.7	131	56.2	123	59.4	1.45	2	0.483
70-100		149	33.9	79	33.9	70	33.8			
Columbia Scale										
Desire to be dead		346	78.6	143	61.4	203	98.1	87.86	1	< 0.001
Non-specific active thoughts of suicide		262	59.5	74	31.8	188	90.8	158.73	1	< 0.001
Question of suicidal behaviour		101	23.0	10	4.3	91	44.0	97.54	1	< 0.001
		Total (N=262)		No suicide attempt (n=233)		Suicide attempt (n=207)		X²	d.f.	p
		n	%	n	%	n	%			
Active ideas with any method without intention to act		215	82.1	57	77.0	158	84.0	1.77	1	0.183
Active ideas with some intention to act without specific plan		171	65.3	36	48.6	135	71.8	12.56	1	< 0.001
Active ideas with specific intention and plan		91	34.7	13	17.6	78	41.5	13.40	1	< 0.001

Finally, logistic regression analysis indicated that the history of mental disorder ($OR=1.80$, CI_{95} [1.005-3.242], $p=0.048$) and previous care in psychiatric emergencies ($OR=2.060$, CI_{95} [1.246-3.404], $p=0.005$) were related to visiting the ER for a reason other than a suicide attempt. Among patients who visited the ER for a suicide attempt, the primary relation was identified with the presence of previous attempts ($OR=0.320$, CI_{95} [0.201-0.508], $p<0.001$). The model (constant=1.220, $p=0.216$) correctly classified 61.1% of the total sample (64.7% of those who had attempted suicide and 57.9% of those who had not).

CONCLUSIONS

This study, conducted in the psychiatric emergency department, proposed to describe the primary differences between patients treated for suicide attempts and those treated for another reason. In general terms, it can be affirmed that there are more similarities than differences between the two types of patients. In the two groups studied, most were receiving pharmacological treatment and were being treated in the mental health network. Among patients who visited the ER for attempted suicide, it was observed that the proportion of patients seen in the Mental Health department was lower than in one earlier study (which was 84%)⁹ and more than in another (28.4%)³⁰. Beyond the difference in numbers, a key point is that despite the treatments they received, these patients required urgent care, both for suicide attempts and for other reasons. These data confirm the importance of emergency services to respond to crises in psychiatric patients.²²

Among the patients who came to the ER for a reason other than a suicide attempt, a remarkable result was that 31.8% exhibited suicidal ideation at the time of care. These data may be explained in the context of emergencies in a crisis situation and are consistent with what has been observed by other authors, who indicated that the prevalence of suicidal ideation is high among patients who come to emergency services for mental health reasons^{3,31} and among those who committed suicide who had visited the emergency department in the year prior to death.³² For Baca and collaborators, not only the autolytic ideation but also the desire to die is a powerful predictor of suicidal behaviour.³³ In addition, in this study, 61.4% of these patients expressed their desire to die when questioned. Therefore, it is necessary to have specific protocols for risk detection⁷ that include exploration of the death wish and suicidal ideation, not only for patients who come to the ER for suicide attempts but also for those who come for other reasons.³³

Of the patients who went to this emergency room, 45.5% had already attempted suicide. However, it should be stressed that 30% of those treated for another reason also

had previously attempted suicide. These data reinforce the observations that the risk of suicide is prevalent in the psychiatric population and is much higher than in the general population.^{34,35} Therefore, the need to explore the risk of suicide in any patient treated in psychiatric emergencies is emphasized. In this investigation, we used the C-SSRS screening scale, which has identified significant differences between the two groups of patients studied. This scale was highly valued by the team that conducted the study because of its brevity and precision. Having brief and accurate tools that evaluate suicidal ideation and complement the interview increases the accuracy of the clinician.³⁶

It has been noted that a psychiatric diagnosis is a strong predictor of the onset of both suicidal behaviour and suicidal ideation.³⁵ Affective and substance use disorders contribute directly to suicidal behaviour,^{6,23,37} and this work corroborates the presence of such diagnoses among patients who attempted suicide and indicates the coexistence of both variables as predictors of successful suicide. It is important to note that 26.6% of those who came to the ER because of a suicide attempt did not receive any diagnosis included in the main categories of ICD-10 at the time of urgency. This result is similar to one previous study²² but much lower than another³⁸ in which the differences could be explained by the professionals evaluating the different samples. In this study, the evaluation was conducted by a specialist in psychiatry; a more accurate diagnosis is achieved than when the evaluation is conducted by professionals in other specialties. The absence of a psychiatric diagnosis renders it possible to hypothesize that the previously occurring stressful events and their low resolving capacity may act as precipitants of a suicide attempt.³⁹

In fact, people treated in the emergency department reported different adverse life events in the previous 6 months that may precipitate psychiatric emergency care in vulnerable people. Patients who were treated for attempted suicide more often reported problems with people close to them, breakup or economic concerns. Previous studies linked the influence of interpersonal^{40,41} and economic problems to suicide attempts.²²

One hopeful result is the high percentage of patients who have family support. Family and social support is considered a protective factor of suicidal behaviour¹⁷ and is thus considered when establishing the treatment plan at discharge.

In this study, it has been determined that the sociodemographic characteristics of the two groups of patients are quite similar. Women are generally more likely to commit suicide than men^{19,35}, although it is also true that the majority of the people served in mental health resources are women,⁴² as occurred in the sample evaluated. There were 6

women for every 4 men, both among those who had come to the emergency room because of an attempted suicide or for another cause. Thus, we should associate the suicide attempt with receiving psychiatric treatment in addition to the patient's gender.

Regarding the generalization of the results, some limitations must be considered. First, this study was conducted only in the context of psychiatric emergencies. This restriction implies that the profile of patients with autolytic attempts is limited to those who have required this type of care and may differ from, for example, those who attempt suicide but do not receive medical care. Second, it must be considered that patients reported on their situations during a psychiatric emergency; their responses thus correspond to that moment of personal crisis. This is why suicidal ideation and the desire to die were so prevalent among those who did not come to the ER because of an attempted suicide.

In summary, in this observational, multicentred and case-control study conducted in the psychiatric emergency department, it was determined that patients who attempted suicide had a higher proportion of previous suicide attempts and less previous emergency care, personal history of mental disorder and mental health follow-up than other patients observed. However, no sociodemographic or specific clinical profile was identified among those who committed suicide. A high percentage of patients with suicidal ideation were identified in people treated for other reasons. Therefore, the results emphasize the need to consider and evaluate the ideation of death and the risk of suicide in all patients attending psychiatric emergency facilities.

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CONFLICT OF INTEREST

Leire Azcárate worked as research support staff with a 12-month contract with the help received for the project. The rest of the authors have no possible conflicts of interest to declare.

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