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Repeated suicide attempts: a follow-up study

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Introduction. There is a strong association between those who re-attempt a suicide attempt and those who complete it. Therefore, follow-up on the interventions carried out for suicidal patients is essential. This study investigated the sociodemographic and clinical profiles of individuals admitted as psychiatric emergencies after a suicide attempt according to sex, determined the prevalence of re-attempts in a period of six months, compared the profiles of patients who engaged in repeated suicide attempts to those who did not, and evaluated predictive variables for repeated suicide attempts.

Methodology. A total of 207 patients (122 women and 85 men) who went to the psychiatric emergency room for a suicide attempt (January-October 2015) were interviewed, and their clinical histories were reviewed at 6 months.

Results. Lethal suicidal behaviour was lower in women. Fourteen percent of the sample (n=29) repeated a suicide attempt in the following 6 months, and 2 people died by suicide; 3 died from other causes. The patients admitted to the Psychiatric Hospitalization Unit presented with more re-attempts ($X^2=4.1$; d.f.=1; $p=0.043$). In the multivariate analysis, of all the variables analysed, the only one associated with repeated suicide attempts was having been in mental health treatment upon inclusion into the study (OR=3.504, $p=0.009$, CI95%: 1.361–9.018). In the follow-up period, the percentage of patients who engaged in mental health treatment increased 21.7%.

Conclusions. The risk of recurrence after being treated for a suicide attempt psychiatric emergency is high in the months following an attempt, and it is necessary to improve prevention and intervention programmes aimed at improving these figures.

Keywords: Emergency Service, Psychiatry, Suicide Attempt, Reattempt, Follow-up

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La repetición del intento de suicidio: un estudio de seguimiento

Introducción. Existe una fuerte asociación entre quienes repiten un intento de suicidio (IS) y quienes lo consuman. Por ello el seguimiento de la intervención de estos pacientes es fundamental. En este estudio: se establece el perfil sociodemográfico y clínico de personas atendidas en urgencias psiquiátricas por un IS, en función del sexo; se determina la prevalencia de reintentos en un periodo de seis meses; se compara el perfil de los pacientes que repiten o no el IS; y se evalúan variables predictoras de la repetición.

Metodología. Se entrevistó a 207 pacientes (122 mujeres y 85 hombres) que acudieron a urgencias psiquiátricas por un IS (enero-octubre de 2015), y se revisó su historia clínica a los 6 meses.

Resultados. Las mujeres presentaron una menor letalidad en la conducta suicida. Un 14% de la muestra (n=29) repitió un IS en los 6 meses siguientes y 2 personas fallecieron por suicidio; 3 fallecieron por otras causas. Los pacientes ingresados en la Unidad de Hospitalización Psiquiátrica presentaron más reintentos ($X^2=4,1$; g.l.=1; $p=0,043$). En el análisis multivariable, de todas las variables analizadas, la única asociada a la repetición del intento fue encontrarse en tratamiento en salud mental al incluirse en el estudio (OR=3,504; $p=,009$; I.C.95%=1,361–9,018). En el periodo de seguimiento se incrementó un 21,7% los pacientes tratados en salud mental.

Conclusiones. El riesgo de repetición tras ser tratado en urgencias psiquiátricas por IS es crítico los meses posteriores, siendo necesario mejorar los programas de prevención e intervención destinados a mejorar estas cifras.

Palabras clave: Servicio de Urgencias, Psiquiatría, Intento de Suicidio, Reintento, Seguimiento

INTRODUCTION

Suicide attempts are estimated to occur 40 times more frequently than suicide completion¹; moreover, the risk of suicide associated with an attempt is considerable in the short term^{2,3}, a risk that persists over the years⁴⁻⁷. Between 25 and 30% of suicides are preceded in the preceding year by one attempt, thus serving as a clinically relevant risk factor for suicidal behaviour^{8,9}. The incidence of the repetition rate of an autolytic attempt has not changed significantly in the last 10 years of research¹⁰. Approximately 16% of those who have made a non-fatal attempt will try again after one year, and between 0.5%-2% commit suicide at that time⁶. In a follow-up study, it was found that 2.3% of the survivors of their first attempt committed suicide the following year, without differences between the sexes¹¹.

There are gender differences in suicidal behaviour¹². The "gender paradox" indicates that women make more attempts¹³, although men have twice the death rate (2.7% vs. 1.2%)¹⁰ because regardless of the lethality of the chosen method^{12,14}, men make more serious attempts¹⁵.

Mental disorders are a precipitating factor for suicidal behaviour regardless of gender¹⁶. Identifying mental disorders in the emergency department could contribute to reductions in the repetition of autolytic behaviour¹⁷. In a longitudinal study carried out with 34,219 patients hospitalized for autolytic behaviour, those who had severe mental disorder, affective disorders, or psychosis had a higher risk of suicide in the first year after such care¹⁸.

A visit to the emergency department for autolytic behaviour increases the risk of suicide six fold², with the immediate subsequent period posing the greatest risk⁶. Those who come to the emergency room more than once for this reason are twice as likely to die by suicide than those who come only once¹⁹. Thus, emergency services are ideal places for performing psychiatric assessments of patients and for indicating therapeutic plans and referrals to the most appropriate resources²⁰. However, studies warn that almost half of people who are treated in the emergency room for attempted suicide do not receive subsequent follow-up for their mental health²¹, although it is evident that suicide is less likely among those who receive follow-up¹¹.

Knowing the individual characteristics and the evolution of the patients who are treated for a suicide attempt is fundamental to being able to improve the care given to them and to reduce the risk of suicide. Therefore, the objectives of this study are as follows: 1) to establish the sociodemographic and clinical profile of people treated in psychiatric emergencies for an attempted suicide, according to sex; 2) to determine the prevalence of re-attempts in a period of six months; 3) to compare the profiles of patients who re-

peated the attempt versus those who did not; and 4) to evaluate the variables predicting repeated suicide attempts.

METHODOLOGY

This research was authorized by the Clinical Research Ethics Committee of the Health Department of the Government of Navarra (project number 95/2014).

This descriptive and multicentre observational study applied a protocol that collected sociodemographic variables, clinical variables, and a psychiatric evaluation of the patients who were admitted to the Emergency Services of the Navarra Hospital Complex and the "Reina Sofia" Hospital of Tudela for attempted suicide between January and October 2015.

An attempt to commit suicide was considered to be any self-inflicted, potentially harmful behaviour with a nonfatal result for which there was evidence, explicit or implicit, of an intention to die²².

The inclusion criteria were over 18 years old, having been admitted to the psychiatric emergency room, and having signed the informed consent. The exclusion criteria included not agreeing to participate, being unable to answer, having difficulty with the language, or having an intellectual disability.

The sociodemographic variables considered were as follows: age, sex, marital status, occupation, educational level, socioeconomic status, cohabitation situation, children, religious beliefs.

The clinical variables collected at the time of emergency care included the following: previous suicide attempts, previous care in psychiatric emergencies, previous admissions in the Psychiatric Hospitalization Unit, being in mental health treatment at the time of care, currently being in psychopharmacological treatment, presentation of a discharge plan from the emergency department (follow-up by primary care/in the Mental Health Centre/admission to a psychiatric hospitalization unit/etc.), receiving a clinical diagnosis in the emergency recorded according to the International Classification of Diseases (ICD-10), the presence or absence of planning in the suicidal behaviour, the attitude manifested in the emergency room following the attempt (e.g., regret vs. regret for not having died), the degree of lethality of the attempt (very low/low vs. intermediate/high), the consequences (minimum consequences vs. hospitalization), the method used, and the consumption of toxins concomitant to the attempt.

The clinical variables analysed at 6 months included the following: being in mental health treatment, repetition of

the care in psychiatric emergencies, and repetition of an autolytic attempt or death by the time of the follow-up.

Instruments

A database was created to record the data for the research protocol.

Research context

The two hospital centres that participated in the research share the same protocol for admission and emergency care. When a patient arrives at the unit, properly trained health personnel triage the patient. Any patient who is evaluated as an attempted suicide is first treated by a doctor in the emergency service who, after stabilizing the organic situation, requests a psychiatric consultation. Later, these patients are evaluated and treated by psychiatrists, who develop individualized treatment plans.

Procedure

The selection and assessment of the sample was carried out by the members of the research team (specialist physicians of psychiatry and clinical psychology and resident psychiatrists) by means of a clinical interview with the subjects of the study in which the previously described variables were collected. For this task, the research team had previously been trained in administering the evaluation protocol, and monthly meetings were held to review the data collection.

The interviews were conducted after identifying and stabilizing, if necessary, the patient's clinical situation. First, the protocol of the study was explained to them, with the interview beginning after their having signed the Informed Consent document. This was completed prior to discharge from the emergency room and after having spent enough time in emergency observation or after consulting psychiatry in case of hospital admission. Subsequently, 6 months after inclusion in the study, the clinical histories were recorded to collect the selected variables.

Analysis of data

Descriptive analyses were carried out for all the variables. In bivariate comparisons (e.g., comparisons based on sex, comparison based on whether they repeated the suicide attempt), χ^2 analysis or Student's *t* test was used, according to the nature of the analysed variables, with values $p < 0.05$ defined as significant. For the multivariate analysis of the variables related to re-attempt at the follow-up session, logistic regression analysis (stepwise) was carried out in which

all the variables included in the study were incorporated. The entry 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 for the model. A difference of $p < 0.05$ was considered significant. All statistical analyses were performed with the statistical package SPSS (vs. 15.0).

RESULTS

Profiles of individuals treated for suicide attempts in psychiatric emergency settings, according to sex

Women comprised 58.9% ($n=122$) of the sample. Table 1 describes the main sociodemographic variables of the sample according to sex.

Table 2 shows the results obtained for the clinical and follow-up variables. Women tended to suffer more from affective and personality disorders, and men from consumption disorders and psychotic disorders. The lethality of suicidal behaviour was lower among women, and they used drug intoxication a greater proportion of the time. At the time of the autolytic attempt, 57% of the sample was being treated in mental health. In the follow-up period, after emergency care, the percentage of people treated increased to 78.7%.

Percentage of patients who repeated suicide attempts

In the follow-up period, 29 individuals (14.0%) repeated at least one suicide attempt. Two people died by suicide in this period. This means that 0.9% of the participants in the study ($N=207$) or 6.9% of the people ($n=29$) who repeated the attempt within a period of 6 months finally committed suicide. Three other people died from causes other than suicide, all of them having belongs to the group of individuals who had not re-attempted it ($n=178$). This means that 1.7% of those who had not repeated the attempt died by the time of the follow-up due to other causes. Regarding the total sample ($N=207$), deaths ($n=5$) accounted for 2.4% of the participants.

Comparisons of the sociodemographic and clinical variables based on the repetition of suicide attempts during the follow-up period

From among the sociodemographic variables, the only statistically significant difference found between patients

Table 1	Sociodemographic variables according to sex							
	Total (N=207)		Males (N=85)		Females (N=122)		X ² (d.f.)	p
	n	%	n	%	n	%		
Civil status								
Single	77	37.2%	36	42.4%	41	33.6%	1.7 (2)	0.434
Married or partner	81	39.1%	31	36.5%	50	41.0%		
Divorced - Separated	49	23.7%	18	21.2%	31	25.4%		
Level of education								
None	13	6.3%	8	9.4%	5	4.1%	3.1 (3)	0.383
Primary education	87	42.0%	35	41.2%	52	42.6%		
Secondary education	85	41.1%	35	41.2%	50	41.0%		
University education	22	10.6%	7	8.2%	15	12.3%		
Occupation								
Employed	111	53.6%	38	44.7%	73	59.8%	5.3 (2)	0.072
Unemployed	53	25.6%	24	28.2%	29	23.8%		
Retired	43	20.8%	23	27.1%	20	16.4%		
Socioeconomic level								
Low	88	42.5%	37	43.5%	51	41.8%	0.1 (1)	0.805
Medium-High	119	57.5%	48	56.5%	71	58.2%		
Cohabitation								
Single	35	16.9%	17	20.0%	18	14.8%	12.8 (2)	0.002
With family	159	76.8%	57	67.1%	102	83.6%		
Others	13	6.3%	11	12.9%	2	1.6%		
Has children	114	55.1%	39	45.9%	75	61.5%	4.9 (1)	0.027
Religious belief								
No	92	44.4%	44	51.8%	48	39.3%	3.1 (2)	0.208
Yes, non-practicing	58	28.0%	21	24.7%	37	30.3%		
Yes, practicing	57	27.5%	20	23.5%	37	30.3%		
	M	(s.d.)	M	(s.d.)	M	(s.d.)	t (s.d.)	p
Age	44,6	14.3	46.9	15.5	43.0	13.2	1.9 (205)	0.052

who had repeated an attempt versus those who did not was related to cohabitation status (Table 3).

Regarding the clinical and follow-up variables, people who repeated a suicide attempt reported a greater proportion of previous care having taken place in the psychiatric emergency department, and at the time of their inclusion

in the study, they were treated for mental health and had engaged in higher rates of psychopharmacological treatment than individuals not having repeated suicide attempts (Table 4).

No statistically significant differences were found regarding the emergency discharge plan and any subsequent

Table 2	Clinical and follow-up variables according to sex							
	Total (N=207)		Males (N=85)		Females (N=122)		X² (d.f.)	p
	n	%	n	%	n	%		
Diagnosis								
No diagnosis	55	26.6%	25	29.4%	30	24.6%	12.5 (6)	0.052
Eating disorders	28	13.5%	15	17.6%	13	10.7%		
Psychotic disorders	15	7.2%	10	11.8%	5	4.1%		
Affective disorders	44	21.3%	14	16.5%	30	24.6%		
Adaptive disorders	34	16.4%	11	12.9%	23	18.9%		
Personality disorder	19	9.2%	4	4.7%	15	12.3%		
Other	12	5.8%	6	7.1%	6	4.9%		
Previous suicide attempt	94	45.4%	35	41.2%	59	48.4%	1.0 (1)	0.307
Lethality of suicidal behaviour								
High/Intermediate	76	36.7%	39	45.9%	37	30.3%	5.2 (1)	0.022
Very low/Low	131	63.3%	46	54.1%	85	69.7%		
Method used								
Drug intoxication	166	80.2%	60	70.6%	106	86.9%	8.4 (1)	0.004
Violent methods	41	19.8%	25	29.4%	16	13.1%		
Concomitant consumption of toxins in the attempt	70	33.8%	31	36.5%	39	32.0%	0.4 (1)	0.500
Previous admission in Psychiatric Hospitalization Unit	75	36.2%	33	38.8%	42	34.4%	0.42 (1)	0.517
Prior psychiatric emergency care	115	55.6%	48	56.5%	67	54.9%	0.05 (1)	0.825
In treatment for mental health at the time of emergency care	118	57.0%	47	55.3%	69	56.6%	0.03 (1)	0.857
Psychopharmacological treatment at the time of emergency care	162	78.3%	62	72.9%	100	82.0%	2.40 (1)	0.121
Planning suicidal behaviour	76	36.7%	34	40.5%	39	33.3%	1.08 (1)	0.299
Attitude towards suicidal behaviour at the time of emergency care								
Repentance	149	72.0%	60	70.6%	89	73.0%	0.14 (1)	0.710
Sorry for non-fatal outcome	58	28.0%	25	29.4%	33	27.0%		
Consequences of behaviour								
Minimal /some injury	175	84.5%	68	80.0%	107	87.7%	2.3 (1)	0.131
Hospitalization/serious	32	15.5%	17	20.0%	15	12.3%		
Discharge from Emergency								
Primary Care Physician	44	21.3%	16	18.8%	28	23.0%	5.4 (3)	0.146
Mental Health Centre	90	43.5%	38	44.7%	52	42.6%		
Psychiatric Hospitalization Unit	54	26.1%	27	31.8%	27	22.1%		
Other	19	9.2%	4	4.7%	15	12.3%		
In treatment for mental health during the follow-up	163	78.7%	65	76.5%	98	80.3%	0.4 (1)	0.505

Table 3	Comparison of sociodemographic variables among those who repeated an autolytic attempt versus those who did not						
		No repeated (N=178)		Repeated (N=29)		X ² (d.f.)	p
		n	%	n	%		
Sex							
Male		75	42.1%	10	34.5%	0.6 (1)	0.437
Female		103	57.9%	19	65.5%		
Civil status							
Single		62	34.8%	15	51.7%	3.8 (2)	0.146
Married or partner		74	41.6%	7	24.1%		
Divorced – Separated		42	23.6%	7	24.1%		
Level of education							
None/Primary education		89	50.0%	11	37.9%	1.5 (2)	0.228
Secondary/University education		89	50.0%	18	62.0%		
Occupation							
Employed		97	54.5%	14	48.3%	2.2 (2)	0.332
Unemployed		47	26.4%	6	20.7%		
Retired		34	19.1%	9	31.0%		
Socioeconomic level							
Low		76	42.7%	12	41.4%	0.1 (1)	0.894
Medium-High		102	57.3%	17	58.6%		
Cohabitation							
Single		26	14.6%	9	31.0%	4.8 (1)	0.029
With family/Others		152	85.4%	20	69.0%		
Has children		99	55.6%	15	51.7%	0.1 (1)	0.696
Religious belief							
No		78	43.8%	14	48.3%	0.2 (1)	0.654
Yes		100	56.2%	15	51.7%		
		M	(s.d.)	M	(s.d.)	t (s.d.)	p
Age		44.4	14.1	45.7	15.7	0.4 (205)	0.673

re-attempt, taking into account the different referral alternatives (Table 4). However, when the evolution of the people admitted to the Psychiatric Hospitalization Unit was compared with the rest of the resources, suicide attempts were more frequent during follow-up ($X^2=4.1$, d.f.=1, $p=0.043$).

Predictive variables of repeated suicide attempt

All the variables presented in Tables 3 and 4 were included in a logistic regression analysis to determine which were associated with repeated suicide attempts during the

Table 4 Comparison of clinical and follow-up variables among those who repeated an autolytic attempt versus those who did not

	No repeated (N=178)		Repeated (N=29)		X ² (d.f.)	p
	n	%	n	%		
Diagnosis						
No diagnosis	46	25.8%	9	31.1%		
With diagnosis	132	74.2%	20	68.9%	0.3 (1)	0.557
Previous suicide attempt	78	43.8%	16	55.2%	1.3 (1)	0.255
Lethality of suicidal behaviour						
High/Intermediate	63	35.4%	13	44.8%	1.0 (1)	0.328
Very low/Low	115	64.6%	16	55.2%		
Method used						
Drug intoxication	142	79.8%	24	82.8%	0.1 (1)	0.709
Violent methods	36	20.2%	5	17.2%		
Concomitant consumption of toxins in the attempt	60	33.7%	10	34.5%	1.1 (2)	0.572
Previous admission in UHP	61	34.3%	14	48.3%	2.1 (1)	0.146
Prior psychiatric emergency care	93	52.2%	22	75.9%	5.6 (1)	0.018
In treatment for mental health at the time of emergency care	93	52.2%	23	79.3%	7.4 (1)	0.006
Psychopharmacological treatment at the time of emergency care	135	75.8%	27	93.1%	4.4 (1)	0.037
Planning suicidal behaviour	65	36.5%	11	37.9%	0.1 (1)	0.884
Attitude towards suicidal behaviour at the time of emergency care						
Repentance	130	73.0%	19	65.5%	0.7 (1)	0.403
Sorry for non-fatal outcome	48	27.0%	10	34.5%		
Consequences of behaviour						
Minimal /some injury	149	83.7%	26	89.7%	n.a.	
Hospitalization/serious	29	16.3%	3	10.3%		
Discharge from Emergency						
Primary Care Physician	40	22.5%	4	13.8%		
Mental Health Centre	79	44.4%	11	37.9%		
Psychiatric Hospitalization Unit	42	23.6%	12	41.4%	4.3 (3)	0.227
Other	17	9.6%	2	6.9%		
In treatment for mental health during the follow-up	137	77.0%	26	89.7%	2.4 (1)	0.121
n.a.=not applicable (excess categories)						

follow-up period. The only variable selected for inclusion in the model was being in treatment for mental health at the time of inclusion in the study (OR=3.504, $p=.009$; 95%CI: 1.361–9.018; OR_{constant}=0.071).

CONCLUSIONS

In this study, we first profiled individuals treated for suicide attempts in two hospital psychiatric emergency departments. Some results are very similar to those previously reported. Most individuals indicated remorse for their behaviour⁴. Drug overdose was used by a majority of the sample (80.2%), in contrast to violent methods^{7,18}, and a high prevalence of psychiatric diagnoses in this population was confirmed^{16,23}. Women also predominated^{17,24,25}, who were also receiving psychopharmacological treatment at greater rates than the men when being treated for an attempt^{1,26,27}. Consistent with other studies, among men, the diagnosis of eating disorders stands out; among women, affective and adaptive disorders predominated^{3,16}. Additionally, although the women engaged in more suicide attempts than did men, the lethality of their behaviour was lower²⁸. Regarding the method, it was also observed that the women used drug overdose more frequently^{1,7,27}. Although different methods are associated with specific lethalties, lethality was lower in women^{12,15}, which supports the hypothesis that men approach suicide in a different manner than do women.

A novel finding was that the women lived with their families and more commonly had children than men. These data are relevant because some authors have considered variables related to motherhood^{29–31}, family, and social support as being protective factors against suicidal behaviour²³. However, in our study, this protective effect did not emerge. This finding could be due to the specific characteristics of the sample, but it supports the need to assess the possible mechanisms by which sociodemographic variables influence suicidal behaviour. Therefore, it is necessary to continue investigating and analysing the possible risk and protective factors for suicidal behaviour²³.

Second, the prevalence of re-attempts was determined in the 6 months following the initial attempt. It was found that 14% of the sample repeated a suicide attempt within six months, a percentage similar to those findings reported by other follow-up studies lasting one or more years^{6,24,32,33}. But, in addition, almost half of the sample already had previous attempts in their psychiatric histories, so such attempts do not differentiate those who are non-repeaters from those who do repeat SAs in the follow-up period. These data reflect a clinical reality that has not changed in the last decade, and the findings require the development and improvement of prevention and intervention programmes

aimed at high-risk people during these critical periods in order to reduce the rate of re-attempts.

In fact, in this study, it was found that 6.9% of those who had repeated the attempt died by suicide in the follow-up period, confirming the strong association between those who repeat the attempt and those who complete it. Specifically, Bostwick reported that 2.3% of the survivors of one or more attempts committed suicide in the first year after the first attempt, without finding differences between sexes¹¹, less than that obtained in this work but within the estimated range (2–10%) reported in other studies³². Presenting an attitude of repentance after an attempt was no different for those who repeated compared to those who did not. Although repentance is sometimes used as a criterion (among others) of discharge in emergencies, it had little prognostic value in this study.

In this research, the main differentiator between patients who repeated an attempt compared to those who did not during the subsequent 6 months had to do with not living with other people and, likely, with the clinical severity of the patient. In fact, the people who repeated the attempt had, at the time of inclusion in the study, more previous care in psychiatric emergency units, had already begun being treated for mental health, and had already been in psychopharmacological treatment, which could indicate a greater psychopathological severity. The only predictive variable in the logistic regression for the repetition of an attempt was to be in treatment for mental health upon being included in the study, as other investigations have shown^{7,24}. In future research, it would be advisable to have measures of clinical and functional severity that could confirm this hypothesis.

On the other hand, it was found that re-attempts were more likely among the individuals who were referred to the Psychiatric Hospitalization Unit. These data would confirm the existence of a critical post-discharge period, wherein it is necessary to analyse and increase the effectiveness of the intervention resources used by these patients²⁴.

Regarding mortality, 2.4% of the sample died ($n=5$). The strong association between severe mental disorder and decreased life expectancy is a well-known reality, with a mortality ratio 2.2 times higher than among individuals without a mental disorder³⁴.

A very remarkable finding of this study was that, when receiving care for attempted suicide, 57% of the sample was in treatment for mental health. This is less than the 65%³⁵ or the 67.9%¹⁶ found in other studies. However, after 6 months of follow-up, the percentage of patients who were in treatment for mental health had increased by 21.7%. This increase in adherence was associated with the care protocol used in the centres participating in the study, unlike other

emergency services that do not involve the intervention of psychiatric doctors.

This paper presents some limitations that may affect the generalization of conclusions. First, due to the conditions of project financing, the follow-up period was 6 months, compared to the 12-months intervals used in other studies. This difference may make it difficult to directly compare the results, although the data obtained are representative of the population studied. Second, this study was carried out only in the context of psychiatric emergencies. This implies that the profile analysed may differ from the profiles of those who attempt suicide but do not receive medical care.

In summary, in this longitudinal, multicentre study performed in a psychiatric emergency department, it was found that women treated for attempted suicide use less lethal methods than did men, with drug overdose being the most commonly used, and they live in families with children more often than do men. The prevalence of re-attempts in the 6 months following the initial attempt and of death by suicide, as reported in previous studies, was confirmed. Likewise, there were differences between those who repeated the attempt compared to those who did not repeat it in the follow-up period, associating the repetition with living alone and probably with the greater clinical severity of the patient. The only predictive variable for repeating a suicide attempt was to be in treatment for mental health. It is concluded that the risk of recurrence after being treated for a psychiatric emergency for an autolytic attempt is critical in the months that follow, and it is necessary to improve prevention and intervention programmes aimed at reducing these figures.

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CONFLICT OF INTERESTS

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.

REFERENCES

- Schmidtke A, BilleBrahe U, DeLeo D, Kerkhof A, Bjerke T, Crepet P, et al. Attempted suicide in Europe: Rates, trends and sociodemographic characteristics of suicide attempters during the period 1989-1992. Results of the WHO/EURO Multicentre Study on Parasuicide. *Acta Psychiatr Scand*. 1996;93(5):327-38.
- Crandall C, Fullerton-Gleason L, Aguero R, LaValley J. Subsequent suicide mortality among emergency department patients seen for suicidal behavior. *Acad Emerg Med*. 2006;13(4):435-42.
- Runeson B, Tidemalm D, Dahlin M, Lichtenstein P, Langstrom N. Method of attempted suicide as predictor of subsequent successful suicide: national long term cohort study. *Brit Med J*. 2010;341.
- Suokas J, Suominen K, Isometsa E, Ostamo A, Lonnqvist J. Long-term risk factors for suicide mortality after attempted suicide - findings of a 14-year follow-up study. *Acta Psychiatr Scand*. 2001;104(2):117-21.
- Hawton K, Zahl D, Weatherall R. Suicide following deliberate self-harm: long-term follow-up of patients who presented to a general hospital. *Brit J Psychiatr*. 2003;182:537-42.
- Owens D, Horrocks J, House A. Fatal and non-fatal repetition of self-harm - Systematic review. *Brit J Psychiatr*. 2002;181:193-9.
- Ferreira AD, Sponholz A, Mantovani C, Pazin A, Passos ADC, Botega NJ, et al. Clinical Features, Psychiatric Assessment, and Longitudinal Outcome of Suicide Attempters Admitted to a Tertiary Emergency Hospital. *Arch Suicide Res*. 2016;20(2):191-204.
- Parra Uribe I, Blasco-Fontecila H, García-Parés G, Giró Batalla M, Llorens Capdevila M, Cebrià Meca A, et al. Attempted and completed suicide: Not what we expected? *J Affect Disorders*. 2013;150:840-6.
- Larkin C, Di Blasi Z, Arensman E. Risk Factors for Repetition of Self-Harm: A Systematic Review of Prospective Hospital-Based Studies. *Plos One*. 2014;9(1):e84282.
- Carroll R, Metcalfe C, Gunnell D. Hospital Presenting Self-Harm and Risk of Fatal and Non-Fatal Repetition: Systematic Review and Meta-Analysis. *Plos One*. 2014;9(2):e89944.
- Bostwick JM, Pabbati C, Geske JR, McKean AJ. Suicide Attempt as a Risk Factor for Completed Suicide: Even More Lethal Than We Knew. *Am J Psychiatr*. 2016;173(11):1094-100.
- Callanan VJ, Davis MS. Gender differences in suicide methods. *Soc Psych Psych Epid*. 2012;47(6):857-69.
- Canetto SS, Sakinofsky I. The gender paradox in suicide. *Suicide Life-Threat*. 1998;28(1):1-23.
- Huang YC, Wu YW, Chen CK, Wang LJ. Methods of suicide predict the risks and method-switching of subsequent suicide attempts: a community cohort study in Taiwan. *Neuropsych Dis Treat*. 2014;10:711-8.
- Mergl R, Koberger N, Heinrichs K, Székely A, Tóth MD, Coyne J, et al. What Are Reasons for the Large Gender Differences in the Lethality of Suicidal Acts? An Epidemiological Analysis in Four European Countries. *Plos One*. 2015;10(7):e0129062.
- Narishige R, Kawashima Y, Otaka Y, Saito T, Okubo Y. Gender differences in suicide attempters: a retrospective study of precipitating factors for suicide attempts at a critical emergency unit in Japan. *BMC Psychiatry*. 2014;14.
- Olfson M, Marcus SC, Bridge JA. Emergency Department Recognition of Mental Disorders and Short-Term Outcome of Deliberate Self-Harm. *Am J Psychiatr*. 2013;170(12):1442-50.
- Runeson B, Haglund A, Lichtenstein P, Tidemalm D. Suicide Risk After Nonfatal Self-Harm: A National Cohort Study, 2000-2008. *J Clin Psychiatr*. 2016;77(2):240-6.
- Zahl DL, Hawton K. Repetition of deliberate self-harm and subsequent suicide risk: long-term follow-up study of 11 583 patients. *Brit J Psychiatr*. 2004;185:70-5.
- Larkin GL, Smith RP, Beautrais AL. Trends in US Emergency Department Visits for Suicide Attempts, 1992-2001. *Crisis*. 2008;29(2):73-80.
- Suominen K, Isometsa E, Martunen M, Ostamo A, Lonnqvist J. Health care contacts before and after attempted suicide among adolescent and young adult versus older suicide attempters. *Psychol Med*. 2004;34(2):313-21.

22. O'Carroll PW, Berman DL, Haris RW, Moscicki EK, Tanney BL, Silverman M. Beyond the Tower of Babel: a nomenclature for suicidology. *Suicide Life-Threat*. 1996;126(3):237-45.
23. Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, S. L. Suicide and suicidal behavior. *Epidemiol Rev*. 2008(30):133-54.
24. Fedyszyn IE, Erlangsen A, Hjorthoj C, Madsen T, Nordentoft M. Repeated Suicide Attempts and Suicide Among Individuals With a First Emergency Department Contact for Attempted Suicide: A Prospective, Nationwide, Danish Register-Based Study. *J Clin Psychiat*. 2016;77(6):832-40.
25. Zeppegno P, Gramaglia C, Castello LM, Bert F, Gualano MR, Ressico F, et al. Suicide attempts and emergency room psychiatric consultation. *Bmc Psychiatry*. 2015;15(1):13.
26. Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the national comorbidity survey. *Arch Gen Psychiat*. 1999;56(7):617-26.
27. Chartrand H, Bhaskaran J, Sareen J, Katz LY, Bolton JM. Correlates of Nonsuicidal Self-Injury and Suicide Attempts among Tertiary Care, Emergency Department Patients. *Can J Psychiatry*. 2015;60(6):276-83.
28. Hawton K, Van Heeringen K. Suicide. *Lancet*. 2009(373):1372-81.
29. Marzuk PM, Tardiff K, Leon AC, Hirsch CS, Portera L, Hartwell N, et al. Lower risk of suicide during pregnancy. *Am J Psychiat*. 1997;154(1):122-3.
30. Qin P, Mortensen P. The impact of parental status on the risk of completed suicide. *Arch Gen Psychiat*. 2003;60(8):797-802.
31. Yang CY. Association between parity and risk of suicide among parous women. *Can Med Assoc J*. 2010;182(6):569-72.
32. Mendez-Bustos P, de Leon-Martinez V, Miret M, Baca-Garcia E, Lopez-Castroman J. Suicide Reattempters: A Systematic Review. *Harvard Rev Psychiat*. 2013;21(6):281-95.
33. Gramaglia C, Bert F, Gattoni E, Delicato C, Di Marco S, Coppola I, et al. Repeated suicide attempts in Emergency room psychiatric referrals. *Int J Emerg Ment Health*. 2015;17(4):714-6.
34. Walker ER, McGee RE, Druss BG. Mortality in Mental Disorders and Global Disease Burden Implications A Systematic Review and Meta-analysis. *Jama Psychiat*. 2015;72(4):334-41.
35. Yamada T, Kawanishi C, Hasegawa H, Sato R, Konishi A, Kato D, et al. Psychiatric assessment of suicide attempters in Japan: a pilot study at a critical emergency unit in an urban area. *BMC Psychiatry*. 2007;7:7.