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Absence of association between the level of lethality and the recidivism of suicide attempts in a Spanish province

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Introduction. Suicidal behaviour is a major health problem in Spain. The aim of this study is to examine the relationship between the recurrence of suicide attempts and the level of lethality reached, and the profile of repeaters who perform more lethal attempts.

Method. All patients admitted for attempted suicide in a health area of 360,000 inhabitants from 2009 to 2014 (N=711) were systematically assessed. We compared clinical and demographic characteristics of these patients in terms of lethality (low versus moderate-severe) and recidivism (1-2 attempts versus >2 attempts) using univariate analyses and regression models. Later, we repeated the analyses after distributing the sample into four groups depending on the presence or absence of high lethality and/or recidivism.

Results. Recidivism was associated with the middle-age group (35-65 years), the lack of professional activity, and personality or substance use disorders. Lethality was associated with male gender, extreme age-groups, the use of a violent method, and affective disorders, but not with recidivism. Multiple suicide attempts and high lethality in a single patient was associated with 35-65 years age-group, male gender, violent methods, mental disorders, and inactivity.

Conclusions. Different demographic and clinical factors indicate an increased risk of medical lethality and recurrence in suicidal patients. Our results show that at least some recidivist patients end up making more lethal and vio-

lent attempts with the passage of time, especially if they have psychiatric comorbidity.

Keywords: Suicide Attempt, Recidivism, Lethality, Suicidal Intent, Mental Disorder, Clinical Orientation

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Ausencia de asociación entre el nivel de letalidad y la reincidencia de los intentos de suicidio en una provincia española

Introducción. El suicidio es un problema de salud importante en España. Examinamos la relación entre la reincidencia de los intentos y el nivel de letalidad alcanzado, y el perfil de los pacientes reincidentes que realizan intentos más letales. El objetivo es establecer los factores sociodemográficos y clínicos predictores de una mayor letalidad y reincidencia.

Método. Todos los pacientes atendidos por intento suicida en un área sanitaria de 360.000 habitantes de 2009 a 2014 (N=711) fueron valorados de forma sistemática. Comparamos las características clínicas y demográficas en función de la letalidad (leve versus moderada-severa) y la reincidencia (1-2 intentos versus >2 intentos) usando análisis univariantes y modelos de regresión. Posteriormente, repetimos los análisis tras distribuir la muestra en cuatro grupos en función de la presencia o ausencia de alta letalidad y/o reincidencia.

Resultados. La reincidencia se asoció con la edad media (35-65 años), inactividad laboral, y los trastornos de personalidad o por uso de sustancias. La letalidad se asoció con el

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género masculino, edades extremas, método violento y los trastornos afectivos, pero no con la reincidencia. La coincidencia de múltiples intentos y letalidad severa en un mismo paciente parece relacionarse con el grupo de edad de 35-65 años, sexo masculino, uso de métodos violentos, trastornos mentales y la inactividad laboral.

Conclusiones. Distintos factores demográficos y clínicos se asocian al riesgo de letalidad médica y de reincidencia. Nuestros resultados muestran que aquellos pacientes que repiten los intentos y realizan al menos un intento de alta letalidad, tienen mayor presencia de psicopatología, sobre todo trastornos afectivos.

Palabras clave: Intento de Suicidio, Reincidencia, Letalidad, Intencionalidad Suicida, Trastorno Mental, Orientación Clínica

INTRODUCTION

From year 2008 on, suicide became the leading cause of external death in Spain, ahead of traffic accidents. According to National Statistics Institute data, 3,910 suicides were recorded in 2014 (2,938 men and 972 women) corresponding to a suicide rate of 8.4/100,000 inhabitants¹. In addition, the lifetime-prevalence of suicidal ideas and attempts in Spain is lower than the European average, at 4.4% and 1.5% respectively, according to the study data ESEMED². Suicide attempts encompass major health care, social and economic consequences, and are the best predictors of recidivism and completed suicide³. For this reason, many preventive strategies focus on patients who have performed one attempt⁴.

Two features of suicide attempts are particularly important at a practical level: the degree of medical lethality and the risk of recidivism. The medical lethality of a suicide attempt is defined as the probability of causing irreversible harm⁵. Medication or sedative drug intake are the most frequent methods, classically classified as mild somatic lethality. However, hanging, jumping from a high place, the use of firearms and cutting are considered as violent methods, more lethal, and are associated with a high risk of completed suicide^{6,7}. In a study about suicidal behaviour in Australia carried out between 1993 and 2003, global lethality was observed to be 12%, it was higher among males regardless of the method, and firearms were the most lethal means of suicide (90%) followed by hanging (83%)⁸. Different psychosocial factors seem to promote higher lethality, especially when present simultaneously: male gender^{9,10}, hopelessness^{9,10}, social isolation¹¹, unemployment¹², old age¹³, and alcohol use¹⁴. In a recent study, violent attempts and completed suicides presented similarities such as male gender, old age and antecedents of family suicidal behaviour¹⁵.

Previous suicidal behaviour is the best predictor of future attempts¹⁶, but there is no consensus in defining recidivists. Some authors define recidivists as those subjects who have had at least two suicide attempts¹⁷⁻¹⁹. Owens' team carried out a review of 90 studies in which they analysed repeated attempts in patients attended to in emergencies units, observing that 16% repeated during the first year, 21% repeated between the second and the fourth and 23% after the fourth year²⁰. But whether recidivism of attempts is associated to a progressive increase in lethality is a topic for debate²¹. According to a metaanalysis on studies about psychological autopsy in suicide, approximately 40% of suicides are preceded by at least one non-lethal attempt²². In any event, recidivist patients are clinically a different group with greater psychopathological complexity and greater risk of future attempts^{17,23}. Recidivism has been classically associated with the female gender²⁴ and youth (18-29 years)²⁵. Many other demographic and clinical variables have been associated to greater recidivism. For example, not having a partner²⁴, unemployment²⁶, and most psychiatric disorders^{17,27-29}.

The studies that have attempted to find an association between higher recidivism and higher somatic lethality offer inconclusive results. Two studies are worth mentioning: on the one hand, the study by Blasco-Fontecilla et al. (2014), in which a sample of 372 suicide attempts attended to in a hospital in Montpellier is analysed, and where it was observed that major recidivists (individuals who have attempted suicide more than five times) score higher in a medical lethality scale³⁰. On the other hand, the study by Lopez-Castroman et al. (2011) on a sample of 1,349 suicide attempts evaluated in Montpellier and Madrid, observed that recidivism was related to anxiety disorders, adult age (35-64 years), substance use disorders and a greater need of general hospital care for somatic harm due to the suicide attempt³¹.

The aim of this study is to establish the socio demographic and clinical factors predicting higher lethality and recidivism among patients who carry out a suicide attempt, and to establish the relationship existing between lethality and recidivism. Second, we will study the profile of recidivist patients who carry out more lethal attempts.

METHOD

Population and variables

The sample is composed of all the patients attended to after a suicide attempt in the medical and surgical units and

the emergency service unit in University Hospital Arnau de Vilanova (HUAV, Lérida), between January 1st 2009 and December 31st 2014. HUAV is the main general hospital in the province and the reference hospital for suicide attempts in a health area of 361,500 inhabitants. The systematic assessment carried out by the Liaison Psychiatry team was recovered from the electronic medical records to generate a retrospective database. Assessment included the following variables: gender, age, marital status, occupation, psychiatric antecedents (only principal diagnosis following the DSM-IV(32) criteria), number of previous attempts, method, somatic lethality of present attempt and therapeutic attitude upon discharge. We use Silverman's et al (2007) definition of suicide attempt: "Any self-inflicted potentially injurious behaviour with a non-fatal outcome, for which there is implicit or explicit evidence that the person intended to kill himself or herself"³³. This study has been approved by the ethics committee of the HUAV.

Following Beautrais' criteria, suicide attempts that required over 24 hours of health care in the general hospital were considered high-lethality attempts (moderate somatic lethality when 24 to 48 hours were needed, and severe when more than 48 hours general hospitalization were needed) and those that took less than 24 hours were considered low-lethality attempts³⁴. Patients who self-reported 1 or 2 suicide attempts throughout their lives (including the present attempt) were considered non recidivist, and those who self-reported more than 2 suicide attempts in total were considered recidivist (17–19). Sedative and non-sedative drug poisoning was considered a non-violent method. Venesection, jumping from a high place, hanging and the use of weapons were classified as violent methods¹⁵. Age was distributed in ranges to facilitate result interpretation: 1) young, patients under 24, 2) young adults, those aged between 24 and 34, 3) middle aged, those aged between 35 and 65, and finally 4) elderly, those aged above 65. Finally, the sample was divided into four groups: low lethality and non-recidivism (NONE), high lethality, high recidivism and high lethality and recidivism (BOTH).

Statistical analysis

Chi2 and T-student tests were used in categorical and quantitative variables respectively, to compare the sample's socio-demographic and clinical factors according to lethality (mild versus moderate-severe) and recidivism (1–2 attempts versus >2 attempts). In an exploratory manner, two models of logistic regression were carried out; the first one used as dependent variable of lethality, and the second of recidivism. Both models included the variables that had pre-

viously shown to be significantly associated with lethality and recidivism, with the exception of therapeutic attitude at discharge, as this was a result, not a risk factor. Then, the correlation (Spearman's r) between the number of attempts and the level of lethality (between 1 and 3) were also calculated. Finally, four groups were compared according to the presence or absence of lethality and/or recidivism criteria. The level of significance was established at $p < 0.05$. The statistical programme SPSS v22 was used for analyses.

RESULTS

Sample description

The sample consisted of 711 patients. The age average at the time of evaluation was 39 ± 15 years. As for the participants, 63.0% were female, 53.9% did not have a partner and 43.0% were employed or in education. Regarding clinical aspects, 77.2% had psychiatric antecedents, of which 29.8% were major affective disorders, mainly depressive disorders (95%); 17.4% were substance use disorders and 15.6% were personality disorders. Regarding previous attempts, 23.9% reported having carried out at least two previous suicide attempts, the average number of attempts being 2.05 ± 1.87 . Regarding the method, 89.6% used drug or sedative drug intake. Regarding lethality, 25.6% of the sample presented moderate-severe somatic lethality. The correlation between the level of lethality (mild, moderate or severe) and the number of attempts was not significant ($r = 0.003$, $p = 0.94$).

Recidivism

Table 1 shows the characteristics of suicidal patients according to the number of suicide attempts carried out (recidivism). Adults with ages comprised between 35 and 65 years represent 68.2% of recidivists. Only 4.7% of patients above 65 years of age are recidivists, but they present higher somatic lethality in their attempts. Presenting previous psychiatric antecedents is significantly associated to recidivism, especially in the cases of personality disorder and substance use disorder. Recidivism (>2 attempts) is not associated to more lethal suicide attempts.

Table 2 presents the logistic regression model with the factors associated to recidivism in suicidal behaviour (>2 attempts). Predictors of recidivism are: age between 35 and 65, lack of employment, and antecedents of personality disorder and substance use disorder.

Table 1	Characteristics of suicidal patients according to the number of suicide attempts carried out (recidivism)				
Recidivism	1-2 attempts N=540 N (%)	>2 attempts N=170 N (%)	Statistics		p value
Gender (Female)	334 (61.9)	114 (67.1)	Chi2=1.506	gl=1	p=0.220
Age average±DE	38.87±15.831	42.71±13.071	F=8.254	gl=1	p=0.004
Num. of attempts average±DE	1.30±0.458	4.44±2.537			
Age range			Chi2=19.366	gl=3	p<0.001
<24	108 (20)	15 (8.8)			
24-35	123 (22.8)	31 (18.2)			
>35-65	271 (50.2)	116 (68.2)			
>65	38 (7)	8 (4.7)			
Marital status			Chi2=0.929	gl=1	p=0.335
Without partner	296 (54.8)	86 (50.6)			
With partner	244 (45.2)	84 (49.4)			
Employment			Chi2=15.638	gl=1	p<0.001
Active	255 (47.2)	51 (30)			
Inactive	285 (52.8)	119 (70)			
Mental disorder (yes/no)	391 (71.4)	157 (28.6)	Chi2=29.208	gl=1	p<0.001
Anxiety disorder	50 (76.9)	15 (23.1)	Chi2=0.30	gl=1	p=0.964
Affective disorder	157 (74.4)	54 (25.6)	Chi2=0.448	gl=1	p=0.503
Psychotic disorder	29 (78.4)	8 (21.6)	Chi2=0.116	gl=1	p=0.734
Personality disorder	71 (64)	40 (36)	Chi2=10.565	gl=1	p=0.001
SUD	84 (67.7)	40 (32.3)	Chi2=5.703	gl=1	p=0.017
Method			Chi2=0.612	gl=1	p=0.434
Non-violent	481 (75.6)	155 (24.4)			
Violent	59 (79.7)	15 (20.3)			
Lethality			Chi2=0.278	gl=1	p=0.598
Mild	401 (74.8)	123 (72.8)			
Moderate-Severe	135 (25.2)	46 (27.2)			
Therapeutic attitude upon discharge			Chi2=0.802	gl=1	p=0.371
Outpatient	400 (74.1)	120 (70.6)			
Inpatient	140 (25.9)	50 (29.4)			

Figures in bold indicate p<0.05. SUD: Substance use disorder

Table 2 Logistic regression model with the factors associated to recidivism in suicidal behaviour (>2 attempts)				
Variables associated to recidivism	OR	Confidence interval 95%		p value
		Upper	Lower	
Age				<0.001
24-35	1.623	0.813	3.240	0.17
>35-65	3.039	1.659	5.567	<0.001
>65	1.482	0.557	3.943	0.43
Unemployment	2.060	1.394	3.045	<0.001
Personality disorder	1.415	1.205	1.661	<0.001
Substance use disorder	1.141	1.018	1.279	0.024

Figures in bold indicate $p < 0.05$. Age group <24 years is the reference.

Lethality

Table 3 shows the characteristics of suicidal patients according to the lethality reached in their suicide attempts. Although males represent 45.9% of high lethality attempts, they only account for 33.7% of mild lethality attempts. People aged over 65 represent 13.3% of high lethality attempts, and 4.2% of mild lethality attempts. Affective disorders are present in 35.9% of high lethality attempts, and 27.8% of mild lethality attempts. The use of a method other than drug intoxication is observed in 16% of high lethality attempts, but only in 8.2% of mild lethality attempts. After a mild lethality suicide attempt, 84.6% of patients are referred to the outpatient health care network, while 58% of cases of high lethality attempts are referred to hospital admission (compared to just 15.4% in less lethal attempts).

Table 4 shows the logistic regression model, with an indication of the results predicting high lethality: male gender, the use of violent methods and diagnosis of affective disorder. The age range 35 to 65 is associated with a lower risk of high lethality attempts, compared to less than 24 years of age.

Subgroups according to recidivism and lethality

Low-lethality non-recidivists are 57% of the sample, compared to 17% of recidivists, 19% high lethality and 7% with both factors (Table 5). Recidivists and non-recidivists with high lethality share similarities in being associated to an age comprised between 35 and 65 years, lack of employ-

ment, use of violent methods (especially if both factors are present) and indication of admission to psychiatric units. Regarding gender, a higher proportion of male (50%) is observed in the high lethality recidivist subgroup. Psychiatric antecedents are more frequent too in the high lethality recidivist subgroup (93.5%) compared to other subgroups, especially affective disorders (41.3%).

DISCUSSION

This study evaluates the somatic lethality and recidivism of the individuals who have attempted suicide. According to our results, recidivism and lethality are associated to different factors and, unlike some previous studies^{35,36}, we do not observe a significant correlation between the number of attempts and somatic lethality. However, recidivist patients who have carried out highly lethal attempts present an identifiable profile of lack of employment, use of violent methods and the presence of psychiatric antecedents, in particular affective disorders, and are usually admitted into psychiatric units.

In spite of the new research about recidivism of suicidal behaviour, recidivists have not been properly characterized yet, and there is no clear hierarchy or relationship between the variety of factors that can predict a new suicide attempt^{23,27,31}. The socio demographic factors related to higher recidivism have been the precocity in the first attempt⁴⁶, unemployment⁴⁷ and disability⁴⁸ as we found in our study, absence of a partner⁴⁹ and low level of education⁴⁶. In our sample recidivism is associated with the age range 36 to 65 years,

Table 3	Characteristics of suicidal patients according to lethality reached in their suicide attempts.				
Lethality	Mild N=525 N (%)	Moderate-Severe N=181 N (%)	Statistics		
Gender (Female)	348 (66.3)	98 (54.1)	Chi2=8.529	gl=1	p=0.003
Age average±DE	39±14.044	41.96±18.402	F=5.070	gl=1	p=0.025
Age range			Chi2=20.580	gl=3	p<0.001
<24	87 (16.6)	36 (19.9)			
24-35	120 (22.9)	34 (18.8)			
>35-65	296 (56.4)	87 (48.1)			
>65	22 (4.2)	24 (13.3)			
Marital status			Chi2=0.005	gl=1	p=0.942
Without partner	283 (53.9)	97 (53.6)			
With partner	242 (46.1)	84 (46.4)			
Employment			Chi2=2.154	gl=1	p=0.142
Active	233 (44.4)	69 (38.1)			
Unemployed	292 (55.6)	112 (61.9)			
Mental disorder (yes/no)	397 (75.6)	149 (82.3)	Chi2=3.449	gl=1	p=0.063
Anxiety disorder	53 (10.1)	11 (6.1)	Chi2=2.636	gl=1	p=0.104
Affective disorder	146 (27.8)	65 (35.9)	Chi2=4.216	gl=1	p=0.040
Psychotic disorder	23 (4.4)	14 (7.7)	Chi2=3.049	gl=1	p=0.081
Personality disorder	78 (14.9)	33(18.2)	Chi2=1.157	gl=1	p=0.282
SUD	97 (18.5)	26 (14.4)	Chi2=1.582	gl=1	p=0.209
Method			Chi2 =9.014	gl=1	p=0.003
Non-violent	482 (91.8)	152 (84)			
Violent	43 (8.2)	29 (16)			
Recidivism			Chi2=0.278	gl=1	p=0.598
1-2 attempts	401 (76.5)	135 (74.6)			
>2 attempts	123 (23.5)	46 (25.4)			
Num. of attempts average±DE	2.05±1.82	2.07±2.09	F=0.011	gl=1	p=0.918
Therapeutic attitude upon discharge			Chi2=125.773	gl=1	p<0.001
Outpatient	444 (84.6)	76 (42)			
Inpatient	81 (15.4)	105 (58)			

Figures in bold indicate p<0.05. SUD: Substance use disorder.

Table 4				
Logistic regression model with the factors associated to somatic lethality in suicidal behaviour (moderate-severe)				
Variables associated to lethality	OR	Confidence interval 95%		p value
		Lower	Upper	
Age				0.001
24-35	0.592	0.339	1.033	0.065
>35-65	0.597	0.371	0.962	0.034
>65	1.854	0.891	3.858	0.099
Male gender	1.816	1.261	2.616	0.001
Violent method	1.848	1.092	3.130	0.022
Affective disorder	1.579	1.066	2.339	0.023
Figures in bold indicate $p < 0.05$. Age group <24 years is the reference.				

although the literature suggests greater recidivism among young people²⁵. For example, a recent study using data from 28,700 young people (aged 10 to 29 years) attended to for self-harming in Ireland between 2007 and 2014 associated recidivism of these acts with adolescence in women, scarification, the number of previous episodes, and the use of violent methods at some stage⁵⁰. Clinical factors related with greater recidivism are lethality of the attempt⁵¹, somatic illness and the presence of mental illness, in particular personality disorders (especially borderline personality disorder) and substance use disorder. In this research we found more recidivism among patients with personality disorders and substance use disorder, as described above⁵². Other aspects associated with repeated attempts are high impulsivity, hopelessness, low conflict resolution capacity, stressful life events and a history of aggression⁵³. Recidivism *per se* is also associated to lack of employment, as previously described, especially among males. Employment, however, is not significantly related to higher lethality although numerous studies describe unemployment as a suicide risk variable, especially in males⁴³. A study based on a sample of 1,981 suicides between 1983 and 1992 in England and Wales, observed that unemployment doubled the rate of suicide and was related to highly somatic severity drug intoxications⁴⁴.

The use of violent methodology in suicide attempts has been classically associated to higher lethality³⁸. Males in general, as in our study, carry out more lethal attempts

choosing violent methods such as jumping from a high place or hanging^{39,40}. Consistent with this, we observed in our sample that 50% of recidivist subjects with high lethality are males, and that violent methodology (jumping from a high place, hanging and venesection) is associated to greater somatic affectation. Males are more reluctant to ask for professional help when they feel sad or hopeless^{9,10}, they tend to have less social support than females¹¹, they feel more threatened by unemployment¹² and associate alcohol abuse more often than females. Moreover, the presence of a depressive episode can increase the risk of suicide in males^{9,41}.

In our sample, high lethality attempts are more frequent in extreme ages (<24 and >65) compared with an intermediate age range of 35 to 65 years. Other studies have associated old age with more severe attempts, as this population is more prone to having associated somatic problems, the use of violent methodology and firmer determination⁴². Finally, affective disorders are associated to higher somatic lethality in our sample, and more closely associated in the high-lethality recidivist subgroup. It is worth highlighting that 10-15% of persons with a major depressive disorder commit suicide, and between 60 and 70% of suicide victims suffered a depressive episode⁴⁵.

When comparing the four subgroups according to recidivism and lethality, we could identify various factors associated to high-lethality recidivists. Recidivists in our sample are particularly present in the age group 35 to 65 years, an age range where the proportion of high-lethality attempts is lower. However, the number of recidivist patients with high-lethality attempts progressively increases with age until 65 years. Yu-Chi Huang et al. (2014) studied retrospectively 2,070 patients who had attempted suicide between 2006 and 2010 in Taiwan. These authors compared patients according to the degree of lethality of their first attempt⁵⁴. A low-lethality first attempt before the age of 50 was the best predictor of relapse, while a high-lethality first attempt after the age of 50 predicted a change in method for a subsequent attempt. These findings are consistent with the evidence that points at old age as an independent factor for death by suicide, as subjects present intentionality and use more lethal methods⁸. Our results are also along the lines of Scoliers' et al., who found that middle-aged patients (20-49 years) relapse more, but use less lethal methods⁵⁵. High-lethality recidivists present similar figures of lack of employment to low-lethality recidivists and are more likely to be diagnosed with affective disorders, have records of mental disorders and be admitted to hospital than any other subgroup. The characteristics of this subgroup altogether suggest that at least a part of recidivists, with no difference according to gender, end up carrying out more lethal attempts with age, and this transition to higher lethality may be determined by the affective comorbidity.

Table 5	Sample distribution according to lethality/recidivism profile: low lethality and non recidivism (NONE) vs. high lethality vs. high recidivism vs. high lethality and high recidivism (BOTH)						
Lethality/ recidivism	NONE N=407 N (%)	High lethality N=135 N (%)	High recidivism N=123 N (%)	BOTH N=46 N (%)	Statistics		p value
Gender (Female)	260 (63.9)	75 (55.6)	90 (73.2)	23 (50)	Chi2=12.140	gl=3	p=0.042
Age average±DE	38.12±14.050	41.28±20.129	42.12±13.463	43.96±11.937	F= 4.207	gl=3	p=0.006
Age range					Chi2=46.141	gl=9	p=0.033
<24	75 (18.4)	33 (24.4)	12 (9.8)	3 (6.5)			
24-35	96 (23.6)	27 (20)	24 (19.5)	7 (15.2)			
>35-65	219 (53.8)	54 (40)	82 (66.7)	33 (71.7)			
>65	17 (4.2)	21 (15.6)	5 (4.1)	3 (6.5)			
Marital status					Chi2=0.812	gl=3	p=0.643
Without partner	223 (54.)	74 (54.8)	63 (51.2)	23 (50)			
With partner	184 (45.2)	61 (45.2)	60 (48.8)	23 (50)			
Employment					Chi2=19.474	gl=3	p=0.002
Active	201 (49.4)	55 (40.7)	36 (29.3)	14 (30.4)			
Unemployed	206 (50.6)	80 (59.3)	87 (70.7)	32 (69.6)			
Mental D. (yes/no)	287 (70.5)	106 (78.5)	113 (91.9)	43 (93.5)	Chi2=32.443	gl=3	p=0.001
Anxiety D.	41 (10.1)	9 (6.7)	13 (10.6)	2 (4.3)	Chi2=2.996	gl=3	p=0.125
Affective D.	113 (27.8)	46 (34.1)	34 (27.6)	19 (41.3)	Chi2=5.167	gl=3	p=0.039
Psychotic D.	18 (4.4)	11 (8.1)	5 (4.1)	3 (6.5)	Chi2=3.361	gl=3	p=0.339
Personality D.	47 (11.5)	24 (17.8)	31 (25.2)	9 (19.6)	Chi2=14.717	gl=3	p=0.015
SUD	68 (16.7)	16 (11.9)	30 (24.4)	10 (21.7)	Chi2=7.796	gl=3	p=0.951
Method					Chi2=9.678	gl=3	p=0.026
Non violent	369 (90.7)	114 (84.4)	116 (94.3)	38 (82.6)			
Violent	38 (9.3)	21 (15.6)	7 (5.7)	8 (17.4)			
Therapeutic attitude upon discharge					Chi2=121.734	gl=3	p<0.001
Outpatient	343 (84.3)	58 (43)	102 (82.9)	18 (39.1)			
Inpatient	64 (15.7)	77 (57)	21 (17.1)	28 (60.9)			

Figures in bold indicate p<0.05. SUD: Substance use disorder

Strengths and limitations

Since this is a cross-sectional study, causal conclusions cannot be drawn, but our results can be used to guide future research. Other variables of interest, such as psychometric scales, impulsivity, medical comorbidity, the comorbidity of mental disorders and substance use were not available. Characterization of the final population is limited. As a strength of this study, we highlight that owing to the characteristics of the area and having only one reference hospital for the province, we have obtained a representative sample of the population with 711 patients. This has enabled obtaining a large and heterogeneous sample over an elongated period, which reflects the habitual clinical practice.

CONCLUSIONS

In our study, recidivism was associated to an age range of 35 to 65 years, antecedents of personality disorders and/or use of toxic substances and lack of employment. Lethality however, was related to male gender, the use of violent methods and the presence of an affective disorder. We have stated in the present study that there is no clear correlation between somatic lethality and recidivism. However, recidivist patients who carry out high-lethality attempts present an identifiable profile (lack of employment, use of violent methods and the presence of psychiatric antecedents, especially affective disorders, and admissions to psychiatric units) that could facilitate preventive interventions.

Ethical responsibilities

Protection of people and animals. The authors declare that during this research no experiments were performed on people or animals.

Data confidentiality. The authors declare having followed the protocols of their institution in relation to patient data publication.

Right to privacy and informed consent. The authors declare that no patient data is present in this article.

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