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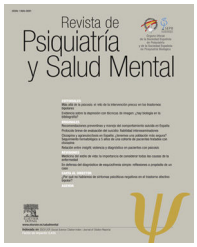

ORIGINAL ARTICLE

Relevant risk factors of repeated suicidal attempts in a sample of outpatients☆

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KEYWORDS
Repeated suicidal attempts;
Risk factors;
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Prevention of suicidal attempts

Abstract
Introduction: Suicide is, at present, an important global public health problem; detection of risk factors can be used as a method for prevention and intervention. This study aims to identify predictors of suicide in patients with suicidal attempt retry (SAR), who are followed-up an in the Intensive Intervention Program (PII).
Methods: The sample includes patients followed up at the PII because of a previous suicidal attempt. The following variables were collected during the 12 months follow-up (baseline, 6 months and 12 months): Repeated attempts, socio-demographic and clinical variables, lack of adherence and the Beck Depression Inventory and Hopelessness Scale.
Statistic analysis: The association between SAR and qualitative study variables was performed using Chi-Square and for the quantitative, T-Student was used. The analysis was carried out with the software SPSS 19.0. The study has been approved by the Research Ethics Committee of Galicia.
Results: Of the 319 patients, 29 (9 %) of them committed a new suicidal attempt, 22 (76 %) of these new attempts happened during the first 6 month of the Program. Of those who repeat the attempt, 7 (24 %) have a history of a previous attempt that precede the basal attempt ($p = 0.033$) in less than 180 days.

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Medication overdose is the most used method, as it was used by 240 of the patients (76 %). 27 (93 %) kept drug overdose as their retry method, also reaching significance ($p < 0.001$).
Conclusions: Overdose as a method of attempt and re-attempt, and the time elapsed from the previous attempt, are the highlighted risk factors associated with repeated suicidal attempts. For this reason, it is crucial to identify patients with a new suicide attempt so that a more intense intervention and drug treatment control is delivered during the first 180 days.

PALABRAS CLAVE
Repetición de intento de suicidio;
Factores de riesgo;
Intentos previos;
Prevención de intento de suicidio

Factores predictores de riesgo de repetición de intento de suicidio en una muestra de pacientes ambulatorios

Resumen
Introducción: El suicidio representa un problema destacado en la actualidad; una línea de prevención e intervención es la detección de los factores de riesgo. En este estudio se pretende identificar variables predictores de repetición de intento de suicidio (RIS) en pacientes a seguimiento en un Programa de Intervención Intensiva (PII).
Material y método: La muestra la forman los pacientes incluidos en el PII por intento de suicidio. Se registran las variables sociodemográficas y clínicas, los abandonos, la RIS, las faltas a consulta y los resultados obtenidos en las escalas de depresión y desesperanza de Beck a lo largo de los 12 meses de seguimiento en el programa (inicial, 6 meses y 12 meses).
Análisis estadístico: La asociación entre RIS y variables cualitativas de estudio se realizó Chi-Cuadrado y para las cuantitativas T-Student. Los análisis se realizaron utilizando el software SPSS 19.0.

El estudio ha sido aprobado por el Comité Autonómico de Ética de la Investigación de Galicia.
Resultados: De la muestra de 319 pacientes, 29 (9%) realizan una RIS, 22 (76%) durante los primeros 6 meses del programa. Los que RIS, 7 (24%) tienen historia de intento previo durante un periodo inferior a 180 días al intento índice ($p = 0.033$).

La intoxicación medicamentosa fue el método más empleado en el intento índice 240 pacientes (76%). 27 (93%) mantienen el método en la RIS ($p < 0.001$).
Conclusiones: La sobreingesta de fármacos como método del intento y el tiempo transcurrido desde el intento previo, son los factores de riesgo asociados a la RIS, por ello la importancia de identificar a los pacientes con historia de intento, sobre todo en los primeros 180 días, para una intervención más intensiva y un ajuste adecuado del tratamiento.

Introduction

Suicide is a public health problem, due to its current high prevalence and many countries' failure to implement appropriate prevention strategies, including Spain.[1] According to the World Health organisation (WHO), the number of deaths by suicide is almost 800,000 per year worldwide, and due to its upward trend it is estimated that by 2020 the number of completed suicides will have reached 1.53 million.[2] In Spain, according to data from the National Statistics Institute,[3] suicide is the main external cause of mortality since 2008,[4] at 3679 deaths in 2017, 3.1 % more than in 2016. However, the true magnitude of the problem is underestimated by the tendency to under report in most countries of the world, including Spain.[5]

It is estimated that the number of suicide attempts (SA) is approximately 10–20 times higher than the number of completed suicides. To date, a prior history of SA is the best predictor of subsequent completed suicide, with 35 %–50 % suicide attempt retry (SAR) within this group. However, official figures are lacking due to methodological difficulties, which impedes real knowledge of the problem.[6–10]

Mental disorders are among the main risk factors, with non-reactive affective disorder (depressive state not presenting as a direct response to a stressful situation) very prevalent in suicidal behaviour.[11,12]

All of this has resulted in the development of strategies aimed at reducing suicidal behaviour, such as Mental Health Promotion and Mental Disorder Prevention[13] promoted by the European Union or those recently promoted by the European Evidence-Based Suicide Prevention Program Group by the Expert Platform on Mental Health.[14]

In view of the above, the hypothesis to be confirmed is that the presence of a non-reactive affective disorder leads to a higher prevalence of SAR, a previous SA is an outstanding risk factor, and there is a direct relationship between the time elapsed since the SA and the risk of SAR.

The main aim of this study was to identify variables that could help the clinician determine a patient's degree of risk of SAR, both in the general population and in patients that are being closely monitored by mental health professionals, in order to prevent a recurrence of suicidal behaviour.

Method

Study design

A retrospective, observational study was conducted over the period from April 2009, when the intensive intervention programme (IIP) commenced, until December 2012, the period available for this first phase of study and publication.

Patients who had attempted an SA were included in the study, referred by the psychiatric emergency department or by primary care physicians in the Integrated Management Area of Ourense, Verín and Barco de Valdeorras (population of a mean 335,646 inhabitants according to data from the National Statistics Institute between 2009 and 2012[15]) and who had been included in at least one IIP per SA. Subjects under 18 years of age, intellectually disabled people, people with organic syndromes and those who did not agree to participate in the programme were excluded.

The IIP is a suicidal behaviour care and prevention programme. Its main objective is therapeutic intervention in the shortest time possible. The intervention period lasts 6 months, with a follow-up consultation one year after starting on the programme. The waiting period from the request for an appointment in the unit until the first assessment must not exceed 15 days. For more information, the programme is described in the article by Reijas et al.[16]

The investigators respected all the aspects established in current legislation on clinical research, and the study was approved by the Autonomous Committee of Research Ethics of Galicia with registration number 2010/473.

Study variables

SAR was collected as the main variable during the follow-up year on the programme (date, number, method and time until SAR). Only those involving hospital emergency department care were considered. We defined SA according to the criteria of the World Health Organization:[17] An act whose result is not death, in which an individual deliberately and without the intervention of others causes harm or ingests a substance at a higher dose than that recommended as therapeutic, the objective of which is to make changes by means of the physical consequences expected or derived from said act.

Independent variables included sex, age, marital status, number of cohabitants, employment status, completed education, family structure, index attempt (SA leading to the patient entering the IIP) and previous attempt (history of SA prior to the index attempt), date and method, number of previous SA, diagnosis according to the International Classification of Mental Illnesses (ICD-10),[18] family history of suicide, missed consultations and dropouts (those who left the programme by choice). The Beck Hopelessness Scale (BHS),[19] Beck Depression Inventory (BDI)[20,21] and suicidal impulses (BDI item 9) were also analyzed at baseline, at 6 and at 12 months

Statistical analysis

A descriptive analysis of the data was performed expressing the quantitative variables as mean and standard deviation and the qualitative variables in frequencies and percentages. In order to determine the association between SAR and qualitative study variables, chi-square and student's *t*-test quantitative variables were used. Subsequently, with the variables that were significant in the univariate analysis, a Wald backward stepwise logistic regression was performed. In the final model, the method of index attempt and days from the previous attempt to the index attempt were included as independent variables. To determine whether there were changes in suicidal impulses (item 9 of the BDI) over time, the McNemar test was used for qualitative variables and the student's *t*-test for paired data in the case of quantitative variables. Kaplan-Meier curves were used for the study of suicide attempt retry during follow-up on the IIP. The log rank test was used to compare the repetition curves of suicide attempts according to previous attempts and according to the method of attempt.

In all the analyses, p values <.05 were considered statistically significant. All the analyses were performed using SPSS 19.0 software.

Results

The study comprised a sample of 319 subjects.

The socio-demographic and clinical variables of the patients who left the programme, 70 (22 %), compared to those who did not, 249 (78 %), are presented in Table 1.

In the dropout group the mean age was 34.8 years, with a predominance of mild somatic severity, 56 (80 %), and diagnoses of adjustment disorder-prolonged depressive reaction, 37 (53 %), and personality disorder, 16 (23 %) stood out. For all these variables statistically significant differences can be observed between the subjects who left and those who did not leave the programme.

With regard to SAR during follow-up in the programme, a group of 29 patients (9.1 %) made an SAR and another group of 290 patients (90.9 %) did not make an SAR (Table 2). Of the SAR, 76 % occurred in the first 180 days, of which more than 2 thirds (68 %) occurred in the first 90 days.

There were 2 (6.9 %) SAR in patients who left the programme during the follow-up period on the programme, whereas there were 27 (10.8 %) in the subjects who did not leave the programme. On the other hand, 5 other subjects (7.1 %) committed an SAR after leaving the programme according to the records of the emergency department, in the 12-month period from their inclusion.

With regard to missed consultations, 40 % of the patients missed a consultation during the follow-up period, of which 37 % did not make an SAR compared to 63 % who missed a consultation who did make an SAR (p = .009).

With respect to the BDI and BHS scales, a higher score was recorded in the patients who made an SAR compared to those who did not. This is statistically significant in the first scale (p < .05) and at 12 months for the BDI scale (p < .009).

Table 1 Sociodemographic and clinical variables of the sample, considering dropouts and non-dropouts.

[0,1–5]Sociodemographic

	Total	Dropouts (70)	Non-dropouts (249)	p value
Age; mean (SD)	41.5 (14.6)	34.8 (11)	43.4 (14)	.001
[0,1–5]				
[0,1–5]*Sex (%)*				
Female	237 (74.3 %)	56 (80 %)	181 (72.7 %)	NS
Male	82 (25.7 %)	14 (20 %)	68 (27.3 %)	
[0,1–5]				
[0,1–5]*Marital status (%)*				
Married	134 (42.3 %)	26 (37 %)	108 (43.7 %)	NS
Single	99 (31.2 %)	28 (40 %)	71 (28.7 %)	
Separated/Divorced	67 (21.1 %)	11 (15.7 %)	56 (22.7)	
Widowed	12 (3.8 %)	2 (3 %)	10 (4 %)	
[0,1–5]				
[0,1–5]*Employment status (%)*				
Active	68 (21.6 %)	16 (23 %)	52 (21.3 %)	NS
Pensioners	52 (16.5 %)	8 (11.4 %)	44 (18 %)	
Unemployed	61 (19.4 %)	19 (27 %)	42 (17.2 %)	
ILT	68 (21.6 %)	10 (14.3 %)	58 (23.8 %)	
Housewives	40 (12.6 %)	11 (15.7 %)	29 (12 %)	
Students	23 (7.3 %)	6 (8.6 %)	17 (7 %)	
[0,1–5]				
[0,1–5]*Education (%)*				
Illiterate	7 (2.2 %)	0 (0 %)	7 (2.8 %)	NS
Able to read and write	18 (5.7 %)	2 (3 %)	16 (6.5 %)	
EGB-Primary–FP	167 (52.8 %)	39 (55.7 %)	128 (52 %)	
Bachiller-ESO	93 (29.4 %)	21 (30 %)	72 (29.3 %)	
Diploma-higher education	31 (9.8 %)	8 (11.4 %)	23 (9.3 %)	
[0,1–5]				
[0,1–5]*Family structure (%)*				
Living alone	38 (12.1 %)	7 (10 %)	32 (13 %)	NS
Partner	55 (17.5 %)	13 (18.8 %)	42 (17 %)	
Immediate family	145 (46.2 %)	33 (47.8 %)	112 (45.5 %)	
Extended family	57 (18.1 %)	10 (14.5 %)	47 (19 %)	
Institution	3 (.9 %)	1 (1.4 %)	2 (.8 %)	
[0,1–5]				
[0,1–5]*Number of cohabitants; mean (SD)*				
	3 (1.3)	2.9 (1.2)	3 (1.3)	NS

[0,1–5]Clinical

	Total	Dropouts (70)	Non-dropouts (249)	p value
[0,1–5]*Provenance (%)*				
Emergency department	212 (66.6 %)	53 (75.7 %)	159 (64 %)	[4,0]NS
Primary care	24 (7.5 %)	7 (10 %)	17 (7 %)	
MHU	39 (12.3 %)	2 (3 %)	37 (15 %)	
Acute unit	17 (5.3 %)	2 (3 %)	15 (6 %)	
Hospital interconsultation	25 (7.8 %)	6 (8.6 %)	19 (7.7 %)	
[0,1–5]				
[0,1–5]*Somatic severity (%)*				
Mild	206 (66.2 %)	56 (81.2 %)	150 (62 %)	[2,0].011
Moderate	65 (20.9 %)	7 (10 %)	58 (24 %)	
Severe	40 (12.9 %)	6 (8.7 %)	34 (14 %)	
Previous SA (%)	157 (50.3 %)	37 (53.6 %)	120 (49.4 %)	NS
SAR on the programme (%)	29 (9.1 %)	2 (2.9 %)	27 (10.8 %)	.040

Table 1 (*Continued*)

[0,1–5]Sociodemographic				
[0,1–5]*Family history of suicide (%)*				
	28 (8.8 %)	8 (11.4 %)	20 (8 %)	NS
Initial BDI	31.4 (8.8)	28.9 (9.2)	27.2 (9.3)	NS
Initial BHS	13.5 (5)	11.8 (4.9)	11.5 (5.5)	NS
[0,1–5]*Index attempt method (%)*				
Drug overdose	240 (75.7 %)	57 (81.4 %)	183 (74 %)	[1,0]NS
Other methods	77 (24.3 %)	13 (18.6 %)	64 (26 %)	
[0,1–5]				
[0,1–5]*Difference date of index attempt minus previous SA (%)*				
No previous attempts	181 (56.9 %)	36 (51.4 %)	146 (58.6 %)	[3,0]NS
Less than 180 days	30 (9.4 %)	8 (11.4 %)	22 (8.8 %)	
From 180–365 days	11 (3.5 %)	2 (3 %)	9 (3.6 %)	
More than 365 days	96 (30.2 %)	24 (34.3 %)	72 (29 %)	
[0,1–5]				
[0,1–5]*Diagnoses (IDC-10) (%)*				
Psychotic disorder	9 (2.8 %)	1 (1.4 %)	8 (3.2 %)	[5,0].043
Anxiety disorder	8 (2.5 %)	2 (2.9 %)	6 (2.4 %)	
Non-reactive affective disorder	64 (20.1 %)	10 (14.3 %)	54 (21.7 %)	
Adjustment disorder-Prolonged depressive reaction	182 (57.1 %)	37 (53 %)	145 (58.2 %)	
Personality disorder	38 (11.9 %)	16 (23 %)	22 (8.8 %)	
Other disorders	18 (5.6 %)	4 (5.7 %)	14 (5.6 %)	

BHS: Beck Hopelessness Scale; BDI: Beck Depression Inventory; ICD-10: International Mental Disease Classification; SD: standard deviation; EGB: General Basic Education; ESO: Compulsory Secondary Education; FP: Vocational Training; ILT: temporary employment disability; SA: suicide attempt; NS: not significant; SAR: suicide attempt retry; MHU: mental health unit.
In each group the mean and its standard deviation is shown for the quantitative variables and frequencies and their percentages for the qualitative variables.

There is no evidence that the progress over time of those who made an SAR is different to those who did not (Fig. 1).

With respect to suicidal impulses (item 9 BDI), an improvement was observed in the scores at 6 and at 12 months both in the total patient sample and in those who made an SAR ($p < .001$).

Drug overdose was the most used method in the index attempt, at 240 cases (76 %) and this percentage increased to 96 % (27 subjects) in those with an SAR ($p < .05$). Of the 27 patients that made an SAR choosing a drug overdose as the index attempt method, 25 (93 %) used the same method in the SAR ($p < .001$).

The likelihood of SAR is significantly higher in patients with a history of a previous SA in the last 180 days compared to those with no history of a previous SA or a history of a previous SA between 180–365 days or longer.

There were 2 completed suicides in the sample during follow-up (.9 %). Of these, one was included in the programme after a SA following drug intake, with subsequent completed suicide by precipitation; and the other, whose method of completed suicide is not known, was included in the programme due to stab injuries.

The multivariate analysis (Table 3) highlights that patients who use drug overdose as an index attempt method have a 5.4 greater risk (95 % CI 1.2–23.6) of making an SAR than patients who use other methods. With regard to a history of an SA prior to the index attempt, the risk of SAR is 4.9 times higher (95 % CI 1.7–14) during the first 180 days, with progressive decrease over time.

Fig. 2 shows the survival curves of the patients who made an SAR during follow-up on the IIP, according to the variables previously analysed and the statistical differences found between them.

Discussion

This study shows that the percentage of SAR during the IIP was around 10 %, a similar percentage to publications by other authors.[7,22]

In relation to the main aim of the study, it should be noted that the main factors that seem to be related to an SAR are the method used in the index attempt and the days from the previous SAR to the index attempt.

The methods used in the SA have been shown to have significant predictive value.[23] The most used method in the sample for the index attempt was drug overdose, in line with the results of published studies that consider it to be the method most used in both SA and SAR, and with a high prevalence in females,[17,24,25] bearing in mind that in this study 74.3 % were female. We highlight that almost all the SAR were from this group, using lethality methods similar to the index attempt.

These data underline the need to pay more attention and not underestimate the danger of drug overdose since the risk of SAR is high, especially in the first 180 days following the attempt.

On the other hand, a previous history of SAR is flagged up as one of the most predictive risk factors for future suicidal

Table 2 Sociodemographic and clinical variables of the sample, considering SAR versus no SAR.

[0,1–5]Sociodemographic	Total	[0,3–4]SAR		p value
		Yes (N:29)	No (N:290)	
Age; mean (SD)	41.5 (14.6)	39.3 (11.2)	41.7 (14.9)	NS
[0,1–5]*Sex (%)*				
Female	237 (74.3 %)	23 (79.3 %)	214 (73.8 %)	[1,0]NS
Male	82 (25.7 %)	6 (20.7 %)	76 (26.2 %)	
[0,1–5]				
[0,1–5]*Marital status (%)*				
Married	134 (42.3 %)	15 (51.7 %)	119 (41.3 %)	[3,0]NS
Single	99 (31.2 %)	7 (24 %)	92 (32 %)	
Separated/Divorced	67 (21.1 %)	7 (24 %)	60 (20.8 %)	
Widowed	12 (3.8 %)	0 (0 %)	12 (4.2 %)	
[0,1–5]				
[0,1–5]*Employment status (%)*				
Employed	68 (21.6 %)	7 (24 %)	61 (21.4 %)	[5,0]NS
Pensioners	52 (16.5 %)	5 (17.2 %)	47 (16.5 %)	
Unemployed	61 (19.4 %)	4 (13.8 %)	57 (20 %)	
ILT	68 (21.6 %)	9 (31 %)	59 (20.7 %)	
Housewives	40 (12.6 %)	2 (7 %)	38 (13.3 %)	
Students	23 (7.3 %)	2 (7 %)	21 (7.4 %)	
[0,1–5]				
[0,1–5]*Education (%)*				
Illiterate	7 (2.2 %)	1 (3.4 %)	6 (2.1 %)	[4,0]NS
Able to read and write	18 (5.7 %)	1 (3.4 %)	17 (6 %)	
EGB-Primary-FP	167 (52.8 %)	16 (55.2 %)	151 (52.6 %)	
Bachiller-ESO	93 (29.4 %)	10 (34.5 %)	83 (29 %)	
Diploma-higher education	31 (9.8 %)	1 (3.4 %)	30 (10.5 %)	
[0,1–5]				
[0,1–5]*Family structure (%)*				
Lives alone	38 (12.1 %)	2 (7 %)	37 (13 %)	[4,0]NS
Partner	55 (17.5 %)	8 (28.6 %)	47 (16.4 %)	
Immediate family	145 (46.2 %)	12 (43 %)	133 (46.3 %)	
Extended family	57 (18.1 %)	5 (18 %)	52 (18 %)	
Institution	3 (.9 %)	0 (0 %)	3 (1 %)	
[0,1–5]				
[0,1–5]*Number of cohabitants; mean (SD)*				
	3 (1.3)	2.9 (1.1)	3 (1.3)	NS

[0,1–5]Clinical	Total	[0,3–4]SAR		p value
		Yes (N:29)	No (N:290)	
[0,1–5]*Provenance (%)*				
Emergency department	212 (66.6 %)	18 (62 %)	194 (67 %)	[4,0]NS
Primary care	24 (7.5 %)	1 (3.4 %)	23 (8 %)	
MHU	39 (12.3 %)	4 (13.8 %)	35 (12 %)	
Acute unit	17 (5.3 %)	1 (3.4 %)	16 (5.5 %)	
Hospital interconsultation	25 (7.8 %)	5 (17.2 %)	20 (7 %)	
[0,1–5]				
[0,1–5]*Somatic severity (%)*				
Mild	206 (66.2 %)	17 (58.6 %)	189 (67 %)	[2,0]NS
Moderate	65 (20.9 %)	6 (20.7 %)	59 (21 %)	
Severe	40 (12.9 %)	6 (20.7 %)	34 (12 %)	

Table 2 (*Continued*)

[0,1–5]Sociodemographic	Total	[0,3–4]SAR		p value
		Yes (N:29)	No (N:290)	
[0,1–5]				
Previous SA (yes) (%)	157 (50.3 %)	17 (60.7 %)	140 (49.3 %)	NS
Missed consultations (yes) (%)	93 (40 %)	17 (63 %)	76 (37 %)	.009
Mean number of missed consultations (SD)	.95 (1.5)	1.67 (1.7)	.8 (1.4)	.005
Family history of suicide (%)	28 (8.8 %)	3 (10.3 %)	25 (8.6 %)	NS
[0,1–5]*BDI; mean (SD)*				
Initial	27.6 (9.3)	31.4 (8.8)	27.3 (9.2)	.025
6 months	14 (10.2)	17.0 (9.5)	13.8 (10.2)	NS
12 months	14.4 (9.9)	19.7 (9.6)	13.42 (9.7)	.009
[0,1–5]				
[0,1–5]*BHS; mean (SD)*				
Initial	11.6 (5.4)	13.5 (5)	11.4 (5.4)	.05
6 months	6.3 (5.5)	7.2 (5.3)	6.2 (5.5)	NS
12 months	6.6 (5.2)	8.4 (5.7)	6.3 (5)	NS
[0,1–5]				
[0,1–5]*Index attempt method (%)*				
Drug overdose	240 (75.7 %)	27 (93 %)	213 (74 %)	[1,0].022
Other methods	77 (24.3 %)	2 (7 %)	75 (26 %)	
[0,1–5]				
[0,1–5]*Difference index attempt minus previous SA (%)*				
No previous attempts	181 (56.9 %)	12 (41.4 %)	170 (58.6 %)	[3,0].033
Less than 180 days	30 (9.4 %)	7 (24 %)	23 (8 %)	
From 180–365 days	11 (3.5 %)	1 (3.4 %)	10 (3.4 %)	
More than 365 days	96 (30.2 %)	9 (31 %)	87 (30 %)	
[0,1–5]				
[0,1–5]*Diagnoses (IDC-10) (%)*				
Psychotic disorder	9 (2.8 %)	1 (3.4 %)	8 (2.8 %)	[5,0].035
Anxiety disorder	8 (2.5 %)	3 (10.3 %)	5 (1.7 %)	
Non-reactive affective disorder	64 (20.1 %)	9 (31 %)	55 (19 %)	
Adjustment disorder-Prolonged depressive reaction	182 (57.1 %)	11 (38 %)	171 (59 %)	
Personality disorder	38 (11.9 %)	3 (10.3 %)	35 (12 %)	
Other disorders	18 (5.6 %)	2 (7 %)	16 (5.5 %)	

BHS: Beck Hopelessness Scale; BDI: Beck Depression Inventory; ICD-10: International Mental Disease Classification; SD: standard deviation; EGB: General Basic Education; ESO: Compulsory Secondary Education; FP: Vocational Training; ILT: temporary employment disability; SA: suicide attempt; NS: not significant; SAR: suicide attempt retry; MHU: mental health unit.
In each group the mean and its standard deviation is shown for the quantitative variables and frequencies and their percentages for the qualitative variables.

behaviour.[26–28] Up to two-thirds of the individuals who made an SA, had a previous history of an attempt.[29] In our study, 50 % of the sample had a previous history of an attempt and this rose to 60 % in the group of patients who made an SAR during the follow-up period.

A variable of great interest and related to a previous attempt is the time since the last attempt. During the first 180 days and even during the first year after the SA, the risk increases considerably.[30] Recent studies estimate the incidence in the first year as 16 % for an SAR and 2 % for completed suicide.[31] In this study, the rate of SAR was greater in the patients with a history of a previous attempt in the last 180 days, with a 5 times greater risk and a gradual decrease over time. According to some authors, this could be related to the greater accessibility to memories of the previous attempt, therefore with minimal stimulation a further SA is triggered.[32]

The role of mental disorders as risk factors for SA is well known. Adjustment disorder-prolonged depressive reaction is the most prevalent in this study and its affective symptoms are moderate. On the other hand, non-reactive affective disorder is the most frequent in patients with an SAR, making it clear that more depressive symptoms correspond to a greater risk of SAR. These data are consistent with those reflected in the Suicidal Behaviour Prevention Programme in Barcelona, where non-reactive affective disorder represents 48 % of the sample.[7,33,34]

High levels of depression and hopelessness are associated with SAR. Hopelessness is considered the most influential psychological factor in relation to the risk of SA; 91 % of

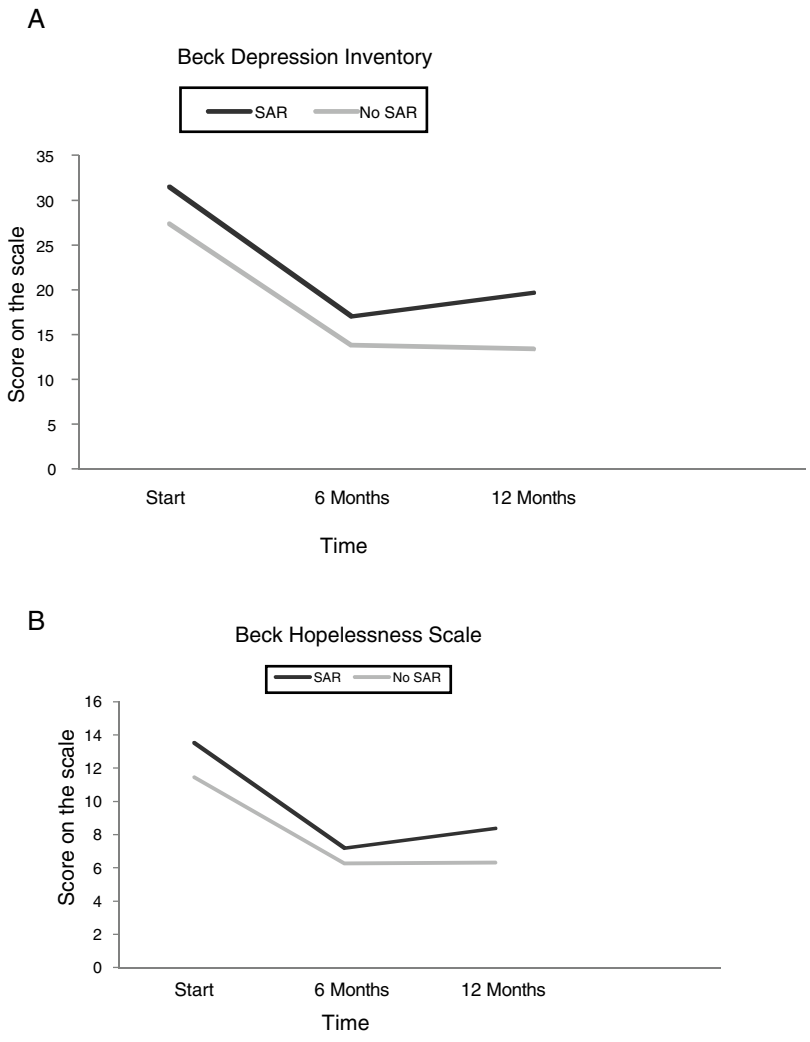

Figure 1 A. Evolution over time of the BDI score. B. Evolution of the BHS over time. BHS: Beck Hopelessness Scale; BDI: Beck Depression Inventory; SAR: suicide attempt retry.

patients who make an SA express hopelessness on the Beck scale.[33]

A higher score on the Beck scales (BDI and BHS) was collected in the sample in patients who made a further SA during the programme compared to those who did not, coinciding with the records of other publications in which a higher score is seen in patients with multiple attempts compared to those who make a single attempt.[27]

Beck scales have excellent psychometric properties and can therefore be considered a useful tool for assessing levels of depression and hopelessness.[35] The decrease in the test scores at 6 months could be a reflection of the usefulness of the intervention carried out on the IIP, as reported in other publications, in which a significantly greater reduction in levels of depression and hopelessness was demonstrated with the specialised intervention compared to the standard intervention.[36] There was an increase in the score at 12 months in patients who made an SAR over those who did not make a SAR. SAR implies a further increase in depression and hopelessness, reflected in the score of the scales, which would make us consider restarting the intervention in these patients.

With respect to patients who did not make a SAR, the marked decrease in the score did not persist after 6 months as we had values that were close to normal.

With regard to Item 9 of the BDI, the lower score at 6 and 12 months reflects the reduction in suicidal impulse and, therefore, clinical improvement.

Unlike that observed in previous studies, no statistical association was found between SAR and the sociodemographic variables.[30,31]

The probability of SAR in patients who missed an IIP consultation was higher than in the patients who left the programme. The latter are likely to require less intervention as they are less severe patients. This is reflected by younger age, the presence of less somatic severity in the index attempt, and a lower prevalence of diagnosis of non-reactive affective disorder compared to patients who did not drop out. In patients who made an SAR, almost 60 % missed a consultation during the IIP, twice as many as those who did not make an SAR.

Finally, it should be noted that in the IIP, as in other programmes designed to prevent an SAR, the focus of action is mainly on the close follow-up of

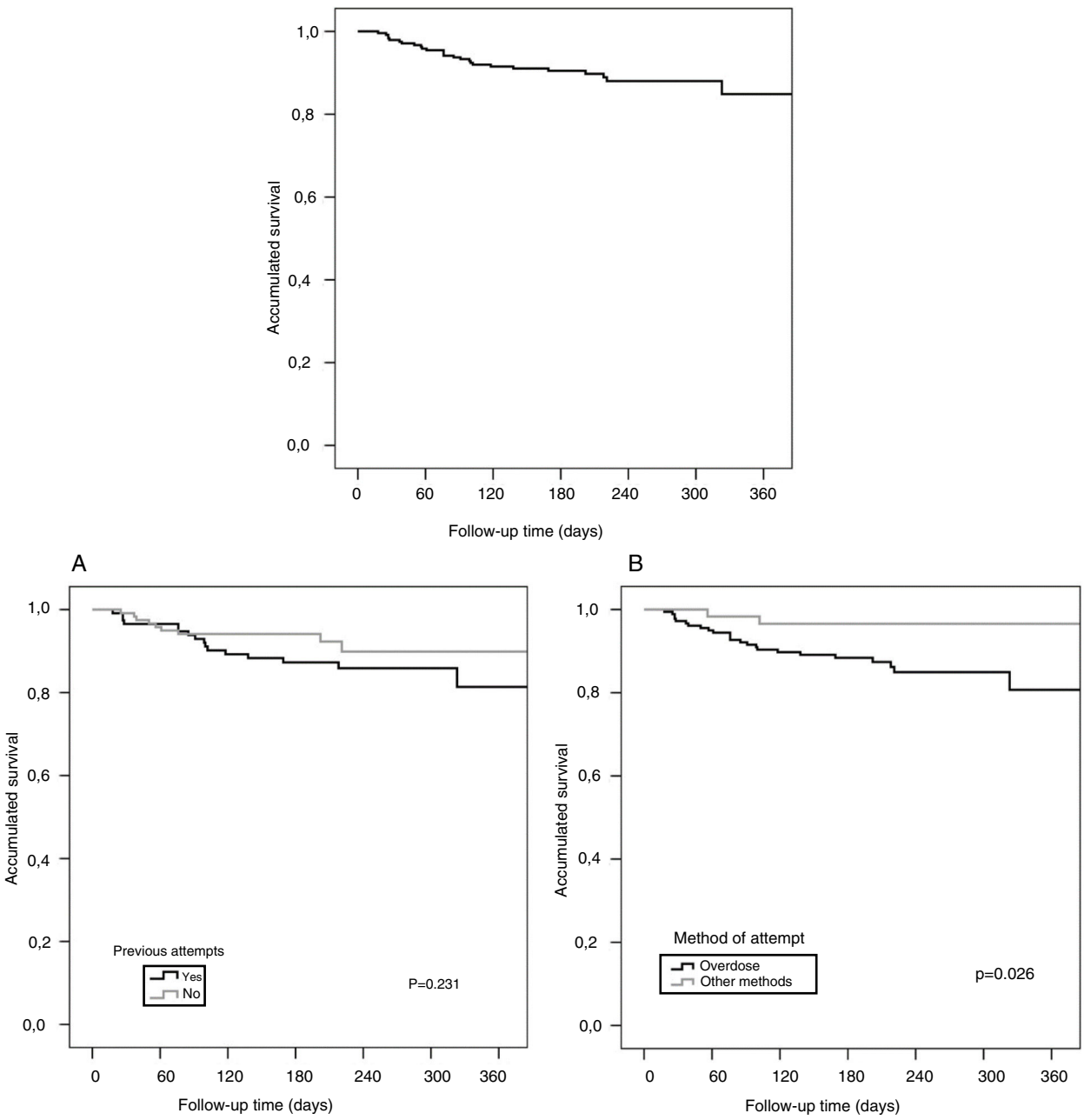

Figure 2 Survival curves of suicide attempt retry during follow-up on the IIP. A: According to previous attempts; B: According to the attempt method.

patients in the first months after an SAR and the psychopharmacological and psychotherapeutic treatment of the non-reactive affective disorder. The effort at these points is mainly due to their level of evidence in prevention strategies.[11,14,22,25,37]

This study has some *limitations*. On the one hand, the retrospective nature of the study facilitates the appearance of biases due to the difficulty in gathering information and its quality. Moreover, there were dropouts; 70 patients in the sample left the programme over the 12 months of follow-up, of which 5 made an SAR after they dropped out according to EOXI records; but it is possible that some SAR did not go through the EOXI emergency department, so the patients who made an SAR might not have been fully registered. The lack of homogeneity of the medical intervention after the index attempt is another limitation; interventions varied according to the severity of the SA, ranging from a psychiatric interview and referral to the IIP to admission to the acute psychiatric unit. However, the intervention protocol tends to avoid admission and promotes referral to the IIP unit, since resources are limited, and in the case of admission are of short duration, therefore there is relative homogeneity of interventions. On the other hand, there are a series of subjects who were able to make an SA without having been attended and registered by the EOXI emergency department, either because they were assessed by private

Table 3 Multivariate analysis. Logistic regression model.

Variable	OR	95 %CI	p value
[0,1–4]*Index attempt method*			
Other methods	1	–	
Drug	5.38	1.22-23.64	**.026**
[0,1–4]			
[0,1–4]*Days since the attempt prior to the index attempt*			
No previous attempt	1	–	
<180 days	4.86	1.69-14	**.003**
180–365 days	1.86	.21-16.51	.577
>365 days	1.46	.59-3.62	.416

95 %CI: 95 % confidence interval; OR: odds ratio.
In bold, statistically significant values.

health centres or simply because they did not attend any health centre.

The IIP inclusion criteria cover all SA regardless of severity, which can lead to selection bias. However it is a good idea to have a follow-up time to adequately determine the severity of the disorders, bearing in mind that the majority of patients are not known to the healthcare network, which carries the risk of not including severe patients, which could trigger a completed suicide.

Finally, it should be pointed out that the sample is very specific and cannot be considered fully representative of the cases making suicide attempts; this limitation is related to the geographical dispersion of the study area.

The IIP unit is in the city of Ourense, which means that many patients prefer to be followed up with their psychiatrist at the regional referral hospital (Verín and Barco de Valdeorras), as the distance is considerable and is a limitation for follow-up.

In view of the results obtained in this study, it should be noted that, although psychopharmaceuticals are necessary for psychopathological treatment, the high risk of misuse, already observed in the previous attempt, requires closer monitoring of the patient.

It is very important to recognise patients with a history of a previous SA, with the need for closer follow-up during the first 180 days, avoiding low adherence to consultations. For this reason, it is necessary to insist on the need to collect the most exhaustive information possible and on the creation of a computer warning system that alerts the clinician to patients with a history of a previous attempt, especially in the period indicated.

Conclusions

At present we lack psychological tests, clinical techniques and biological markers with sufficient sensitivity and specificity to predict SAR.[30] The value of the results of this study lies in the fact that variables such as the diagnosis of non-reactive affective disorder, high Beck scale score, history of previous SA (mainly in the last 6 months) and drug overdose indicate a high risk of SAR, therefore investigating its presence is a fundamental tool for the clinician, since it enables estimating the patient's level of risk and thus ensure a more individualised and accurate intervention. We must also mention that the data indicate that any patient who has made an SA should be followed up more closely during the first 180 days after the attempt. It would be advisable to apply different prevention strategies, based on the most prominent risk factors, in order to reduce both the rate of SAR and completed suicides.

Ethical responsibilities

Protection of people and animals. The authors declare that neither human nor animal testing has been carried out under this research.

Data confidentiality. The authors declare that no patient data appear in this article.

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

Conflict of interest

The authors have no conflict of interests to declare.

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