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SUICIDE ATTEMPTS AND STRESSFUL LIFE EVENTS AMONG HOMELESS PEOPLE IN MADRID (SPAIN)

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Abstract

The article describes a study carried out with a representative sample of homeless people in Madrid (Spain; N = 188). This study aims to corroborate the relationship identified in the literature between stressful life events and suicidal behaviour in a group in a situation of social exclusion, to assess the differences in the number and characteristics of stressful life events experienced by homeless people who are attempters and non-attempters, and to identify which combination of stressful life events enables discrimination for suicide attempts among homeless people. The results show that 30% of homeless people in Madrid had attempted suicide, and 57.9% of them had done so for the first time when they were homeless. The interviewees are shown to have experienced a large amount of stressful life events, with substantially more stressors experienced by the homeless people who tried to commit suicide, during both their childhood and adolescence and throughout their life. Finally, we found that the combination of 7 stressful life events provided the best possible discrimination between homeless attempters and non-attempters

Keywords: homeless people, stresful life events, suicidal attempts.

Introduction

Mortality among homeless people in developed countries is much higher than among the general population (Barrow, Herman, Cordova, & Struening, 1999; Hwang, 2000; Nusselder et al., 2013). Among the causes of this high mortality, deaths due to suicide have rarely been considered, although the data available on suicide attempts suggest that the actual suicide rate among this group may be remarkably high (Barak, Cohen, & Aizenberg, 2004; Barrow et al., 1999; Hwang, 2000). Various studies that have examined suicide attempts among homeless adults in developed countries have found very high percentages of homeless people who have attempted suicide, albeit with important variations: e.g. 48% in Montreal, Canada (Lamontagne, Garceau-Durand, Elie & Blais, 1988); 34.1% in Toronto, Canada (Eynan et al., 2002); 22% in Los Angeles (USA) (Gelberg, Linn & Leake, 1988); and 22% among hostel users in St. Louis (Smith, North, & Spitznagel, 1993). In a large sample of 2,974 homeless people in the USA, Dietz (2011) noted that 6% reported that they had attempted suicide in the previous year.

The scientific literature establishes the existence of an important relationship between the risk of suicide and suffering from multiple stressful life events (SLE). These experiences play a key role in the individual's life and frequently lead to significant changes for the person involved (Vázquez, Panadero & Martín, 2015). The Stress–Diathesis Model of Suicidal Behaviour (Van Heeringen, 2012; Van Heeringen & Mann, 2014) posits that suicide is the result of an interaction between state-dependent (environmental) stressors and a trait-like diathesis or susceptibility to suicidal behaviour. Within the framework of this model, the experiencing of many and severe SLE during childhood and throughout life can have a very negative effect on people with a trait-like diathesis -a predisposition or persistent vulnerability which can be described in psychological or biological terms- or susceptibility to suicidal behaviour. Lopez-Castroman, Olié & Courtet (2014) point out that environmental insults during pregnancy, childhood, or adolescence induce neurodevelopmental changes that increase the vulnerability for suicidal behaviour in later life.

Various studies have shown that both suicides and suicide attempts are to a large extent precipitated by different SLE (Cheng, Chen, Chen, & Jenkins, 2000; Heikkinen et al., 1997; Paykel, Prusoff & Myers, 1975; Vázquez, Panadero, & Rincón, 2007; 2010). Osvath et al. (2004) for the general population, Beautrais et al. (1997) and Cooper et al. (2002) for young people, and Guillén, Panadero, Rivas, and Vázquez (2015) for populations in situations of social exclusion or difficulty found that interviewees who had attempted suicide had in overall terms suffered from significantly more SLE than the non-attempters. Suffering from many SLE, especially if these take place during the first years of life and if they are related to the family environment, seems to be an important vulnerability factor for suicide attempts in the future (Vázquez et al., 2015; Vázquez et al., 2007; 2010).

Suffering from SLE is particularly prevalent among the groups in situations of poverty and social exclusion, both during childhood and adolescence and throughout their lives (Guillén et al., 2015; Leonori et al., 2000; Vázquez et al. 2015; Vázquez et al., 2007, 2010). Various studies show that a history of physical and/or sexual abuse during childhood (Beautrais, Joyce, & Mulder, 1996; Brown, Cohen, Johnson, & Smailes, 1999; Pompili et al., 2011; Vázquez et al., 2010), and impaired or neglectful parenting (Beautrais et al., 1996; Brent et al., 1993; Johnson et al., 2002) are particularly powerful SLE when they are experienced in the first years of life, and are associated with a major risk of suicidal behaviour in adult life.

Among homeless people, suffering from physical or sexual violence during childhood has been linked to subsequent drug use and suicidal behaviour (Dietz, 2010). The most important of the main issues studied in relation to suicidal behaviour among the homeless are

psychoactive substance abuse (Rodell, Benda, & Rodell, 2003), mental health problems (Benda, 2005) and psychiatric comorbidity with substance abuse As Serafini et al. (2012) point out, the association between psychoactive substance use, mental illness and suicidal behaviour has frequently been reported, although the exact nature of this link is underinvestigated. In a study specifically on suicidal ideation and behaviour, Eynan et al. (2002) reported that 72% of homeless people with psychotic disorders had attempted suicide, while for mood disorders this percentage was 42.5%, it was 40% among drug users and 33% among those with post-traumatic stress disorder. Among homeless people with no psychiatric disorder, the percentage of those who had made suicide attempts was 11% (Eynan et al. 2002). Meanwhile, Gelberg, Linn & Leake (1988) reported that homeless adults in Los Angeles with a history of using mental health services had attempted to commit suicide about 6 times more often than those who had not used those services (34% vs. 6%). Among homeless substance abusers, a history of sexual abuse, including a history of sexual abuse in childhood (Afifi, Boman, Fleisher, & Sareen, 2009; Benda, 2005) or physical abuse or current physical or sexual abuse (Benda, 2005) was associated with reports of suicidal thoughts (Rodell et al., 2003).

This paper aims to determine the relationship between suicide attempts and the number and characteristics of the SLE experienced by homeless people in Madrid, both specifically during childhood and adolescence and throughout their lives. This study also aims to identify the combination of SLE that predicts suicide attempts in that group to the greatest extent.

Method

Sample

The study was carried out with a representative sample of homeless people in the city of Madrid, consisting of 188 people over 18 years old, who had spent the night before the interview in a shelter for the homeless, on the street or other places not initially designed for sleeping (abandoned buildings, basements, subway stations, etc.).

The sample size was determined beforehand, based on the available data for the total number of homeless people in Madrid (Vázquez, Panadero, & Zúñiga, 2017). To delimit the number of homeless people in Madrid (2,130 people), we used data provided by the City Council of Madrid regarding accommodation places for homeless people taken up in the winter of 2011-12 was used (761 permanent places in the municipal network of the Madrid City Council, 357 places in the so-called "cold campaign", and 412 places in the social initiative network: total 1,530 places) and data on homeless people sleeping on the streets obtained from a night count carried out in the city (600 people). A strategy for random sampling in the street and in all housing resources for homeless people in the city of Madrid was designed. From the lists of users provided by each of the assistance services, specific number of participants were selected in each facility proportionately and randomly, according to their capacity. The sample selection in the street was carried out randomly and proportionally, based on a list of homeless people sleeping on the streets provided by the street outreach teams of the Madrid City Council. The main characteristics of the sample are shown in Table 1.

Table 1. Main sociodemographic and educational characteristics and time spent homeless of homeless people in Madrid.

Characteristics	n	Percentage/mean
Sex		
Male	158	84.0%
Female	30	16.0%
Age (Mean (SD))	188	47.57 yr. (12.17)
Marital status		
Single	100	53.2%
Married	7	3.7%
Legally separated or divorced	58	30.9%
Separated de facto without legal procedures	19	10.1%
Widow/er	3	1.6%
Other	1	0.5%
Nationality		
Foreigners	53	28.2%
Spanish	133	70.7%
Completed education		
None (illiterate)	5	2.7%
None (literate)	6	3.2%
Special education	1	0.5%
Incomplete primary	11	5.9%
Primary	45	23.9%
Secondary/first cycle (until 14 years old)	64	34.0%
Secondary/second cycle (until 18 years old)	32	17.0%
University (intermediate degree and above)	22	11.7%
Slept in one of the following places last month		
In the street	49	26.1%
In an unsuitable place	13	6.9%
In a shelter	132	70.2%
Time homeless (Mean (SD))	182	7.0 yr. (8.45)

As shown in Table 1, the vast majority of homeless people in Madrid were male, of Spanish origin, and their mean age was 48 years old. While more than half of the interviewees were single, 46.3% had been married at some point in their life, although very few were still married when the interview took place. 9.6% had not completed primary education, while 12% had completed some form of university education. The people interviewed had been homeless for a mean period of seven years (SD=8.45), and the vast majority reported having slept in a shelter during the month prior to the interview.

Procedure

After the objectives of the research and the treatment that the data would receive were explained to the participants, they were asked for their informed consent, and assured that their anonymity would be respected at all times.

In view of the results obtained in previous studies (Muñoz, Vázquez, & Vázquez, 2004), we assumed that a relatively high number of respondents would have a low or very low level of education, and that the number of homeless people in Madrid of foreign origin - with potential difficulties with understanding the language - would be relatively high. As a result, a structured interview was used to gather information, which enabled us to circumvent the possible problems arising from the interviewees' difficulties with reading and/or understanding. The interviews lasted between 45 and 80 minutes.

Measures

The structured interview included the question: "have you attempted suicide at some point in your life?" with possible response options of "yes" or "no". We defined a suicide attempt as an "incident accompanied by self-reported intent to die" (Goldman-Mellor et al., 2014; Guillén et al., 2015).

When gathering information on the stressful life events (SLE) suffered, the L-SVE was used to do so [Listado de Sucesos Vitales Estresantes para Colectivos en Exclusión Social /List of Stressful Life Events for People in Social Exclusion], created upon the review of previous measuring instruments (Brugha y Cragg, 1990) and work conducted with people in a situation of social difficulty or exclusion (Guillén, et al., 2015; Muñoz, Vázquez, Bermejo & Vázquez, 1999; Vázquez, et al., 2015; Vázquez, et al., 2007, 2010). The L-SVE consists of 43 possible SLE: 21 SLE that could have occurred before age 18 (see Table 2) and 22 SLE that could have occurred throughout the interviewee's life (see Table 3). The participants had to respond if they had suffered each of the SLE or not (dichotomising answer).

Data analysis

The database was developed and processed using the SPSS statistical analysis and data management system (version 19.0 for Windows). When making comparisons between the two groups, the $\chi 2$ statistic (Chi square) was used for nominal variables, and the non parametric Mann-Whitney U test was used for continuous variables, as the assumptions for the Student-*t* test for independent samples were not reached. For stressful life events, the risk of each event was computed between attempters and non-attempters. In univariate analyses, we computed the odds ratios with 95% confidence intervals by standard methods (Rudas, 1998).

A discriminant analysis (stepwise inclusion method) was subsequently carried out to identify the variables that discriminated between homeless people who had attempted suicide and those who had not.

Results

Among the homeless people interviewed in Madrid, 30.3% (57) answered affirmatively to the question 'Have you attempted suicide at some point in your life?' 56.1% of these had attempted suicide on more than one occasion. Among the homeless people who had attempted suicide (the attempters), the first suicide attempt took place at a mean age of 35.1 years old (SD = 12.01). In 57.9% (33) of the cases, the first attempt occurred when the person was already homeless. No statistically significant differences were observed between the group of attempters and the group of non-attempters based on sociodemographic characteristics such as gender ($\chi 2(1) = 0.001$; $p = .971$), age ($t\,(180) = 1.001$; $p = .318$) or nationality ($\chi 2\,(1) = 0.706$; $p = .401$). Also, no statistically significant differences were observed between those who had attempted suicide just once in their life and those who had attempted suicide on more than one occasion based on gender ($\chi 2(1) = 0.017$; $p = .897$), age ($t\,(46) = 0.556$; $p = .581$) or nationality ($\chi 2\,(1) = 0.696$; $p = .404$).

The differences between attempters and non-attempters in terms of suffering from SLE are shown in Tables 2, 3 and 4.

Table 2. Differences in suffering from Stressful Life Events before the age of 18 between homeless people who had attempted suicide at some point in their lives, and those who had not

Stressful life events (SLE)	**Attempters** (n = 57)	**Non attempters** (n = 125)	**χ^2**	**Odds ratio**	**95% CI**
Before 18 years old					
Major financial problems.	21.0% (20)	35.1% (26)	4.107*	2.037	1.017-4.082
Prolonged unemployment of a member of their family.	24.6% (14)	14.5% (18)	2.707		
A parent had a physically incapacitating health problem	12.5%(7)	20.8% (26)	1.787		
A parent had a serious mental health problem	10.7%(6)	3.2%(4)	4.184*	3.630	.982-13.418
A parent had problems with alcohol or drugs	28.1% (29)	23.4% (16)	0.458		
A parent left the family home	29.8%(17)	14.5% (18)	5.867*	2.503	1.175-5.331
Serious fights and arguments between the parents	36.8%(21)	20.8%(26)	5.260*	2.221	1.114-4.429
Problems of family violence	40.4%(23)	15.2% (19)	13.950***	3.774	1.837-7.754
One of their parents was in prison	12.3%(7)	4.8%(6)	3.244		
Serious conflicts between them and someone in your family	33.3%(19)	16.1%(20)	6.837**	2.600	1.253-5.393
Frequent changes of residence	10.5%(6)	18.4%(23)	1.812		
Suffered abuse	26.8%(15)	15.2%(19)	3.403		
Suffered sexual violence	10.7%(6)	2.4%(3)	5.658*	4.880	1.174-20.279
Expelled from home	15.8%(9)	5.6%(7)	5.069*	3.161	1.114-8.971
He/she was abandoned	10.9%(6)	6.5%(8)	1.050		
Ran away from home	37.5%(21)	23.4%(29)	3.830		
Parents divorced or separated	27.3%(15)	15.3%(19)	3.536		
Brought up by people other than their parents	35.1%(20)	25.8%(32)	1.643		
Housing problems in childhood	8.8%(5)	6.4%(8)	.332		
Dropped out of school	39.3%(22)	38.4%(48)	.013		
Expelled from school	19.3%(11)	15.3%(19)	.446		

*p ≤ .05; **p ≤ .01; ***p ≤ .001

As can be seen in Table 2, the attempters had suffered situations of violence and abandonment during childhood and adolescence to a greater extent. In specific terms, the likelihood that the attempters had suffered experiences such as parents leaving the family home, serious fights and arguments between the parents and serious conflicts between the participant and someone in their family during childhood or adolescence was 2.2, 2.5 and 2.6 times greater, respectively, than for non-attempters. There was an even greater probability of having suffered from sexual violence (3.2 times higher), violence in the family (3.8 times higher), and being thrown out of their home (4.9 times higher). Only one of the events considered (suffering from major financial problems during childhood and/or adolescence) had happened to the non-attempters more frequently.

The total number of SLE experienced in childhood and adolescence by the attempters was significantly higher than among the non-attempters. The attempters had at that stage of their lives experienced a mean of 5.0 events (*SD* = 3.74), while among non-attempters this mean was 3.3 (*SD* = 2.74). As a normal distribution could not be assumed, proven with the Shapiro-Wilk test (Attempters *SW* = 0.914; *p*=.003; Non-attempters *SW* = 0.900; *p*=.000), a non parametric contrast test was applied, Mann-Whitney *U* test, which exposed the existance of statistically significant differences between attempters and non-attempters in terms of SLE (Table 3). The mean ranks show that attempters had experienced a significantly higher number of SLE during chilhood and adolescense in comparison to non- attempters.

Table 3. Mann-Whitney U test results for Stressful Life Events experienced during childhood and adolescence and throughout life.

	Attempters		Non-attempters		
	Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks	Z
Stressful life events (SLE) during childhood and adolescence	99.13	4956.50	77.53	9071.50	-2.664**
Stressful life events (SLE) throughout life	115.53	5430.00	64.24	7137.00	-6.470**

*p <0,05; **p <0,001 (bilateral)

As is apparent in Table 4, the attempters had a probability two to three times greater of having suffered from: illness, injury or serious accident; major financial problems; having drunk too much at some point in their life; having suffered from physical violence (over 18 years old) and having lost their home due to eviction, demolition or other causes. The probability of having suffered from other events, including abuse by their spouse or partner (3.1 times higher), having consumed drugs in excess at some point in their life (3.8 times higher), the death of their spouse or partner (4.2 times higher), having been admitted to a psychiatric hospital (7.8 times higher) and above all, having had a serious mental health problem (19.7 times higher) was even higher. Meanwhile, more of the non-attempters reported having emigrated from their country of origin. As for the total number of SLE experienced, during their lives the attempters had suffered from a mean of 13.3 events (*SD* = 4.56), while among non-attempters, this mean was 9.7 (*SD* = 3.68). As a normal distribution could not be assumed, proven with the Shapiro-Wilk test (Attempters *SW* = 0,945; *p*=.040; Non-attempters *SW* = 0,975; *p*=.), a non parametric contrast test was applied, Mann-Whitney *U* test, that also exposed statistically significant differences between attempters and non-attempters in terms of SLE (Table 3). The mean ranks reveal that attempters experience a significantly higher number of SVE en comparison with non- attempters.

Table 4. Differences in experiencing Stressful Life Events at some point in their lives between homeless people who had attempted suicide and those who had not

Stressful life events (SLE)	**Attempters** (n = 57)	**Non Attempters** (n = 125)	**χ2**	**Odds ratio**	**95% CI**
Death of the father	59.3%(32)	73.0%(89)	3.266		
Death of the mother	43.4% (23)	54.8%(68)	1.946		
Death of the spouse or partner	22.8%(13)	6.5%(8)	10.045**	4.247	1.648-10.947
Death of a child	7.0%(4)	4.0%(5)	0.737		
Suffered from a serious illness, injury or accident	63.2%(36)	40.8%(51)	7.843*	2.487	1.304-4.744
Separation or divorce from the spouse	61.4%(35)	53.6%(67)	.968		
Suffered from serious unemployment problems	70.2%(40)	64.5%(80)	.560		
Suffered from major financial problems	80.7%(46)	59.7%(74)	7.725*	2.826	1.336-5.978
Drunk too much at some point in their life	68.4%(39)	47.6%(59)	6.831**	2.387	1.233-4.620
Abused drugs at some point in their life	53.6%(30)	23.4%(29)	15.952***	3.780	1.934-7.386
Been in prison	33.9%(19)	26.4%(33)	1.071		
Admitted to a psychiatric hospital	45.6%(26)	9.7%(12)	30.404***	7.828	3.548-17.270
Done work that separated them from their home	41.1%(23)	37.9%(47)	.163		
Lost their home due to eviction, demolition or other causes	40.4%(23)	18.5%(23)	9.793**	2.971	1.480-5.961
Emigrated from their country of origin	26.3%(15)	48.0%(60)	7.598**	.387	.195-.768
Had a serious mental health problem	50.0%(28)	4.8%(6)	51.355***	19.667	7.431-52.048
Suffered from sexual assault (over 18 years old)	8.8%(5)	3.2%(4)	2.586		
Suffered abuse by their spouse or partner	28.1%(16)	11.3%(14)	7.952**	3.066	1.375-6.837
Suffered from physical violence (over 18 years old)	33.9% (19)	16.9% (21)	6.445*	2.519	1.219-5.203
Reported to the police	51.8%(29)	41.6%(52)	1.623		
Arrested or detained for a crime	52.6% (30)	41.6%(52)	1.924		
Convicted of a crime	35.1%(20)	28.0%(35)	.933		

*p ≤ .05; **p ≤ .01; ***p ≤ .001

A discriminant analysis was subsequently carried out in order to identify variables that discriminated between attempters and non-attempters. To that end, the stepwise inclusion method was used with the Wilks Lambda procedure, with the dependent variable being defined as "Has tried to commit suicide", which took two values: 0 "Has not attempted suicide;" 1 "Has attempted suicide at some point". An analysis of the differences between the attempters and non-attempters guided the selection of independent variables, as this technique is quite sensitive to the relationship between sample size and the number of predictive variables.

Table 5 lists the standardised coefficients resulting from the discriminant analysis in which all the SLE for which statistically significant differences were identified between attempters and non-attempters were included as independent variables.

Table 5. Standardised coefficients of canonical discriminant functions

	Function
Problems of family violence	.265
Death of the spouse or partner	.325
Abused drugs at some point in their life	.331
Lost his/her home due to eviction, demolition or other causes	.233
Emigrated from their country of origin	-.331
Suffered from a serious mental health	.740
Suffered from physical violence (over 18 years old)	.264

The discriminant analysis indicated that a combination of seven independent variables ("Problems of family violence", "Death of the spouse or partner", "Abused drugs at some point in their life", "Lost his/her home due to eviction, demolition or other causes", "Emigrated from the country of origin", "Suffered from a serious mental health" and "Suffered from physical violence (over 18 years old)") provided the best possible discrimination between and non-attempters. The inclusion of other variables did not contribute significantly to the discrimination between the two groups, and as such they were not included in the discriminant function.

The results of the discriminant analysis revealed a statistically significant function that correlated with the variables of the group in 0.729 with a Chi-square ($\chi 2$ (19) = 116.31) which was statistically significant. The centroids of the groups were -0.718 for the group consisting of non-attempters and 1.560 for the attempters group. The standardised coefficients shown in Table 4 show the sign and magnitude assigned to each of the three variables in the discriminant function, with a Wilks' lambda distribution of 0.469 ($p < .001$). This function correctly classified 88.5% of all the original cases - a figure that exceeds the criterion of maximum randomness. 75.0% of the attempters and 94.7% of the non-attempters were assigned to the correct group. The criterion of accuracy of classification - a quarter higher than that obtained by randomness (Hair, Anderson, Tatham, & Block, 1999) - was fulfilled for both.

The combination of drug abuse, having suffered the death of a spouse or partner, having suffered violence in the family during childhood and/or adolescence, having lost the home, not having emigrated, having suffered from serious mental health problems and having suffered from physical violence (after 18 years old) is therefore the combination that best explained membership of the group that included those who had attempted suicide. Similarly, the opposite circumstances predicted membership of the group of those who had not attempted suicide.

Conclusions and discussion

A very high rate of suicide attempts was observed among homeless people in the city of Madrid, to the extent that 30% reported having attempted to commit suicide at least once during their lifetime. This figure is particularly worrying when it is compared with the percentage of people who have attempted suicide among the Spanish general population, which is around 1.5% (Gabilondo et al., 2007; Panadero & Vázquez, 2016), or among people at risk of exclusion, which in Madrid stands at 18% (Panadero & Vázquez, 2016). As the level of difficulty or social exclusion increases, the percentage of people who claim to have attempted suicide increases considerably, to the point where among the homeless, one of the most socially excluded groups in developed countries, a third of this population have attempted suicide (Lamontagne et al., 1988; Eynan et al., 2002).

It is also a source of concern to note that among the homeless people in Madrid who reported attempting to commit suicide, the majority (58%) had done so for the first time after becoming homeless, and more than half of those interviewed (56%) had attempted suicide on more than one occasion. These data appear to confirm the existence of a close relationship between being homeless and engaging in suicidal behaviour - an issue that can be considered a public health problem.

The relationship between SLE and suicidal behaviour has been studied repeatedly, and there is ample evidence for its existence (Liu & Miller, 2014). Meanwhile, as reported by various studies (Lantz, House, Mere, & Williams, 2005; Vázquez et al., 2007; Vázquez et al., 2015), people living in poverty and/or social exclusion are at increased risk of suffering from SLE, of great intensity and in large quantities, during both childhood and adolescence and throughout their lives. In addition to hindering the social inclusion processes of the most disadvantaged groups (Vázquez & Panadero, 2016), SLE seem to have a negative impact on vulnerability to engaging in suicidal behaviour. The results of this study seem to point in this direction: although homeless people in general have experienced many SLE both during their childhood and adolescence as well as in their adult life, these appear to have accumulated more significantly among those who had engaged in suicidal behaviour. In line with the observations in various studies (Beautrais et al., 1997; Cooper et al., 2002; Kaslow et al., 2005; Osvath et al., 2004; Pompili et al., 2011), among homeless people in Madrid, suffering from many SLE seems to be an important vulnerability factor for subsequent suicidal behaviour, especially when these events occur during the early years of life and are related to the family environment (Vázquez et al., 2010). Indeed, among homeless people in Madrid, the total number of SLE experienced in childhood and adolescence by those who had attempted suicide was significantly greater than those suffered by non-attempters. According to Van Heeringen and Mann (2014), early-life adversity and epigenetic mechanisms could affect brain circuitry and neurochemistry abnormalities, which could then influence the appearance of impaired cognitive control of mood, pessimism, reactive aggressive traits, impaired problem solving, over -reactivity to negative social signs, excessive emotional pain, and suicidal ideation, leading to suicidal behaviour.

In addition to the accumulation of SLE, this study highlights the relationship between suicidal behaviour and some specific events. The attempters were more likely to have lived during their childhood and adolescence in a more dysfunctional family environment (serious fights and arguments between the parents, one of their parents leaving the family home, mental health problems for one of their parents, frequent changes of the place of residence) and to have suffered from sexual and physical violence in the family environment. Both a history of physical and/or sexual abuse during childhood (Beautrais et al., 1996; Brown et al., 1999; Pompili et al., 2011; Vázquez et al., 2010) and impaired or neglectful parenting (Brent et al.,

1993; Beautrais et al., 1996; Johnson et al., 2002) also seem to be especially common SLE among homeless people in Madrid, and are associated with suicidal behaviour in adult life.

Homeless people in Madrid have also suffered from a large number of SLE during adulthood, and this was particularly common among the attempters, who were more likely to have suffered physical and mental health problems (illness, injury or serious accidents, serious health problems, admission to a psychiatric hospital, drug use, etc.), physical violence, ill-treatment by their partner, death of their spouse or partner, loss of their home and major financial problems. We also found a higher probability among homeless people in Madrid that non-attempters had been involved in migratory processes. Accordingly, Navarro-Lashayas & Eiroa-Orosa (2017) report that homeless immigrants in Bilbao (Spain) are subject to multiple SLE, and reported a suicide attempt rate of 13.1%. This percentage, despite tripling that of the Spanish general population (1.5%) (Gabilondo et al., 2017), is substantially lower than the percentage of adult homeless people who have attempted to commit suicide reported in other studies (Eynan et al., 2002; Gelberg, et al., 1988; Lamontagne, et al., 1988; Smith et al., 1993). Meanwhile, Spallek et al. (2015) found that the majority of immigrant groups in Europe did not present a higher risk of suicide than the local-born population, and some groups were even at substantially lower risk.

Lastly, the combination of having suffered from family violence in childhood and/or adolescence, physical violence (after age 18), excessive drug use at some point in life, serious mental health problems, the death of the spouse or partner, losing their home and not having emigrated was the combination that best predicted homeless people in Madrid having attempted suicide. These data are quite similar to those observed by Vázquez et al. (2010) for a sample of Spanish and Latin American students, in which the best predictor of suicidal behaviour was the combination of psychoactive substance abuse, health problems (physical and mental), physical or sexual assault (in childhood and in adult life), family problems and early abandonment.

In line with findings in other groups (Guillén et al., 2015; Vázquez et al., 2010), the results of this study emphasise the importance of experiences of violence, both in childhood and during adulthood, as vulnerability factors for suicidal behaviour, as well as other experiences of material and social losses. Also, an excessive intake of psychoactive substances and conditions of serious mental health problems seem to work as influential vulnerability factors in regard to attempting suicide. In this sense, Serafini et el. (2012) points out that use of substance such as cannabis, vastly consumed together with alcohol in homeless people in Madrid (Panadero, Vázquez, & Martín, 2017), was a relevant risk factor associate with suicidal attemps in psychotic and non-psychotic samples.

Our study has several limitations. The level of analysis is at a descriptive level, and it is a cross-sectional study design, so caution must be taken when attempting to establish causal relationships. In addition, information on suicide attempts was collected using a single question, and we relied on self-reports which were not confirmed by external sources. Also, the impossibility of knowing exactly the characteristics of the people who declined to participate in the study prevents determining the possible existence of some bias in the sample. Also, it should be noted that the study is limited to Madrid, Spain, which makes it difficult to generalize the results to other contexts.

In accordance with the Stress-Diathesis Model of Suicidal Behaviour (Van Heeringen, 2012), reducing the impact of SLE, especially during the earliest stages of life, can influence a decrease in suicide attempts among people with a trait-like diathesis or susceptibility to suicidal behaviour. Given that people in situations of difficulty or social exclusion are exposed to quantitatively very numerous and qualitatively very serious experiences of SLE and occur at young ages, it is important to pay special attention to the development of protocols of early-on

assessment of suicidal behaviours aimed at these groups. In the case of homeless people in Madrid, the suicide attempts rates reaches alarming dimensions, underlining the relevance of implementing programs for the prevention of suicide in this group. To do so, it would be important to offer training aimed at the detection and prevention of suicidal behaviours to the professionals working with homeless people, as well as designing protocols for the early assessmet of suicidal behaviour for their implementation in both assistance serives and by street outreach teams. Furthermore, for the prevention of suicidal behaviour among homeless people it would be worthy to enhance the functions of psychologists in the care services, as well as to reduce the multiple barriers homeless people encounter to access general care services in mental health, which would allow them to benefit from effective and sustained psychological treatments over time.

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