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Original Research

Self-efficacy and social support as protective variables that predict resistance to gravity in suicidal attempts

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Abstract

Background: Suicide attempts (SA) is a global mental health problem, especially in Spain. Classical research has focused on determining the risk variables; however, few studies focused on protective variables. The aim was to assess which protective variables are more predictive of the greater or lesser lethality of a made SA. **Methods**: The sample consisted of 156 people who had been admitted to Emergency Department (ED) for SA, aged between 18 and 49 years Mean (M) = 26, Standard Deviation (SD) = ± 10.8. The sample was divided into three groups defined according to the level of lethality of the made SA. Protective variables related to resilience were assessed. **Results**: The results suggest that self-efficacy and social support are protective predictors for future SA, along with being male. The protective variables explain the degree of lower suicide lethality, with the model proposed (set of independent variables) being significant and explaining between 0.12 and 0.68 of the dependent variable, correctly classifying 84.8% of the cases (R^2 de Nagelkerke = 0.76). **Conclusions**: This study is further evidence of the need for effective suicide prevention and intervention plans adapted to gender differences in behaviour and further research in this line of work. Future studies on large patient samples are now needed, especially with a longitudinal design.

Keywords: Suicidal attempt; Protective factors; Resilience; Medical serious suicidal attempts; Lethality; Spanish population

1. Introduction

Suicide is among the top three leading causes of non-accidental death globally, with one death occurring every 40 s [1]. Suicide attempts (SA) or medical serious suicidal attempts (MMSA) are a serious mental health problem worldwide [2–4], in Europe [5–7], and specifically in the Spanish population [8–10]. However, poorly studied related behaviours, such as suicide attempts (SA), are currently considered the single most predictive risk factor for more serious future attempts or best predict the risk of completed suicide [9,11–13]. Along these lines, there are interesting results on risk factors that promote SA in specific clinical subpopulations (e.g., people who have already had made attempts) [14]. However, the socio-cultural modulation of this behaviour, together with the exclusive focus on risk factors, makes it difficult to generate findings applicable in clinical practice [9].

In this line, recent studies have shown that focusing on protective factors for SA could provide effective clues about the degree of resilience to suicide repetition in people who have already had made attempts [15–18]. In addition, studies in countries with a high suicide death rate seem to show that detection and enhancement of protective variables at earlier stages of suicide, such as attempts, can reduce the rates of completed suicides [19–22]. However, few studies have attempted to predict the impact of protective factors in modulating resilience to different levels of SA lethality [18,23–26].

Hence, this research aimed to assess which protective variables are more predictive of the greater or lesser lethality of a made SA. In the future, a higher level of resistance to future attempts may be implemented.

2. Material and methods

2.1 Sample

The sample consisted of 156 people, 52 men and 78 women, aged between 18 and 49 years (M = 26 and SD = 10.8). All participants met the following inclusion criteria: (1) age between 18 and 49 years old; (2) having made a previous suicide attempt; and (3) having been admitted through the emergency services of any of the public or private hospitals from any of the provinces in the South of Spain.

Subsequently, these 166 people were distributed into three groups defined according to the level of lethality of the SA.

2.2 Procedure

We surveyed all persons admitted to the emergency departments of public and high-resolution hospitals in a province in southern Spain for suicide attempts. The tests were administered in the emergency department or on the ward by healthcare support staff, who subsequently classified the patient according to the Lethality Rating Scale.

2.3 Assessment

Sociodemographic data sheet (this was prepared ad hoc).

- The Lethality Rating Scale [27], translated into Spanish by [28], which is part of the Brief Protocol on Suicidal Behaviour (item 41), was used to examine the lethality of the attempt through the medical consequences by classification into three levels according to the scale: Group 3 (level 0 = very minor injury), Group 2 (level 3 = Moderate injury/hospitalisation), and Group 1 (level 7 = Serious ICU/surgical theatre/coma).
- Social Support Scale [29]. This quantifies the availability of social support that a person has. It consists of 25 items, and a total score is obtained (between 25 and 100). It is made up of two subdimensions: emotional and instrumental. It has an omega of 0.76.
- Life Orientation Test-Revised [30], Spanish version [31]. It consists of ten items (six scored and four non-scored) based on a five-point scale. It assesses dispositional optimism in a unidimensional way. The Spanish version reports an omega coefficient of 0.76.
- Self-Efficacy Scale for Coping with Stress [32] consists of eight Likert-type items with five alternatives from "Completely disagree" to "Completely agree". It has an omega of 0.68 in this study.
- Herth Hope Index [33], Spanish translation and adaptation for people who have made a SA had a high internal consistency (α = 0.97), and adequate divergent validity with hopelessness of –0.77 [34]. It measures hope through 12 Likert-type response items (1 = strongly disagree to 4 = strongly agree) and three subdimensions (temporality and future, positive disposition, and expectancy and interconnectedness). Validation of the HHI-English (HHI-E) reports an omega of 0.81.
- The 14-Item Resilience Scale (RS-14) [35] was translated and adapted to Spanish [36]. It measures an individual's adaptation to adverse situations. The cultural adaptation in the Spanish population shows that the scale has adequate internal consistency (α = 0.79) but presents a unifactorial structure, which differentiates it from the original version. Subsequent adaptations of the scale in people who have made a SA show that it has adequate internal consistency (α = 0.75) and high criterion validity (0.90) with other resilience scales (CD-RISC) [37]. It has an omega of 0.78 in this study.

2.4 Statistical analysis

A stepwise logistic regression analysis of the protective variables (independent variables) on the level of attempted lethality (dependent variable) was performed, first finding goodness-of-fit and homoscedasticity and multinomial normality indices. The significance level was $p < 0.05$. Data analysis was performed with the statistical package SPSS version 26.0 (IBM Corp., Armonk, NY, USA).

3. Results

Incomplete data represented less than 1% of responses, and for these a multiple imputation method (SPSS) was used for missing values [38]. Using the Lethality Rating Scale [27] there were no differences between the three groups in gender (F_2, 155 = 5.40; p = 0.77; η^2 = 0.88), age (F_2, 155 = 8.15; p = 0.51; η^2 = 0.83), marital status (F_2, 155 = 5.30; p = 0.76; η^2 = 0.84) and previous psychopathology (F_2, 155 = 13.52; p = 0.49; η^2 = 0.72).

Preliminary analyses confirmed compliance with the assumptions of non-multicollinearity (below 10, VIF = 2.2 and 7.8) [39]) and non-autocorrelation in the protective variables (Durwin-Watson, D-W = 3.45) [40]. According to Table 1, the protective variables explain the degree of lower suicide lethality, with the model proposed (set of independent variables) being significant and explaining between 0.12 and 0.68 of the dependent variable, correctly classifying 84.8% of the cases (R^2 de Nagelkerke = 0.76).

Regression analysis shows that social support (emotional type) (OR = –1.11, CI (95%) = –1.10–1.90, $p < 0.05$), self-efficacy (outcome expectations) (OR = –2.12; 95% CI = –0.08–3.10, $p < 0.01$), optimism (OR = –3.20, CI (95%) = –1.23–2.09, $p < 0.05$), hope (positive disposition) (OR = –5.56, CI (95%) = 4.20–6.14, $p < 0.01$) are the protective psychosocial variables before the high suicide lethality, modulating greater resilience (OR = 5.32, CI (95%) = 4.30–6.12, $p < 0.01$) as a result.

4. Discussion

This research aims to assess which variables are more protective of the severity of suicidal lethality in people who have had a made SA, implementing a higher level of resilience.

Social support for people who have attempted suicide is a potent protector in different populations and groups [10, 41,42]. The data obtained in this work support previous research [43], where less social (emotional) support may modulate the making of more serious attempts, especially because feeling belonging, intimacy, comfort, listening, or encouragement may likely inhibit the intention to take one's own life.

Results have shown that there is less optimism in people who have severe SA than in people who have mild or moderate attempts, which is in line with previous research that has shown that the type of expectations that optimistic

Table 1. Regression equation values for predicting suicide lethality by protective variables.

	β	SE	Wald	Exp(β)	I.C. (95%) Exp(β)	
					L.I.	L.S.
Self-efficacy scale (of result)	−0.03	0.22	4.63**	−2.12	−0.08	3.10
Social suport (emotional)	−0.78	0.93	5.67*	−1.11	−1.10	1.90
Optimism	−0.85	0.78	3.34*	−3.20	−1.23	2.09
Hope Index (positive disposition)	−0.40	0.20	6.22**	−5.56	−4.20	6.14
Gender (male)	−0.27	0.32	4.08**	−4.20	−2.25	3.17
Resilience	3.73	0.05	8.67**	5.32	4.30	6.12

β, beta coefficient; SE, standard error; Wald, contrast statistic; l.g., degrees of freedom; Exp(β), result of the regression equation; *$p < 0.05$, ** $p < 0.01$; ns, not significant; C.I., confidence intervals; L.I., lower bound; L.S., upper bound.

people have about their future buffers the effects of traumatic and stressful life events and may reduce the likelihood of completed suicide [44,45]. This may be because more optimistic people think positively about their future and thus are likely to engage in more active coping strategies.

Hopelessness has a decisive influence on SA [46,47]. However, if there is a belief that adverse situations can be changed and alternative ways of doing so are planned; we are talking about hope and self-efficacy [33]. Hope produces a sense of control over what is happening in one's own life, leading to a search for alternative paths to those that have proved ineffective in the past. However, outcome self-efficacy as a belief that specific behaviours will lead to desired or expected outcomes are protective factors that can promote high resilience in people who have had made attempts [48,49]. These protective aspects can minimise the impact of future adverse situations for specific clinical subpopulations.

Concerning gender as a sociodemographic variable being a protective variable, and with respect to SA, women attempt suicide more often than men, but men die more often than women when suicide is finally completed. Therefore, this study is further evidence of the need for effective suicide prevention and intervention plans adapted to gender differences in behaviour and further research in this line of work [36].

There are several limitations to this study. On the one hand, the small sample of people who finally participated. Social stigmatisation makes it difficult to carry out tests on this group. On the other hand, the fact that the study design is not longitudinal. As implications, we highlight the need to enhance protective variables in the clinical population that had made SA, and assess the sex of the participants as a predictor variable for greater lethality.

5. Conclusions

There are some lines for future studies. In particular, other protective variables that may be modulating the greater or lesser lethality of SA should be analysed. And compare effective protocols of care for suicide victims based on the degree of suicide lethality, assessing whether the enhancement of protective variables minimises the possible risk variables. In fact, protective factors are more modifiable than many of the risk factors and for this reason it is necessary to invest in therapeutic improvement programs, in order to analyse them more carefully. Also, future studies on large patient samples, especially with a longitudinal design, are needed.

Author contributions

DST—Data acquisition, data management, data analysis, data interpretation, manuscript preparation, writing and manuscript review. MARB—Manuscript preparation, writing and editing. JACC—Manuscript review, editing, and revising it critically for important intellectual content.

Ethics approval and consent to participate

All of them signed an informed consent form. A favourable report was obtained from the Research Ethics Committee of the University of Jaén and the Health Research Bioethics Committee of the Government of the South of Spain (code: CEIH 031213-8).

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Conflict of interest

The authors declare no conflict of interest.

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