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Suicidal ideation and behaviour in Spanish adolescents during the COVID-19 pandemic: an exploratory study

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ABSTRACT

Background. The COVID-19 pandemic and its related containment measures, mainly physical distancing and isolation, are having detrimental consequences on the mental health of the juvenile infant population worldwide.

Objective. The objective was to identify those sociodemographic variables, victimization and resilience associated with suicidal behavior in Spanish adolescents since the beginning of the pandemic.

Method. The sample was comprised by 163 adolescents, aged 14 to 17 years (*M* = 15.81; *SD* = 1.03). Participants completed The DetectaWeb-Distress scale, the Juvenile Victimization Questionnaire, and the Adolescent Resilience Questionnaire for assessment of suicidality, victimization and resilience, respectively.

Results. 20.8% of the total participants expressed having thought about taking their own lives since the beginning of the confinement. Another 22.6% expressed having thought of some form or method to kill themselves. Finally, 7.4% expressed having tried to kill themselves. Victims of psychological abuse were five times more likely to present suicidal behavior and, on the contrary, to receive support from the environment confirmed resistance to suicide.

Conclusions. This study offers preliminary evidence that the COVID-19 pandemic may be contributing to suicidal behaviors in Spanish adolescents. Although it is still too early to safely recognize the deep footprint of the pandemic in different areas and, in particular, in self-caused death, it is unquestionable that the health crisis has revealed the urgent need to design and implement suicide prevention plans.

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Key words. COVID-19; Spain; adolescents; suicidal ideation; suicide attempt; suicide

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IDEACIÓN Y CONDUCTA SUICIDA EN ADOLESCENTES ESPAÑOLES DURANTE LA PANDEMIA COVID-19: UN ESTUDIO EXPLORATORIO

RESUMEN

Introducción. La pandemia derivada del SARS-CoV-2 y sus medidas de contención, principalmente el distanciamiento físico y el aislamiento, están teniendo consecuencias perjudiciales para la salud mental de la población infantojuvenil en todo el mundo. **Objetivo.** El objetivo fue identificar aquellas variables sociodemográficas, de victimización y de resiliencia asociadas con la conducta suicida en adolescentes españoles desde el inicio de la pandemia.

Metodología. La muestra la configuran 163 adolescentes, de 14 a 17 años (*M* = 15,81; *DT* = 1,03). Los participantes completaron la escala DetectaWeb-Distress, el Juvenile Victimization Questionnaire y el Adolescent Resilience Questionnaire para la evaluación de la tendencia al suicidio, la victimización y la resiliencia, respectivamente.

Resultados. Un 20,8% del total de participantes expresaron haber pensado en quitarse la vida desde el inicio del confinamiento. Otro 22,6% expresó haber pensado en algún método para hacerlo. Por último, un 7,4% expresó haber intentado quitarse la vida. Las víctimas de victimización psicológica tuvieron cinco veces más posibilidades de presentar conducta suicida y, por el contrario, recibir apoyo del entorno confirió resistencia ante el suicidio.

Conclusiones. Este estudio ofrece evidencia preliminar de que la pandemia COVID-19 puede estar contribuyendo a la conducta suicida en adolescentes españoles. Si bien aún es pronto para reconocer con seguridad la profunda huella

de la pandemia en diferentes ámbitos y, en particular, en las muertes autoprovocadas, es incuestionable que la crisis de salud ha revelado la urgente necesidad de diseñar e implementar planes de prevención del suicidio.

Palabras clave. COVID-19; España; adolescentes; ideación suicida; conducta suicida; suicidio

INTRODUCTION

Suicide is one of the leading causes of death among young people worldwide. According to World Health Organisation estimates, some 800,000 people worldwide commit suicide every year, which represents one death every 40 seconds[1]. In Spain, 3,941 people took their lives in 2020, an average of almost 11 people a day, rendering 2020 the year with the highest number of suicides ever recorded in the history of Spain[2]. This was also the first time that Spain reached the figure of 14 suicides a year among children under 15 years of age, doubling the number of cases in 2019 and making suicide the second leading cause of unnatural death in Spanish adolescents.

However, besides the rate of death by suicide, this phenomenon also involves prior suicidal ideation and behaviour, but there may be little knowledge of the real situation and its underlying problems. According to data collected by the ANAR Foundation[3], suicidal ideation and suicide attempts among young people in the first weeks of lockdown in Spain increased from an average of 1.9% in the previous year to 8%. This increase in suicidal ideation and attempts among young people has also been found in other national[4] and international[5-7] studies during periods of increased intensification of restrictive pandemic control measures. A recent meta-analysis conducted by Dubé et al. (2021), which included 54 studies from 52 countries with a total sample of 308,596 participants, showed higher rates of suicidal ideation (10.81%), suicide attempts (4.68%) and self-harm (9.63%) compared to the pre-pandemic period, mainly in young people and women[8].

However, other studies of suicide deaths in young people during the COVID-19 pandemic have obtained conflicting results. For example, an international study analysing 37 cases of suicide during the pandemic in 11 countries[9] found that more than half were committed by adolescent boys with an average age of 16.6 years. The main reasons were linked to symptoms of depression and feelings of loneliness, online education or academic distress, addiction to social media sites such as TikTok and fear of contagion. Another relevant study of North American adolescents aged 11-18 years old with mental disorders[10] showed an increased risk of suicide during the pandemic compared to data obtained from clinical reports in previous months, and identified a significant correlation between suicidal ideation and stressors such as lack of celebration of special events (e.g. birthday parties or school functions) or conflicts at home related to COVID-19.

Given the gravity of this phenomenon, recent research[11-13] has attempted to explore factors related to increased rates of suicide and suicidal behaviour, including measures such as lockdown and social distancing. This risk factor may be heightened in adolescents[14] because of their growing need for independence from adults and connection with peers[15]. Thus, isolation, reduced social contact and confinement to a limited space are related to an increase in depressive symptoms, low self-esteem and suicidal thoughts and attempts[16]. Other studies have indicated another very important risk factor for suicide in young people, namely the possible escalation of violence that the crisis generated by COVID-19 may trigger within families. Previous research in similar situations has demonstrated the potential of domestic violence to increase these rates[17-18].

However, in contrast to the above, studies in Japan[14] and France[19] have found a reduction in the incidence of suicidal behaviour in children and young people since the start of the pandemic, which may be related to protective factors such as resilience. There is evidence to support this finding, as it has been observed that in highly stressful situations, as in the case of the SARS-CoV-2 pandemic, people have supported one another and such support could be considered preventative in relation to suicidal intent[20].

OBJECTIVES

The objectives of this exploratory study were to (a) determine the prevalence of suicidal ideation, planning and attempts in Spanish adolescents (aged 14-17 years old) since the start of the COVID-19 pandemic and (b) identify sociodemographic variables, experiences of victimisation and resilience variables related to suicidal ideation and behaviour during the period of lockdown and subsequent opening up. Experiences of victimisation refer to acts in which an adolescent is hurt or harmed by the behaviour of another person or group of people contrary to socially established moral norms[22]. In turn, resilience variables refer to internal and external protective resources available to adolescents that help them cope with adverse situations they may experience[21].

METHOD

Participants

The sample consisted of 163 adolescents living in Spain (65.6% girls, 32.5% boys, 1.2% who preferred not to respond and one individual who identified with another gender). Participants were aged between 14 and 17 years old (M = 15.81, SD = 1.03). Regarding their sexual orientation, 66.3% said they were heterosexual, 6.1% homosexual, 19.6% bisexual, 1.2% pansexual, 1.2% identified with other sexual orientations and 5.5% preferred not to answer. The majority of participants resided in Catalonia (63%), followed by the Region of Valencia (18.4%), the Autonomous Community of Madrid (4.9%), the Canary Islands (4.3%), Andalusia (2.5%), Aragon (1.8%), Galicia (1.8%), Extremadura (1.2%), Asturias (0.6%) and Castile and Leon (0.6%).

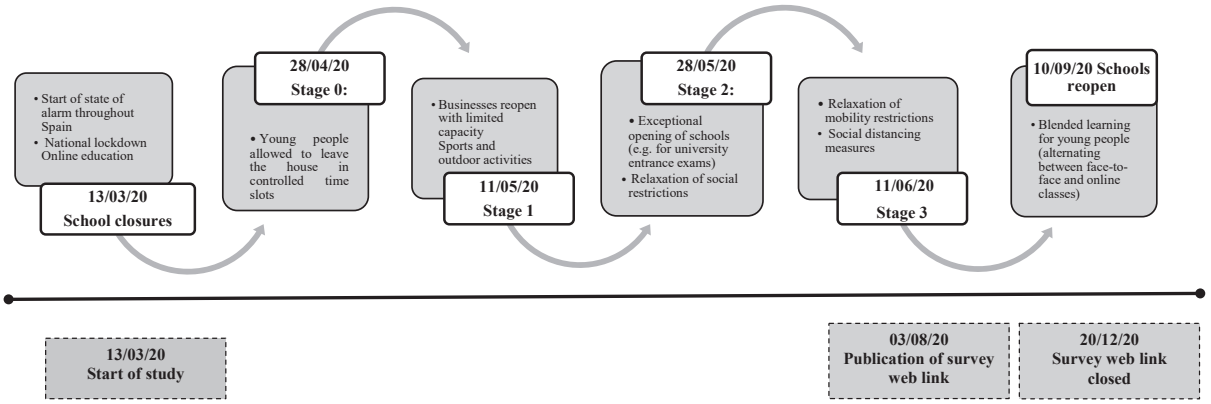
Regarding the characteristics of the participants' place of residence at the start of lockdown, most dwellings had some outdoor space (92.6%), including a balcony (40.5% of cases) or a terrace, patio or garden (46.6% for exclusive use and 14.7% for communal use). However, 7.4% of the adolescents in the sample had no access at all to an outdoor space during lockdown. There was no significant association between "access to the outdoors" (e.g. terrace, patio or garden for exclusive use) and suicidal behaviour ($\chi^2(1) = 3.06$; p = 0.11). With respect to other household residents, participants lived with an average of 3.09 (SD = 1.09) other people. A total of 14.1% of participants said that a family member or they themselves had contracted coronavirus, while eight responded that they did not know (4.9%). There was no significant association with suicidal behaviour ($\chi^2(1) = 3.33$; p = 0.08).

Procedure

In adherence with the guidelines of the Bioethics Committee and the Data Protection Delegate of the University of Barcelona, the survey web link was disseminated via the Save the Children and GReVIA research group webpages and on the official social media sites Twitter, Facebook and Instagram. The period covered by each question in the survey ran from March 2020 (start of lockdown) until 20 December 2020 (see Figure 1). Participants were self-selected and had to meet the following inclusion criteria: a) aged between 14 and 17 years old at the time of answering the questionnaire, given the high incidence of suicides in this age group; b) resident in Spain at the start of the pandemic; and c) consent to voluntary participation, having been informed of the implications of their participation in the study. Participants who reported experiencing particularly severe types of victimisation (i.e., severe abuse by primary caregivers or sexual abuse) triggered the research team's obligation to notify the appropriate authorities. Specialised resources were also offered to those who presented suicidal behaviour.

Instruments

The data collection protocol was designed using an online platform and included the following sections:



Note. Each stage of lockdown relaxation lasted a minimum of two weeks and progress was conditional on public health indicators. Dates are for general reference only and may vary slightly depending on individual region.

Figure 1 Time line of major events and restrictions in Spain over the study period.

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Sociodemographic characteristics

A range of information related to sociodemographic and COVID-19 characteristics was collected. Only some adolescent-specific data (sex, age and sexual orientation) and information specific to lockdown conditions (having outdoor space in the home and COVID-19 diagnosis) were used for this study.

Suicidal behaviour

The DetectaWeb-Distress scale[23] is a self-report online screening instrument consisting of 30 items that assess problems associated with childhood emotional distress, including suicidality. The items are scored on a four-point scale (0 = never, 1 = sometimes, 2 = often and 3 = always). To assess suicidal behaviour, participants were asked to respond to three items on this scale ("Have you ever thought about taking your own life?"; "Have you ever thought of a way to attempt suicide?"; "Have you ever attempted suicide?"). Chronbach's alpha for the total suicidal behaviour score was 0.89 in this study.

Victimisation

The Juvenile Victimisation Questionnaire (JVQ[24]) is a 36-item questionnaire designed to assess multiple types of victimisation experienced by children and adolescents aged 8-18 years old. In this study, we included two items on victimisation by caregivers (i.e. physical abuse and psychological abuse), two items on victimisation by peers (i.e. physical aggression and relational or verbal aggression), two on sexual victimisation (i.e. by an adult and by a peer), three on exposure to family violence and two on e-victimisation (i.e. cyberbullying and online sexual solicitation). The response format for each item is binary (No = 0; Yes = 1). Note that for this study, the four items referring to having been physically harmed or injured by another person were grouped together, terming this new variable *physical victimisation*. A second variable was created termed *psychological victimisation*, which referred to having been psychologically bullied, controlled or hurt by another person (seven items). The time specifier "in the last year" was also replaced by "since the start of lockdown, i.e. since schools were closed", in each of the items. The psychometric properties of the Spanish version of this instrument are acceptable[25].

Resilience

The Adolescent Resilience Questionnaire (ARQ[26]) identifies the resilience resources available to adolescents, both individually (internal) and in their broader social context (external). This study included ten items divided into those relating to *internal resources* (four items), which obtained a Cronbach's alpha of 0.55, and those relating to *external resources* (six items), with a Cronbach's alpha of 0.62. Questionnaire items are scored on a five-point scale ranging from "almost never" (1) to "almost always" (5). In the present study, the time specifier "in the last six months" was replaced in each item by "since the start of lockdown". The Spanish version has acceptable psychometric properties[27].

Data analysis

For the first objective, participants who responded to each of the three items on suicidal behaviour were included. To address the second objective, two new variables were generated: a) LGB+ membership, created from the sexual orientation variable, where a distinction was made between "heterosexual youth" and "homosexual, bisexual, pansexual or other orientation (LGB+) youth"; and b) suicidal behaviour, which refers to the presence of any suicidal phenomenon (i.e. having responded "Sometimes", "Often" or "Always" to any of the three suicidal behaviour items). In addition, two types of analysis were performed. On the one hand, we conducted a descriptive analysis of the sociodemographic, victimisation and resilience characteristics of the groups with and without suicidal behaviour. Measures of bivariate association or group comparison were obtained between these variables and the presence or absence of suicidal behaviour; specifically, the chi-square test was used for sociodemographic and victimisation variables, the *t*-test to compare means for total resilience scores and the Mann-Whitney U-test to compare ranks for resilience items, which were accompanied, respectively, by the ϕ coefficient, Cohen's *d* and $\eta 2$. On the other hand, after finding that the tolerance and variance inflation factor values indicated that there was no multicollinearity between the predictor variables, we performed a binary logistic regression analysis to study the relative contribution of sociodemographic characteristics, victimisation (psychological victimisation and physical victimisation) and resilience (internal resources and external resources) to suicidal behaviour. Data were analysed using IBM-SPSS 25.

RESULTS

Descriptive analysis of suicidal ideation, suicide planning and suicide attempts

Of the total sample, 45 participants (27.6%) reported having engaged in some form of suicidal behaviour since the start of lockdown. As shown in Table 1, 33 participants (20.8%) reported having thought about taking their own life and

four of them (3.7%) reported having done so "Often". Another 37 young people (22.6%) expressed having thought of some way to take their own life and five of them (3.7%) reported having done so "Often" or "Always". Lastly, 12 adolescents (7.4%) reported having tried to commit suicide and three of them (1.8%) reported doing so "Always". Three participants did not respond (see Table 1).

Table 1 Descriptive analysis of suicidal ideation, suicide planning and suicide attempts

		Total[a] *n* (%)	Boys *n* (%)	Girls *n* (%)
Suicidal ideation	Never	127 (79,4)	44 (83,0)	83 (77,6)
	Sometimes	29 (18,1)	9 (16,9)	20 (18,7)
	Often	2 (1,3)	0 (0,0)	2 (1,9)
	Always	2 (1,3)	0 (0,0)	2 (1,9)
	No response	1 (0,6)	0 (0,0)	0 (0,0)
Suicide planning	Never	125 (76,7)	40 (75,5)	83 (77,6)
	Sometimes	32 (19,6)	12 (22,6)	20 (18,7)
	Often	2 (1,2)	1 (1,9)	1 (0,9)
	Always	3 (1,8)	0 (0,0)	3 (2,8)
	No response	1 (0,6)	0 (0,0)	0 (0,0)
Suicide attempts	Never	149 (91,4)	50 (94,3)	97 (90,7)
	Sometimes	9 (5,5)	2 (3,8)	7 (6,5)
	Often	0 (0,0)	0 (0,0)	0 (0,0)
	Always	3 (1,8)	0 (0,0)	3 (2,8)
	No response	2 (1,2)	1 (1,9)	0 (0,0)

Note[a]. The total number of participants was 160, but three young people chose not to respond.

Sociodemographic, victimisation and resilience characteristics of groups with and without suicidal Behaviour

Table 2 gives the sociodemographic, victimisation and resilience characteristics of the groups with and without suicidal behaviour. As can be seen, we found no significant association between sex and suicidal behaviour, but we did find a statistically significant relationship between sexual orientation and the presence of suicidal behaviour ($\chi^2(1) = 4.64$; $p < 0.05$; $\phi = 0.31$), which was more frequent in the heterosexual group ($n = 24$, 53.3%) than in the LGB+ group ($n = 21$, 46.7%). We detected no difference according to age ($t(161) = 0.095$, $p = 0.92$) between the group presenting suicidal behaviour ($M = 15.82$, $SD = 1.02$) and their peers who did not ($M = 15.81$, $SD = 1.03$).

In terms of having experienced some form of victimisation during lockdown, we observed a statistically significant association between this and the presence of suicidal behaviour ($\chi^2(1) = 11.4$; $p < 0.01$; $\phi = 0.27$). Specifically, 53.3% of suicidal participants reported having been victims of some kind of interpersonal violence. Regarding psychological victimisation, we observed that more than half of the participants presenting suicidal behaviour ($n = 24$, 53.3%) also reported having been psychologically harmed, controlled or bullied by another person since the start of lockdown, and this association was statistically significant ($\chi^2(1) = 14.0$; $p < 0.01$; $\phi = 0.29$). However, we did not find any evidence of a relationship between physical victimisation and suicidal behaviour. Looking at the specific types of victimisation, only victimisation by a caregiver ($\chi^2(1) = 15.02$; $p < 0.01$; $\phi = 0.30$) and e-victimisation ($\chi^2(1) = 9.02$; $p < 0.05$; $\phi = 0.24$) were significantly associated with suicidal behaviour. In contrast, the other types of interpersonal violence, such as victimisation by a peer/sibling, sexual victimisation and having been exposed to violence did not present a statistically significant association with the study variable.

Regarding resilience, the majority of young people presenting suicidal behaviour obtained a lower mean score for *internal resources* ($M = 13.44$; $SD = 2.93$) than their peers without these behaviours ($M = 14.56$; $SD = 2.79$), and this difference was statistically significant ($t(161) = 2.27$; $p < 0.05$; $d = 0.39$). In terms of young people's *external resources* or social support, the group with suicidal behaviour reported a lower level ($M = 18.58$; $SD = 4.75$) than their peers ($M = 22.23$; $SD = 4.09$), and this difference was statistically significant ($t(161) = 4.88$; $p < 0.01$; $d = 0.82$) (for more detail, see Table 2).

As shown in Table 3, the results obtained for the logistic regression analyses indicated that three variables contributed significantly to the prediction of suicidal behaviour (see Table 3). Specifically, young people with a *heterosexual orientation* were two times more likely to be suicidal ($OR = 2.17$; 95% CI 0.95 - 5.00) than their LGB+ peers. Participants who reported *psychological victimisation* were five times more likely to be suicidal ($OR = 5.13$; 95% CI 2.06 - 12.73) than their peers who did not experience this type of victimisation. In contrast, the resilience domain *external resources* was associated with a lower likelihood of presenting such behaviour ($OR = 0.82$; 95% CI 0.73 - 0.92). According to the Hosmer-Lemeshow goodness-of-fit test ($\chi^2(8) = 6.07$, $p = 0.63$), this model had a good fit to the data and explained 32% of the variance in the prediction of suicidal behaviour (Nagelkerke $R^2 = .315$).

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Table 2 Sociodemographic, COVID-19-related, victimisation and resilience characteristics in the groups with and without suicidal behaviour

	Absence of suicidal behaviour		Presence of suicidal behaviour			
	n = 118		*n* = 45			
	n	%	*n*	%	Statistic	Effect size
Sociodemographic characteristics						
Sex	37	31,9	16	36,4	$\chi^2(1) = 0,28$	$\phi = 0,42$
Male	79	68,1	28	63,6		
Female						
Sexual orientation	84	71,2	24	53,3	$\chi^2(1) = 4,64^*$	$\phi = 0,31$
Heterosexual	34	28,8	21	46,7		
LGB+ (i.e. homosexual, bisexual, pansexual)						
Experiences of victimisation						
Victimisation by caregivers		4,2	11	24,4	$\chi^2(1) = 15,02^{**}$	$\phi = 0,30$
Yes		95,8	34	75,6		
No						
Victimisation by peers/siblings		9,3	5	11,1	$\chi^2(1) = 0,11$	$\phi = 0,27$
Yes		90,7	40	88,9		
No						
Sexual victimisation		0	1	2,2	$\chi^2(1) = 2,63$	$\phi = 0,13$
Yes	118	100	44	97,8		
No						
Exposure to violence		0,8	2	4,4	$\chi^2(1) = 2,33$	$\phi = 0,12$
Yes		99,2	43	95,6		
No						
e-victimisation						
Yes	17	14,4	16	35,6	$\chi^2(1) = 9,02^*$	$\phi = 0,24$
No	101	85,6	29	64,4		
Any victimisation						
Yes	30	25,4	24	53,3	$\chi^2(1) = 11,4^*$	$\phi = 0,27$
No	88	74,6	21	46,7		
Psychological victimisation						
Yes	27	22,9	24	53,3	$\chi^2(1) = 14,0^*$	$\phi = 0,29$
No	91	77,1	21	46,7		
Physical victimisation						
Yes	8	6,8	5	11,1	$\chi^2(1) = 0,83$	$\phi = 0,07$
No	110	93,2	40	88,9		
	M (SD) o *Mdn* (RIQ)		*M (SD)* o *Mdn* (RIQ)		Estadístico	Tamaño del efecto
Age	15,81 (1,03)		15,82 (1,02)		$t(161) = 0,09$	$d = 0,01$
Resilience						
Internal resources	14,56 (2,79)		13,44 (2,93)		$t(161) = 2,27^*$	$d = 0,39$
Feeling optimistic	*Mdn* = 3,00 (1)		*Mdn* = 3,00 (2)		$U = 2112,00^*$	$\eta^2 = 0,03$
Trying to learn	*Mdn* = 3,00 (1)		*Mdn* = 4,00 (1)		$U = 2540,00$	$\eta^2 = 0,00$
Knowing who to ask for help	*Mdn* = 4,00 (2)		*Mdn* = 3,00 (2)		$U = 1803,00^{**}$	$\eta^2 = 0,06$
Knowing how to adapt to change	*Mdn* = 4,00 (2)		*Mdn* = 4,00 (2)		$U = 2471,00$	$\eta^2 = 0,00$
External resources	22,23 (4,09)		18,58 (4,75)		$t(161) = 4,88^{**}$	$d = 0,82$
Family members						
Feeling close to someone in the family	*Mdn* = 5,00 (2)		*Mdn* = 3,00 (2)		$U = 1574,50^{**}$	$\eta^2 = 0,09$
Being able to talk to someone in the family about problems	*Mdn* = 5,00 (2)		*Mdn* = 3,00 (3)		$U = 1689,50^{**}$	$\eta^2 = 0,08$
Peers						
Being happy with the friendship group	*Mdn* = 5,00 (1)		*Mdn* = 4,00 (2)		$U = 2157,50^*$	$\eta^2 = 0,02$
Having friends in whom to confide about thoughts and feelings	*Mdn* = 5,00 (1)		*Mdn* = 5,00 (2)		$U = 2215,00^*$	$\eta^2 = 0,02$
School						
Being supported by a teacher	*Mdn* = 3,00 (2)		*Mdn* = 3,00(3)		$U = 2248,00$	$\eta^2 = 0,01$
Community						
Having an adult in the neighbourhood to talk to if there is a problem	*Mdn* = 2,00 (3)		*Mdn* = 1,00 (1)		$U = 1912,00^{**}$	$\eta^2 = 0,05$

Note: Statistical significance is indicated by asterisks *p < .05 and **p < .01. The Fisher-Freeman-Halton exact test was applied. The value accompanying the median (Mdn) in the resilience sub-items corresponds to the interquartile range (IQR).

Table 3 Regression analysis examining the contribution of predictors of suicidal behaviour

Variables (reference category)	β	*OR*	95% CI
Age	0,041	0,96	[0,65 – 1,41]
Sex (male)	0,907	0,40	[0,16 – 1,01]
Sexual orientation (heterosexual)	0,777*	2,17	[0,95 – 5,00]
Victimisation			
Psychological victimisation	1,634**	5,13	[2,06 – 12,73]
Physical victimisation	0,097	0,91	[0,24 – 3,45]
Resilience			
Internal resources	-0,038	0,96	[0,82 – 1,13]
External resources	-0,198**	0,82	[0,73 – 0,92]
Constant	3,945		

Note. OR = odds ratio; CI = confidence interval. Statistical significance is indicated by asterisks *p < .05 and **p < .01. -2 log likelihood

DISCUSSION

Our study shows that in a pandemic context, adolescents presented high percentages of suicidal ideation (20.8%), suicide planning (22.6%) and suicide attempts (7.4%), and that these percentages were higher than those recorded in young Spanish people by the ANAR Foundation at the start of lockdown[3]. A study encompassing several European countries found a lifetime prevalence of suicidal ideation in adolescents of 32.3%, while the prevalence of suicide attempts was 4.2%[28]. Although these results are similar to those reported here, it should be noted that our study focused on the nine months following the start of lockdown.

In this context, current international evidence on suicide rates is mixed and there is still little research on the distribution over time of suicides related to lockdown and social distancing. Some studies have reported a generalised increase in this behaviour[29-32], whereas others have not detected an increase and have even reported a reduction in suicide rates[33-35]. There are several possible explanations for these divergent results. One is that the pandemic has exerted a differential impact on territories and population groups, another that the most harmful effects of the COVID-19 pandemic are not necessarily visible, immediate or universal, and still another that the individual, family and social resources for coping with the stress and tensions deriving from this health crisis may significantly moderate its effect.

With regard to protective resources, our results suggest that perceived support from the community reduced the risk of suicidal behaviour in this group of young people. One positive result was that the young people in this study reported feeling closer to their peers and family, which is in agreement with other studies carried out over this period[21,36]. For example, a representative population-based study in the UK found that participants with suicidal behaviour more frequently reported using informal support, such as talking to friends or family, than was typically observed in similar pre-pandemic research in that country (21.7%)[37]. This has important implications in the field of suicide prevention[12].

Meanwhile, scientific evidence shows that young people's mental health may be affected by school closures and restrictions on peer relationships[5-7]. Thus, the COVID-19 crisis is associated with an increase in psychosocial risk factors such as isolation and domestic violence[38-39]. In this respect, our study indicates that suicidal behaviour was significantly more frequent in adolescents who reported having been victims of violence, as has been observed in other studies conducted before[40] and during the COVID-19[41] crisis. In addition, participants with a history of psychological victimisation, i.e. those who reported having been psychologically bullied, controlled or hurt by another person, exhibited higher levels of suicidal behaviour. These findings are consistent with recent research on the negative effects of violence on young people's mental health during lockdown[36,42]. While psychological victimisation cannot be presumed to indicate increased likelihood of suicide, nor should it be a substitute for reflective assessment of risk, it can provide an effective basis for detecting those young people at increased risk and targeting them for further assessment of suicidal behaviour. Our study also highlights the high prevalence of e-victimisation in the sample. It is important to consider the dangers of increased online interaction and to inform adolescents about the exposure this may represent[43], not only in terms of exposure to violence, but also in terms of the risks of addiction and the potential for risky behaviour such as self-harm or substance use.

Finally, in sociodemographic terms, the literature has highlighted sex as a salient feature in understanding suicidal behaviour. Rates of suicide ideation and attempts tend to be higher in women, while death by suicide is more common in men[44]. However, our study found no difference between the two groups. In contrast, we found that young

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people with a heterosexual orientation presented a higher prevalence of suicidal behaviour than their LGB+ peers. These results differ from those reported in the previous literature or in pre-pandemic contexts. For example, a prominent previous systematic review and meta-analysis found that LGB+ youth were more likely to report suicide attempts than their peers[45]. As a possible explanation for our results, we hypothesise that the closure of schools has led to reduced social pressure and less conflict and bullying among peers. This would have a substantial positive impact on the well-being of some vulnerable young people or sexual minorities, and would lead to a reduction in rates of suicidal behaviour[18]. In line with the minority stress model, which describes how sociocultural factors such as stigma, prejudice and discrimination towards sexual minorities contribute to their general distress[46], non-attendance at school could act as a protective factor against bullying, releasing young people from this pressure. This argument makes particular sense given that in our study, peer victimisation was not associated with suicidal behaviour. However, it would be advisable to replicate this study with a larger sample and compare both periods, i.e. during lockdown and since schools re-opened.

In general, our results suggest the need for further studies in Spain due to the variation in measures taken by different governments and the divergent approaches to lockdown worldwide.

Limitations

We used a convenience snowball sampling strategy; consequently, our study presents selection bias and the representativeness of our results is uncertain. However, online dissemination of the survey and voluntary access of those who wished to participate proved a very effective means of contacting Spanish adolescents in this period. Our assessment was performed solely by means of online questionnaires, which implies that the results are based exclusively on the self-report of adolescents. In addition, in order to comply with lockdown and optimise time taken to administer the protocol, we used several items from the DetectaWeb, JVQ and ARQ instruments. However, beyond obtaining a measure of internal consistency in the present study, these instruments have not been subjected to psychometric testing under these conditions. Despite all these limitations, our study is among the first to ask Spanish adolescents directly about suicidal ideation and behaviour as well as victimisation during the initial period of the COVID-19 pandemic, although difficulties in accessing young people and restrictions during the period of data collection have prevented us from obtaining a large sample size.

CONCLUSIONS

The prevention of adolescent suicide in the COVID-19 era is an issue of enormous social relevance. Adolescence is a period of high vulnerability to suicidal behaviour due to the particular challenges, characteristics and demands of this developmental stage, and these have been exacerbated by virus control restrictions. Further research is required to identify how mental health consequences could be mitigated during and after the COVID-19 pandemic in young people.

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Conflict of interests

The authors declare that they have no conflict of interest in this study.

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