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ORIGINAL ARTICLE

Self-harm and suicidality in child and adolescent psychiatric emergencies

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Abstract

Introduction and Objectives: Suicidal ideation (SI), suicide attempts (SA) and non-suicidal self-injuries (NSSI) are frequent causes of admissions to pediatric emergency departments (ED). We aim to evaluate the trends of self-harm and suicidality in children and adolescents in a mental health ED between 2019 and 2021 and compare it with similar data extracted from two previous studies carried out in our department in 2008 and 2016. We also analyze the impact of the COVID-19 pandemic in admissions for these causes. **Methods:** We performed a retrospective, descriptive analysis of all patients admitted to our ED for NSSI, SI and SA during 2008, 2016 and from March 2019 to May 2021. To analyze the impact of the COVID-19 pandemic, we compared the number of admissions between March and May 2021 (post-pandemic) with the same period in 2019 (pre-pandemic). **Results:** The number of SA was significantly higher in 2008 (18.7%, p = 0.038), SI (6.4%, p = 0.001) and NSSI (7%, p = 0.001) were higher between March 2019 and February 2020. We observed an increase of almost double (98.43%, p < 0.001) the number of episodes in March-May 2021 (compared to the pre-pandemic period), with higher SA (p < 0.001), SI (p = 0.008) and NSSI (p < 0.001). **Discussion:** We found a rise in self-harm-related ED admissions in recent years due to an increase of NSSI and SI. We did not find an increase in SA. After the initial period of the COVID-19 pandemic, there was an increase of self-harm admissions. Our findings are in line with trends reported in the literature.

Keywords: Self-injurious behavior. Suicide. Attempted. Suicidal ideation. Adolescent psychiatry. Pediatric emergency medicine.

Comportamentos auto-lesivos e ideação suicida nas urgências pedopsiquiátricas

Resumo

Introdução e Objetivos: A ideação suicida (IS), tentativas de suicídio (TS) e comportamentos auto-lesivos não suicidários (CALNS) são causas comuns de admissões em urgências pediátricas. Este estudo pretende avaliar as tendências das admissões por IS, TS e CALNS numa urgência pedopsiquiátrica entre 2019 e 2021 e compará-las com dados semelhantes de dois estudos realizados no nosso departamento em 2008 e 2016. Pretendemos ainda analisar o impacto da pandemia COVID-19 nas admissões por estas causas. **Métodos:** Realizámos uma análise retrospetiva e descritiva dos doentes admitidos em urgência pedopsiquiátrica por CALNS, IS e TS em 2008, 2016 e março de 2019 a maio de 2021. Para analisar o impacto da pandemia COVID-19, comparámos as admissões entre março e maio de 2021 (pós-pandemia) com o mesmo período em 2019 (pré-pandemia). **Resultados:** O número de TS foi significativamente maior em 2008 (18.7%, p = 0.038). IS (6.4%, p = 0,001) e CALNS (7%, p = 0,001) foram mais frequentes entre março de 2019 e fevereiro de 2020. Houve um

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aumento de quase o dobro de episódios (98.43%, p < 0.001) em março-maio 2021 (comparativamente ao período pré-pandémico) com um maior número de TS (p < 0.001), IS (p = 0.008) e CALNS (p < 0.001). **Discussão:** Nos últimos anos, verificámos um aumento nas admissões relacionadas com ideação/comportamentos auto-lesivos no serviço de urgência devido a um aumento de admissões por CALNS e IS. Não verificámos um aumento de TS. Após o período inicial da pandemia COVID-19, verificámos um aumento acentuado das admissões relacionadas com comportamentos auto-lesivos e IS. Estes resultados vão de encontro ao reportado na literatura.

Palavras-chave: Comportamentos auto-lesivos. Tentativas de suicídio. Ideação suicida. Psiquiatria da adolescência. Urgência pediátrica.

Keypoints

What is known
- Suicidal ideation and self-harm behavior are frequent causes of admissions to child and adolescent psychiatry emergency departments.
- There has been an increase in the number of cases of self-harm in children and adolescents.
- During the COVID-19 pandemic, children and adolescents experienced high levels of anxiety and depression, along with an increase in self-harm and suicidal thoughts.

What is added
- In recent years, there was an increase in NSSI and SI without suicidal behavior in pediatric mental health ED. However, we did not find an increase in admissions for SA.
- There was a steep increase in self-harm-related ED admissions in children and adolescents after the acute period of the COVID-19 pandemic.

Introduction and objectives

Suicidal ideation (SI) and self-harm behavior are frequent causes of admissions to child and adolescent psychiatry emergency departments (ED)[1]. Non-suicidal self-injury (NSSI) is defined as deliberate, intentional self-harm without suicidal intent, using methods that are not socially sanctioned[1-4]. There has been an increase in the number of cases of self-harm in children and adolescents in the general population[5]. NSSI is more frequently observed in adolescents and young adults, with a prevalence ranging from 18 to 30%, and it is reported to be more common in female adolescents[1,6-12]. In clinical populations, its prevalence can rise as high as 80%[13]. NSSI is often associated with a broad spectrum of mental health problems, with psychiatric comorbidities being present in up to 80% of individuals who self-harm[9,14,15]. NSSI is associated with future suicide attempts and is considered the strongest predictor of suicide in adolescents[16,17]. Patients who sought care in ED after engaging in NSSI faced a recurrence risk of 16.3% and a 1.6% risk of suicide within the following year[18]. By examining the records of patients who died by suicide, a study showed that 15% of individuals had been admitted to the ED within one year prior to their death as a result of NSSI[19].

Pediatric ED are often the initial interface for many children and adolescents showing self-injury behavior, making it an important setting for assessing and managing this behavior[20-23]. There has been a steep increase in admissions to pediatric ED related to self-harm in children and adolescents, but an increase in the number of young people seeking assistance for self-harm within primary care settings has also been reported[24,25].

Admissions to ED for NSSI and suicidal attempts (SA) are linked to prior exposure to adverse life experiences and risk factors such as a history of childhood sexual abuse, interpersonal and intrafamilial conflicts, impulsivity and feelings of isolation and loneliness[12,26].

During the COVID-19 pandemic, adolescents went through several periods of forced isolation at home, school closures and bans from social activities, which limited their interaction with peers and increased their screen time and social media dependence[27]. There was a disruption to their normative seeking of independence from caregivers, impacting peer integration due to lockdown measures and social restrictions. Increased family pressures and mandatory confinement simultaneously exacerbated conflicts between parents and adolescents, contributing to negative moods and worsening the mental health of both parties[27-29]. Overall, deprived from social relationships and interactions, many adolescents were prevented from relying on their usual coping strategies and had to rely solely on their internal coping mechanisms, in a developmental stage where this should not be the norm. This contributed to increased difficulties in emotional regulation[30]. With restriction measures sustained over several months, the psychological burden among children and adolescents

was considerably aggravated. Research indicates that adolescents experienced high levels of anxiety and depression during the pandemic, along with a higher frequency of maladaptive behaviors, such as deliberate self-harm, which often represents an attempt to manage emotional arousal and reduce emotional distress[30-32].

In our research, we aim to evaluate the trends of self-harm and suicidality in children and adolescents in a pediatric mental health ED in Portugal between 2019 and 2021 and compare it with similar data extracted from two previous studies carried out in the same department in 2008 and 2016[33,34]. We also aim to analyze the impact of the COVID-19 pandemic in the number of admissions to this pediatric mental health ED for SA, NSSI and SI, comparing the number of admissions for these same causes between March and May 2021 (post-pandemic) with the same period in 2019 (pre-pandemic).

Methods

Our study was conducted in a pediatric mental health ED in Oporto, Portugal. It is the only ED for pediatric mental health care in the north of Portugal. It provides 12-hour psychiatric care for children and adolescents, seven days a week, and all cases are admitted only after a medical referral. Our sample was restricted to children and adolescents under the age of 18 who were admitted to our pediatric mental health ED for NSSI, SA and SI. NSSI was defined as the deliberate, intentional behavior of harming one's own body without suicidal intent, using methods that are not socially sanctioned. SI was defined as patients who have thoughts about death but do not engage in suicidal behaviors. SA was defined as a condition in which body organs and tissues are deliberately damaged with the intention of causing death. In this study, drug intoxications were considered as SA.

We performed a clinical-based, retrospective and descriptive analysis of all children and adolescents aged up to 18 who were admitted to our pediatric mental health ED for NSSI, SI and SA (drug intoxications or other methods) from March 2019 to May 2021 and then we extracted similar data from two previous studies carried out in our department in 2008 and 2016[33,34]. The data were collected from the clinical patient records. We collected demographic data regarding gender and age (under and above 12 years of age). To analyze the impact of the COVID-19 pandemic in the number of admissions to our ED for SA, NSSI and SI, we compared the number of admissions for these causes between March and May 2021 (post-pandemic) with the same period in 2019 (pre-pandemic).

For comparison purposes, we analyzed our data by dividing it into five different periods:

1. From July 2007 to June 2008 (12 months, data from Queirós[33])
2. From January 2016 to December 2016 (12 months, data from Rodrigues et al.[34])
3. From March 2019 to February 2020 (12 months)
4. From March 2020 to February 2021 (12 months)
5. From March 2021 to May 2021 (3 months)

The data analysis was conducted using the SPSS program, version 27.0. Absolute frequencies (n) and percentages (%) were presented in the description of variables. The assessment of the association among categorical variables was performed using the chi-square test or Fisher's exact test, if Cochran's rules were not met. The distribution of categorical variables was assessed using the chi-square goodness-of-fit test. The significance level considered was 5%.

Results

The total number of episodes for all causes by year, gender and age are described in table 1. The total number of episodes in our ED was higher in 2016 ($p < 0.001$). In every period of our study, there was a statistically significant higher number of females ($p = 0.037$) and adolescents ($p < 0.001$) assessed in our ED. In 2007/2008 there was a higher prevalence than expected of males (47.2%) [ri = 2.7] and children below 12 years of age (24.0%) [ri = 4.8].

Table 2 describes the prevalence of admissions for SA, SI and NSSI in four separate 12-month periods. The number of SA with drug intoxication was significantly higher in the 2007-2008 period (18.7%, $p = 0.038$). SI (6.4%, $p = 0.001$) and NSSI (7%, $p = 0.001$). Admissions were higher between March 2019 and February 2020. Table 3 describes each cause of the admissions by year, gender and age. Statistically significant differences were only found regarding gender in cases of SI, with a higher number of females in every period ($p = 0.006$).

To study the impact of the COVID-19 pandemic on the number of admissions to our ED for SA, NSSI and SI, we compared the period from March to May 2019 with the same three months in 2021, which corresponds to the time when the second lockdown measures were lifted in Portugal. These results are described in table 4. We observed an increase of almost double (98.43%, $p < 0.001$) the number of emergency episodes in March-May 2021 compared to the same period in 2019. In March-May 2021, there was a higher number of

Table 1. Distribution of admissions to our emergency department by gender and age

	July 2007-June 2008 (12 months)	2016 (12 months)	March 2019-February 2020 (12 months)	March 2020-February 2021 (12 months)	p
Total number of admissions to ED	975	1136	1032	916	p < 0.001 (a)
Female	515 (52.8%) [–2.7]	649 (57.1%) [0.5]	587 (56.9%) [0.3]	543 (59.3%) [2.0]	p = 0.037* (a)†
Male	460 (47.2%) [2.7]	487 (42.9%) [–0.5]	445 (43.1%) [–0.3]	373 (40.7%) [–2.0]	
< 12 years	234 (24.0%) [4.8]	215 (18.9%) [0.2]	193 (18.7%) [0.0]	119 (13.0%) [–5.1]	p < 0.001*
> 12 years	741 (76.0%) [–4.8]	921 (81.1%) [–0.2]	839 (81.3%) [0.0]	797 (87.0%) [5.1]	

*p < 0.05; p-value calculated using either (a)† chi-square goodness-of-fit test, (a) Chi-square test of association, or Fisher's exact test; with p < 0.05, the [adjusted standardized residual] is provided, which assesses the differences between observed and expected frequencies and is considered statistically significant when it is < 1.96 or > 1.96.

Table 2. Distribution of admissions for suicide attempts, suicidal ideation without suicidal behavior and non-suicidal self-injury to our emergency department

	July 2007-June 2008 (12 months)	2016 (12 months)	March 2019-February 2020 (12 months)	March 2020-February 2021 (12 months)	p
SA with drug intoxication	183 (18.7%)	171 (15.1%)	147 (14.2%)	137 (15.0%)	p = 0.038 (a)†
SA with other suicidal behavior	11 (1.1%)	12 (1.1%)	14 (1.4%)	20 (2.2%)	p = 0.331 (a)†
SI without suicidal behavior	31 (3.2%)	41 (3.6%)	66 (6.4%)	60 (6.6%)	p = 0.001 (a)†
NSSI	25 (2.56%)	68 (6%)	72 (7%)	65 (7.1%)	p < 0.001 (a)†

*p < 0.05; p-value calculated using either (a)† chi-square goodness-of-fit test, (a) Chi-square test of association, or Fisher's exact test; with p < 0.05, the [adjusted standardized residual] is provided, which assesses the differences between observed and expected frequencies and is considered statistically significant when it is < 1.96 or > 1.96.
SA: suicide attempt; SI: suicide intent; NSSI: non-suicidal self-injury.

admissions for SA with drug intoxication (p < 0.001), SI (p = 0.008) and NSSI (p < 0.001). We found a higher prevalence than expected of females with NSSI (86.4%) (RI = 2.7) from March to May of 2021.

Discussion

We compared admissions to a pediatric mental health ED for NSSI, SI and SA in five different time periods between 2007 and 2021. We may assume that there was no increase in admissions for SA over the span of our study, with the most admissions for SA with drug intoxications being reported in 2007/2008 (18.7%). In the other periods included in our study, the number of admissions for SA with drug intoxications remained relatively stable, with a prevalence of around 15%. Our findings are in line with the literature. Evidence from recent decades concerning temporal trends of SA in pediatric age is limited and mainly based on the high school Youth Risk Behavior Survey by the U.S. Centers of Disease Control and Prevention[35]. It reports that the overall prevalence of SA in 2017 (7.4%) was almost the same as in 1991 (7.3%). A study from Xiao et al. also reports stable trends in non-fatal SA in recent decades[36]. A Dutch study reported a decrease in SA over a 5-year period from 2010 to 2015[37].

However, we found an increase in emergency admissions for NSSI when comparing admission numbers between 2007/2008 (2.56%) with the other periods (6-7%). Recently, there has been a notable rise in ED visits worldwide due to self-harm among adolescents[38,39]. Our results point to an increase of NSSI in adolescents over recent years, in line with what is described in the literature. A study performed in Turkey, that analyzed admissions to a pediatric mental health ED between 2012 and 2017, reported similar numbers of admissions for NSSI (10.7%) to our study (between 6 and 7%)[9]. McCluskey et al. characterized admissions for NSSI in a pediatric ED between 2009 and 2013 and found a greater prevalence of NSSI in females and in older adolescents, which is in line with our results[40]. Contrary to our findings, they found a decrease in

Table 3. Distribution of admissions for suicide attempts, suicidal ideation without suicidal behavior and non-suicidal self-injury to our emergency department by gender and age

	July 2007-June 2008 (12 months)	2016 (12 months)	March 2019-February 2020 (12 months)	March 2020-February 2021 (12 months)	p
SA with drug intoxication	183 (18.7%)	171 (15.1%)	147 (14.2%)	137 (15.0%)	p = 0.038 (a)†
Male	Not assessed	33 (19.3%)	25 (17.0%)	27 (19.7%)	p = 0.836 (a)
Female	Not assessed	138 (80.7%)	122 (83.0%)	110 (80.3%)	
< 12 years	Not assessed	3 (1.8%)	2 (1.4%)	3 (2.2%)	p = 0.908 (b)
> 12 years	Not assessed	168 (98.2%)	145 (98.6%)	134 (97.8%)	
SA with other suicidal behaviors	11 (1.1%)	12 (1.1%)	14 (1.4%)	20 (2.2%)	p = 0.331 (a)†
Male	Not assessed	5 (41.7%)	3 (21.5%)	11 (55.0%)	p = 0.147 (a)
Female	Not assessed	7 (58.3%)	11 (78.6%)	9 (45.9%)	
< 12 years	Not assessed	0 (0%)	2 (14.3%)	2 (10.0%)	p = 0.557 (b)
> 12 years	Not assessed	12 (100%)	12 (85.7%)	18 (90.0%)	
SI without suicidal behavior	31 (3.2%)	41 (3.6%)	66 (6.4%)	60 (6.6%)	p = 0.001 (a)†
Male	3 (9.7%) [–3.1]	17 (41.5%) [1.2]	29 (43.9%) [2.1]	18 (30.0%) [–0.8]	p = 0.006* (a)
Female	28 (90.3%) [3.1]	24 (58.5%) [–1.2]	37 (56.1%) [–2.1]	42 (70.0%) [0.8]	
< 12 years	Not assessed	1 (2.4%)	4 (6.1%)	5 (8.3%)	p = 0.549 (b)
> 12 years	Not assessed	40 (97.6%)	62 (93.9%)	55 (91.7%)	
NSSI	25 (2.56%)	68 (6%)	72 (7%)	65 (7.1%)	p < 0.001 (a)†
Male	2 (8.0%) [–2.3]	18 (26.5%) [–0.2]	24 (33.3%) [1.4]	19 (29.2%) [0.4]	p = 0.105 (a)
Female	23 (92.0%) [2.3]	50 (73.5%) [0.2]	48 (66.7%) [–1.4]	46 (70.8%) [–0.4]	
< 12 years	Not assessed	2 (2.9%)	6 (8.3%)	1 (1.5%)	p = 0.155 (b)
> 12 years	Not assessed	66 (97.1%)	66 (91.7%)	64 (98.5%)	

*p < 0.05; p-value calculated using either (a)† chi-square goodness-of-fit test, (a) Chi-square test of association, or (b) Fisher's exact test; with p < 0.05, the [adjusted standardized residual] is provided, which assesses the differences between observed and expected frequencies and is considered statistically significant when it is < 1.96 or > 1.96.
SA: suicide attempt; SI: suicide intent; NSSI: non-suicidal self-injury.

Table 4. Comparison of admissions for suicide attempts, suicidal ideation without suicidal behavior and non-suicidal self-injury to our emergency department by gender and age in the pre and post-pandemic period

	March-May 2019	March-May 2021	p
Total number of episodes in ED	254	504	p < 0.001 (a)†
Female	147 (57.9%) [–3.1]	348 (69.0%) [3.1]	p = 0.002* (a)
Male	107 (42.1%) [3.1]	156 (31.0%) [–3.1]	
< 12 years	45 (17.7%) [2.2]	60 (11.9%) [–2.2]	p = 0.029* (a)
> 12 years	209 (82.3%) [–2.2]	444 (88.1%) [2.2]	
SA with drug intoxication	40	88	p < 0.001 (a)†
Male	5 (12.5%)	11 (12.5%)	p > 0.990 (b)
Female	35 (87.5%)	77 (87.5%)	
< 12 years	0 (0%)	2 (2.3%)	p > 0.990 (b)
> 12 years	40 (100%)	86 (97.7%)	
SA with other suicidal behaviors	4	2	p = 0.414
Male	1 (25.0%)	1 (50.0%)	p > 0.990 (b)
Female	3 (75.0%)	1 (50.0%)	
< 12 years	1 (25.0%)	1 (50.0%)	p > 0.990 (b)
> 12 years	3 (75.0%)	1 (50.0%)	
SI without suicidal behavior	16	35	p = 0.008 (a)†
Male	7 (43.8%)	8 (22.9%)	p = 0.187 (b)
Female	9 (56.3%)	27 (77.1%)	
< 12 years	2 (12.5%)	1 (2.9%)	p = 0.229 (b)
> 12 years	14 (87.5%)	34 (97.1%)	
NSSI	25	59	p < 0.001 (a)†
Male	10 (40.0%) [2.7]	8 (13.6%) [–2.7]	p = 0.007 (a)
Female	15 (60.0%) [–2.7]	51 (86.4%) [2.7]	
< 12 years	2 (8.0%)	1 (3.4%)	p = 0.591 (b)
> 12 years	23 (92.0%)	28 (96.6%)	

*p < 0.05; p-value calculated using either (a)† chi-square goodness-of-fit test, (a) Chi-square test of association, or (b) Fisher's exact test; with p < 0.05, the [adjusted standardized residual] is provided, which assesses the differences between observed and expected frequencies and is considered statistically significant when it is < 1.96 or > 1.96.
SA: suicide attempt; SI: suicide intent; NSSI: non-suicidal self-injury.

admissions for NSSI in older adolescents during their study period, with an increase of NSSI and SA in children aged 11-12. A Spanish study reported that among 328 mental health emergencies in a pediatric ED, self-harm behavior, irrespective of the degree of suicidal intent, was the second most common reason for visits in females (29%)[41]. In a study conducted in Canada, 45% of the 468 cases involving young people who sought help for mental health emergencies reported engagement in NSSI within the preceding 24 hours[42].

Multiple systematic reviews and meta-analyses have documented an increase in anxiety, depression and post-traumatic symptoms among children and adolescents, with approximately 20% of adolescents reporting mental health difficulties[43,44]. A meta-analysis by Racine at al. reported a 25% prevalence of depressive symptoms in adolescents worldwide, with rates of anxiety symptoms doubling the pre-pandemic levels[44]. We contend that during the second year of the pandemic, the combined effects of stressors linked to school reopening culminated in heightened anxiety and depressive symptoms associated with reconnecting with peers and facing academic challenges. Consequently, this could potentially contribute to a rise in self-harm and suicidality among adolescents struggling with emotional regulation.

As verified in our research, several studies indicate a substantial increase in cases of pediatric psychiatric emergencies following the initial acute phase of the COVID-19 pandemic (at the start of 2021), including episodes of both suicidal and non-suicidal self-harm. Steeg et al. reported an increase of suicidal and non-suicidal self-harm behavior in adolescents admitted to a pediatric ED in Manchester between August 2020 and May 2021, compared to 2019[45]. Yard et al. found an increase in SA in adolescents between February and March 2021 in the United States[46]. During this difficult period, increased personal and social stress among adolescents and difficulties in regulating their emotions were associated with engagement in NSSI[47]. During the COVID-19 pandemic, considerable attention was directed towards loneliness and self-harm experiences among adolescents. The exacerbation of loneliness among young people during lockdown was associated with an increase in the odds of self-harm[48]. Cozzi et al. showed that pediatric ED admissions related to SA and eating disorders in adolescents had the most significant increase in the second year of the pandemic compared to both the first and the pre-pandemic years, with an increase of 72% in NSSI cases and 188% in admissions for SA[49]. A multicenter study conducted in Germany revealed a 2.84-fold increased risk of intensive care unit admission due to suicide attempts among adolescents aged 12 – 17 during the second year of the pandemic compared to preceding years[50]. Jung et al. showed an increase in SA in adolescents in Korea in 2021 (2.2%) and 2022 (2.5%), when compared to 2020 (1.9%)[51]. A study conducted in Spain reported increased ED admissions during the aftermath of the COVID-19 lockdown among adolescent females, with statistically significant increases in self-harm behavior and suicide attempts[52].

Our study has some limitations. Firstly, we compared five isolated periods of time across 14 years, based on previous studies performed in our department, as we did not have access to data regarding every year between 2007 and 2021. This may have influenced some of our assumptions. Secondly, it is not possible to infer the severity of the NSSI and suicidal behavior or their diagnostic framework, as the study of these did not fall within the scope of this paper.

However, our research has several strengths. To our knowledge, it is the first study to examine admissions for self-injury and suicidality in a Portuguese pediatric ED over a large period spanning more than a decade. Besides, due to its longitudinal nature, the study allowed for a more appropriate evaluation of trends and prevalence rates of self-injurious behaviors in childhood and adolescence over recent years.

In conclusion, in recent years, we found that NSSI and SI without suicidal behavior have increased in pediatric mental health ED. However, we did not find an increase in admissions for SA. Despite the limitations of our study, these findings are in line with trends reported in the literature. Moreover, according to recent studies, we found a steep increase in self-harm-related ED admissions in children and adolescents following the acute period of the COVID-19 pandemic.

Authors' contribution

P. Carvalho-e-Marques: Conception and design of the study, report, review or other type of work or paper; Acquisition of data either from patients, research studies, or literature; Anayisis or interpretation of data either from patients, research studies, or literature; Drafting the article; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. O. Queirós: Conception and design of the study, report, review or other type of work or paper; Critical review of the article for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work.

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Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Confidentiality of data. The authors declare that they have followed the protocols of their work center on publishing patient data.

Right to privacy and informed consent. The authors have obtained written informed consent from the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

Use of artificial intelligence for generating text. The authors declare that they have not used any kind of generative artificial intelligence for drafting this manuscript, nor for creating images, graphics, tables or their corresponding captions.

References

1. Kim H, Ryu, JM, Kim HW. Characteristics and Trends of Suicide Attempt or Non-suicidal Self-injury in Children and Adolescents Visiting Emergency Department. Journal of Korean medical science. 2020;35(33),e276. https://doi.org/10.3346/jkms.2020.35.e276
2. Winchel RM, Stanley M. Self-injurious behavior: a review of the behavior and biology of self-mutilation. Am J Psychiatry. 1991 Mar;148(3):306-317. https://doi.org/10.1176/ajp.148.3.306
3. Gratz KL. Measurement of deliberate self-harm: Preliminary data on the Deliberate Self-Harm Inventory. J Psychopathol Behav Assess. 2001 Dec;23(4):253-263. https://doi.org/10.1023/A:1012779403943
4. Nock MK, Joiner TE Jr, Gordon KH, Lloyd-Richardson E, Prinstein MJ. Non-suicidal self-injury among adolescents: diagnostic correlates and relation to suicide attempts. Psychiatry Res. 2006 Nov 15;144(1):65-72. https://doi.org/10.1016/j.psychres.2006.05.010
5. NHSDigital. Mental Health of Children and Young People in England, 2017 [Online] (2018) [cited 1 Nov 2020]. Available from: https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2017/2017
6. Muehlenkamp JJ, Claes L, Havertape L, Plener PL. International prevalence of adolescent non-suicidal self-injury and deliberate self-harm. Child Adolesc Psychiatry Ment Health. 2012 Apr 27;6:10. https://doi.org/10.1186/1753-2000-6-10
7. Plener PL, Allroggen M, Kapusta ND, Brähler E, Fegert JM, Groschwitz RC. The prevalence of Nonsuicidal Self-Injury (NSSI) in a representative sample of the German population. BMC Psychiatry. 2016 Dec;16(1):353. https://doi.org/10.1186/s12888-016-1060-x
8. Giletta M, Scholte RH, Engels RC, Ciairano S, Prinstein MJ. Adolescent non-suicidal self-injury: a cross-national study of community samples from Italy, the Netherlands and the United States. Psychiatry Res. 2012 Apr 30;197(1-2):66-72. https://doi.org/10.1016/j.psychres.2012.02.009
9. Poyraz Fındık OT, Erdoğdu AB, Fadıloğlu E, Rodopman Arman A. Emergency Department Visits for Non-suicidal Self-harm, Suicidal Ideation, and Suicide Attempts in Children and Adolescents. Child Psychiatry Hum Dev. 2022 Apr;53(2):289-299. https://doi.org/10.1007/s10578-021-01125-6
10. Olfson M, Wall M, Wang S, Crystal S, Bridge JA, Liu SM, Blanco C. Suicide After Deliberate Self-Harm in Adolescents and Young Adults. Pediatrics. 2018 Apr;141(4):e20173517. https://doi.org/10.1542/peds.2017-3517
11. Pisinger VSC, Hawton K, Tolstrup JS. School- and class-level variation in self-harm, suicide ideation and suicide attempts in Danish high schools. Scand J Public Health. 2019 Feb;47(2):146-156. https://doi.org/10.1177/1403494818799873
12. Hawton K, Saunders KE, O'Connor RC. Self-harm and suicide in adolescents. Lancet. 2012 Jun 23;379(9834):2373-2382. https://doi.org/10.1016/S0140-6736(12)60322-5
13. Klonsky ED, Muehlenkamp JJ. Self-injury: a research review for the practitioner. J Clin Psychol. 2007 Nov;63(11):1045-56. https://doi.org/10.1002/jclp.20412.
14. Jacobson CM, Muehlenkamp JJ, Miller AL, Turner JB. Psychiatric impairment among adolescents engaging in different types of deliberate self-harm. J Clin Child Adolesc Psychol. 2008 Apr;37(2):363-375. https://doi.org/10.1080/15374410801955771
15. Nock MK, Green JG, Hwang I, McLaughlin KA, Sampson NA, Zaslavsky AM, et al. Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: results from the National Comorbidity Survey Replication Adolescent Supplement. JAMA Psychiatry. 2013 Mar;70(3):300-310. https://doi.org/10.1001/2013.jamapsychiatry.55
16. Hawton K, Bale L, Brand F, Townsend E, Ness J, Waters K, et al. Mortality in children and adolescents following presentation to hospital after non-fatal self-harm in the Multicentre Study of Self-harm: a prospective observational cohort study. Lancet Child Adolesc Health. 2020 Feb;4(2):111-120. https://doi.org/10.1016/S2352-4642(19)30373-6
17. Franklin JC, Ribeiro JD, Fox KR, Bentley KH, Kleiman EM, Huang X, et al. Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. Psychol Bull. 2017 Feb;143(2):187-232. https://doi.org/10.1037/bul0000084
18. Carroll R, Metcalfe C, Gunnell D. Hospital presenting self-harm and risk of fatal and non-fatal repetition: systematic review and meta-analysis. PLoS One. 2014 Feb 26;9(2):e89944. https://doi.org/10.1371/journal.pone.0089944
19. Gairin I, House A, Owens D. Attendance at the accident and emergency department in the year before suicide: retrospective study. Br J Psychiatry. 2003 Jul;183:28-33. https://doi.org/10.1192/bjp.183.1.28
20. Nadkarni A, Parkin A, Dogra N, Stretch DD, Evans PA. Characteristics of children and adolescents presenting to accident and emergency departments with deliberate self-harm. J Accid Emerg Med. 2000 Mar;17(2):98-102. https://doi.org/10.1136/emj.17.2.98
21. Mapelli E, Black T, Doan Q. Trends in Pediatric Emergency Department Utilization for Mental Health-Related Visits. J Pediatr. 2015 Oct;167(4):905-910. https://doi.org/10.1016/j.jpeds.2015.07.004
22. Gardner W, Pajer K, Cloutier P, Zemek R, Currie L, Hatcher S, et al. Changing Rates of Self-Harm and Mental Disorders by Sex in Youths Presenting to Ontario Emergency Departments: Repeated Cross-Sectional Study. Can J Psychiatry. 2019 Nov;64(11):789-797. https://doi.org/10.1177/0706743719854070
23. Perera J, Wand T, Bein KJ, Chalkley D, Ivers R, Steinbeck KS, et al. Presentations to NSW emergency departments with self-harm, suicidal ideation, or intentional poisoning, 2010-2014. Med J Aust. 2018 Apr 23;208(8):348-353. https://doi.org/10.5694/mja17.00589
24. Ougrin D, Wong BH, Vaezinejad M, Plener PL, Mehdi T, Romaniuk L, et al. Pandemic-related emergency psychiatric presentations for self-harm of children and adolescents in 10 countries (PREP-kids): a retrospective international cohort study. Eur Child Adolesc Psychiatry. 2022 Jul;31(7):1-13. https://doi.org/10.1007/s00787-021-01741-6
25. Morgan C, Webb RT, Carr MJ, Kontopantelis E, Green J, Chew-Graham CA, et al. Incidence, clinical management, and mortality risk following self-harm among children and adolescents: cohort study in primary care. BMJ. 2017 Sep 13;359:j4351. https://doi.org/10.1136/bmj.j4351
26. Carbone JT, Jackson DB, Holzer KJ, Vaughn MG. Childhood adversity, suicidality, and non-suicidal self-injury among children and adolescents admitted to emergency departments. Ann Epidemiol. 2021 Sep;60:21-27. https://doi.org/10.1016/j.annepidem.2021.04.015
27. Saraiva J, Cotta P, Marques P, Sá T, Silva FM, Barrias P, et al. Mental health crisis in children and adolescents: The hidden harm of COVID-19. Nascer Crescer Birth Growth Med J. 2022;31(3). https://doi.org/10.25753/BirthGrowthMJ.v31.i3.27606
28. Gadermann A, Thomson K, Gill R, Schonert-Reichl KA, Gagné Petteni M, Guhn M, et al. Early Adolescents' Experiences During the COVID-19 Pandemic and Changes in Their Well-Being. Front Public Health. 2022;10:823303. https://doi.org/10.3389/fpubh.2022.823303
29. Lockyer B, Endacott C, Dickerson J, Sheard L. Growing up during a public health crisis: a qualitative study of Born in Bradford early adolescents during Covid-19. BMC Psychol. 2022 Mar;10(1):140. https://doi.org/10.1186/s40359-022-00851-3
30. Pedrini L, Meloni S, Lanfredi M, Ferrari C, Geviti A, Cattaneo A, et al. Adolescents' mental health and maladaptive behaviors before the Covid-19 pandemic and 1-year after: analysis of trajectories over time and associated factors. Child Adolesc Psychiatry Ment Health. 2022 Mar;16(1):42. https://doi.org/10.1186/s13034-022-00474-x
31. Jones EAK, Mitra AK, Bhuiyan AR. Impact of COVID-19 on Mental Health in Adolescents: A Systematic Review. Int J Environ Res Public Health. 2021 Mar;18(5):2470. https://doi.org/10.3390/ijerph18052470

32. Corrigan C, Duke G, Millar J, Paul E, Butt W, Gordon M, et al. Australian and New Zealand Intensive Care Society Pediatric Study Group (ANZICS PSG) and the ANZICS Center for Outcome and Resource Evaluation (ANZICS CORE). Admissions of Children and Adolescents With Deliberate Self-harm to Intensive Care During the SARS-CoV-2 Outbreak in Australia. JAMA Netw Open. 2022 May;5(5):e2211692. https://doi.org/10.1001/jamanetworkopen.2022.11692
33. Queirós O. Urgências Psiquiátricas na Adolescência. Nascer e Crescer. 2008;17(3):168-172.
34. Rodrigues AR, Taveira-Gomes I, Queirós O. Urgências em pedopsiquiatria: O que mudou?. Rev Port Pedopsiquiatr. 2019;44.
35. Kann L, McManus T, Harris WA, Shanklin SL, Flint KH, Queen B, et al. Youth Risk Behavior Surveillance - United States, 2017. MMWR Surveill Summ. 2018 Jun;67(8):1-114. https://doi.org/10.15585/mmwr.ss6708a1
36. Xiao Y, Cerel J, Mann JJ. Temporal Trends in Suicidal Ideation and Attempts Among US Adolescents by Sex and Race/Ethnicity, 1991-2019. JAMA Netw Open. 2021 Jun;4(6):e2113513. https://doi.org/10.1001/jamanetworkopen.2021.13513
37. van Vuuren CL, van der Wal MF, Cuijpers P, Chinapaw MJM. Sociodemographic Differences in Time Trends of Suicidal Thoughts and Suicide Attempts Among Adolescents Living in Amsterdam, The Netherlands. Crisis. 2021 Sep;42(5):369-377. https://doi.org/10.1027/0227-5910/a000735
38. Cutler GJ, Flood A, Dreyfus J, Ortega HW, Kharbanda AB. Emergency Department Visits for Self-Inflicted Injuries in Adolescents. Pediatrics. 2015 Jul;136(1):28-34. https://doi.org/10.1542/peds.2014-3573
39. Kalb LG, Stapp EK, Ballard ED, Holingue C, Keefer A, Riley A. Trends in Psychiatric Emergency Department Visits Among Youth and Young Adults in the US. Pediatrics. 2019 Apr;143(4):e20182192. https://doi.org/10.1542/peds.2018-2192
40. McCluskey CK, Allareddy V, Rampa S, Allareddy V, Rotta AT. Characterization of Suicide and Deliberate Self-Harm Among Children in the United States. Clin Pediatr (Phila). 2019 Jan;58(1):66-72. https://doi.org/10.1177/0009922818806313
41. Porter M, Gracia R, Oliva JC, Pàmias M, Garcia-Parés G, Cobo J. Mental Health Emergencies in Paediatric Services: Characteristics, Diagnostic Stability and Gender differences. Actas espanolas de psiquiatria. 2016;44(6):203–211.
42. Cloutier P, Martin J, Kennedy A, Nixon MK, Muehlenkamp JJ. Characteristics and co-occurrence of adolescent non-suicidal self-injury and suicidal behaviours in pediatric emergency crisis services. J Youth Adolescence. 2010;39(3):259–269. https://doi.org/10.1007/s10964-009-9465-1
43. Viner R, Russell S, Saulle R, Croker H, Stansfield C, Packer J, et al. School Closures During Social Lockdown and Mental Health, Health Behaviors, and Well-being Among Children and Adolescents During the First COVID-19 Wave: A Systematic Review. JAMA pediatrics. 2022;176(4):400–409. https://doi.org/10.1001/jamapediatrics.2021.5840
44. Racine N, McArthur BA, Cooke JE, Eirich R, Zhu J, Madigan S. Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents During COVID-19: A Meta-analysis. JAMA pediatrics. 2021;175(11):1142–1150. https://doi.org/10.1001/jamapediatrics.2021.2482
45. Steeg S, Bojanić L, Tilston G, Williams R, Jenkins DA, Carr MJ, et al. Temporal trends in primary care-recorded self-harm during and beyond the first year of the COVID-19 pandemic: Time series analysis of electronic healthcare records for 2.8 million patients in the Greater Manchester Care Record. EClinicalMedicine. 2021;41:101175. https://doi.org/10.1016/j.eclinm.2021.101175
46. Yard E, Radhakrishnan L, Ballesteros MF, Sheppard M, Gates A, Stein Z, et al. Emergency Department Visits for Suspected Suicide Attempts Among Persons Aged 12-25 Years Before and During the COVID-19 Pandemic - United States, January 2019-May 2021. MMWR. Morbidity and mortality weekly report. 2021;70(24):888–894. https://doi.org/10.15585/mmwr.mm7024e1
47. Robillard CL, Turner BJ, Ames ME, Craig SG. Deliberate self-harm in adolescents during COVID-19: The roles of pandemic-related stress, emotion regulation difficulties, and social distancing. Psychiatry research. 2021;304:114152. https://doi.org/10.1016/j.psychres.2021.114152
48. Geulayov G, Mansfield K, Jindra C, Hawton K, Fazel M. Loneliness and self-harm in adolescents during the first national COVID-19 lockdown: results from a survey of 10,000 secondary school pupils in England. Current psychology (New Brunswick, N.J.). 2022:1–12. Advance online publication. https://doi.org/10.1007/s12144-022-03651-5
49. Cozzi G, Grillone A, Zuliani E, Giangreco M, Zanchi C, Abbracciavento G, et al. Suicide attempts and eating disorders in adolescents, the mental health wave of the second year of the COVID-19 pandemic: A paediatric emergency department perspective. Frontiers in pediatrics. 2023;11:1078274. https://doi.org/10.3389/fped.2023.1078274
50. Bruns N, Willemsen L, Stang A, Kowall B, Holtkamp K, Kamp O, et al. Pediatric ICU Admissions After Adolescent Suicide Attempts During the Pandemic. Pediatrics. 2022;150(2):e2021055973. https://doi.org/10.1542/peds.2021-055973
51. Jung SI, Lee SY, Kim DJ, Yang CM. Risk Factors and Trends in Adolescent's Suicide Attempt Rates Before and After the Coronavirus Disease 2019 Pandemic. Journal of Korean medical science. 2024;39(3):e32. https://doi.org/10.3346/jkms.2024.39.e32
52. Fortea A, Fortea L, Gómez-Ramiro M, Fico G, Giménez-Palomo A, Sagué Vilavella M, et al. Upward trends in eating disorders, self-harm, and suicide attempt emergency admissions in female adolescents after COVID-19 lockdown. Spanish Journal of Psychiatry and Mental Health. 2023. https://doi.org/10.1016/j.sjpmh.2023.09.003.