Iran J Psychiatry Behav Sci. 2026 June; 20(2): e167722 https://doi.org/10.5812/ijpbs-167722

Published Online: 2026 May 31 **Research Article**

Investigating Changes in the Prevalence of Suicide Attempts Among Children and Adolescents During the COVID-19 Pandemic: A Single-Center Study at the Psychiatric Emergency Room of a Tertiary Hospital in Iran

Ashraf Tashakori [1,*], Forough Riahi [1], Puria Ayati [1]

[1] Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

[*] ***Corresponding Author:*** Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. Email: tashakori_doctor@yahoo.com

Received: 29 October, 2025; **Revised:** 27 April, 2026; **Accepted:** 30 May, 2026

Abstract

Background: Contradictory findings have been reported regarding suicide rates among children and adolescents (C&A) during the COVID-19 pandemic.

Objectives: This study examined potential changes in the prevalence of suicide attempts during the COVID-19 pandemic among C&A referred to the emergency department. It also analyzed the data by sex, age group, and suicide method.

Methods: In this retrospective cross-sectional study, data were collected for all patients aged 18 years or younger who visited the psychiatric emergency room of Ahvaz Golestan Hospital between March 2017 and March 2023. The medical records of all patients aged 18 years or younger who were referred for suicide attempts were reviewed. Data were summarized using descriptive statistics. The chi-square test, Kolmogorov-Smirnov test, t-test, and analysis of variance were used. A significance level of $< 5\%$ was considered.

Results: A total of 52 patients who attempted suicide (48.1% boys and 51.9% girls), with a mean age of 14.98 ± 1.73 years, were referred during the study period. The prevalence of suicide attempts ranged from 4.16% to 11.92%. The highest prevalence (11.92%) occurred from March 2020 to March 2021. The prevalence of suicide attempts was higher among girls before the pandemic and increased among boys during the pandemic. There was no significant difference in the prevalence of suicide attempts before versus during the pandemic. The most common method was hanging. The year of suicide attempt was not significantly associated with age, sex, or suicide method.

Conclusions: There was no significant difference in the prevalence of suicide attempts before versus during the pandemic. The year of suicide was not significantly associated with age, sex, or suicide method.

Keywords: Adolescent, Child, COVID-19, Psychiatric Emergency Service, Suicide

1. Background

Suicidal tendencies have been reported among C&A in Iran in recent years (1). However, accurate statistics on the prevalence of suicidal ideation and suicide attempts among school students have not been provided (2).

The COVID-19 pandemic has had numerous physical (3) and mental health effects (4). Suicides attributed to fear of contracting the virus have been reported (5). Several studies have examined suicide during this period (6-20). A structured review indicated that COVID-19 can lead to suicidal behaviors by triggering physical problems, economic pressures, occupational challenges, academic difficulties, and constraints in social relationships (4).

One study showed that, in the first months of the pandemic, compared with the prepandemic period, the suicide rate was unchanged or even decreased (7). A study of suicide deaths in Japan reported an increase in 2020 compared with 2019 (8).

How to Cite: Tashakori A, Riahi F, Ayati P. Investigating Changes in the Prevalence of Suicide Attempts Among Children and Adolescents During the COVID-19 Pandemic: A Single-Center Study at the Psychiatric Emergency Room of a Tertiary Hospital in Iran. Iran J Psychiatry Behav Sci. 2026;20(2):e167722. doi: https://doi.org/10.5812/ijpbs-167722

Contradictory findings have been reported regarding changes in suicide rates among C&A during the COVID-19 pandemic. Some studies have indicated an increase in the suicide rate (11, 16-19), whereas others have reported a decrease (15, 20). Other studies have shown that the suicide rate during the pandemic remained stable compared with the prepandemic period (9, 10).

2. Objectives

To the best of our knowledge, no study in Iran has investigated the rate of suicide in the emergency room among C&A in recent years, particularly during the COVID-19 pandemic. Therefore, this study was conducted to assess potential changes in suicide attempt rates during the COVID-19 pandemic among C&A referred to the psychiatric emergency room (PER) at Ahvaz Golestan Hospital (AGH) between March 2017 and March 2023 (1396 - 1401 Shamsi Hijri). The study also aimed to analyze the data according to sex, age group, and suicide method.

3. Methods

3.1. Setting

This study was conducted in the PER of AGH. This university hospital houses the only referral psychiatry department for the hospitalization of C&A in Khuzestan Province, southwestern Iran.

3.2. Study Design and Data Collection

This cross-sectional, retrospective, descriptive-analytical study was approved by the institutional review board of Ahvaz Jundishapur University of Medical Sciences (AJUMS). The study also received approval from the Bioethics Committee of AJUMS (IR.AJUMS.HGOLESTAN.REC.1402.162). The study protocol conformed to the ethical guidelines of the 1975 Declaration of Helsinki and was approved by the institution's human research committee.

To reduce sampling bias and improve accuracy, the census method was used, and all individuals aged 18 years or younger were included. Patient consent was waived because this was a retrospective medical records study. Information was obtained for all patients aged 18 years or younger who visited the PER of AGH between March 2017 and March 2023. Subsequently, the medical records of all patients aged 18 years or younger who were receiving care for attempted suicide during these 6 years were reviewed. Records with incomplete information were excluded. A data collection form was used to record study variables, including referral date, age, sex, and suicide attempt method. All information was extracted anonymously to ensure confidentiality.

Because the onset of the COVID-19 pandemic in Iran was in March 2020 (the beginning of 1399 SH) and its end was announced in March 2023 (the last days of 1401 SH), the period from March 2020 to March 2023 was considered the pandemic period in this study.

3.3. Data Analysis

Data were summarized using descriptive statistics, including the mean, standard deviation, frequency, and percentage. The chi-square test was used to assess relationships between categorical variables. The Kolmogorov-Smirnov test was used to assess normality. A significance level of less than 5% ($P < 0.05$) was considered. Analysis of variance (ANOVA) and the t-test were used to compare means. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 23.

4. Results

A t-test revealed a statistically significant difference in the ages of C&A who visited the PER at AGH between March 2017 and March 2023 ($P = 0.001$). Over the study period, the mean age increased from 12.95 years in the first year to 14.25 years in the sixth year (Table 1).

A chi-square test revealed a statistically significant difference in the sex distribution of C&A who visited the PER at AGH between March 2017 and March 2023 ($P = 0.001$). From March 2017 to March 2020 (before the pandemic), boys outnumbered girls, whereas from March 2020 to March 2023 (during the pandemic), this trend was reversed (Table 1).

Between March 2017 and March 2023, a total of 52 C&A were referred to the PER due to attempted suicide. Of these, 25 (48.1%) were boys and 27 (51.9%) were girls. The mean age of the patients was 14.98 ± 1.73 years (Table 2). ANOVA showed no statistically significant difference in the mean age of patients who attempted suicide across the study years ($P = 0.951$). The chi-square test also showed no statistically significant difference in sex across the study years ($P = 0.972$) (Table 2).

The highest prevalence of suicide attempts (11.92%) occurred between March 2020 and March 2021, whereas the lowest prevalence (4.16%) occurred between March 2022 and March 2023. The prevalence of suicide attempts was higher in girls between March 2017 and March 2020, but was higher in boys between March 2020 and March 2023 (Table 3).

Although the t-test showed no statistically significant difference in the rate of suicide attempts ($P = 0.868$)

Table 1. Characteristics of Children and Adolescents in the Psychiatric Emergency Room Over the Study Years [a]

Characteristics	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	P-Value
Total number of patients	128	97	96	109	128	144	-
Gender							0.001
Male	77 (60.2)	63 (64.9)	63 (65.6)	49 (45.0)	65 (50.8)	66 (45.8)	
Female	51 (39.8)	34 (35.1)	33 (34.4)	60 (55.0)	63 (49.2)	78 (54.2)	
Age (y), mean ± SD	12.95 ± 3.97	12.97 ± 3.91	14.39 ± 2.61	14.92 ± 2.53	14.71 ± 2.28	14.25 ± 2.52	0.001

[a] Values are expressed as No. (%) unless otherwise indicated.

Table 2. Characteristics of Suicidal Children and Adolescents in the Psychiatric Emergency Room Over the Study Years [a]

Characteristics	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2017 - 2023	P-Value
Frequency	8	7	11	13	7	6	52	-
Gender								0.972
Male	3 (12.0)	4 (16.0)	5 (20.0)	6 (24.0)	4 (16.0)	3 (12.0)	25 (100)	
Female	5 (18.5)	3 (11.1)	6 (22.2)	7 (25.9)	3 (11.1)	3 (11.1)	27 (100)	
Age (y), mean ± SD	15.13 ± 1.72	15.43 ± 1.27	16 ± 1.84	14.62 ± 1.89	15.14 ± 2.26	14.83 ± 1.47	14.98 ± 1.73	0.951

[a] Values are expressed as No. (%) unless otherwise indicated.

between the 3 years before the COVID-19 pandemic and the 3 years during the pandemic, the highest prevalence of suicide attempts across the 6 study years was observed between March 2020 and March 2021 (the first pandemic year). In addition, an increasing trend in suicide attempts was observed from March 2017 to March 2021, after which the prevalence decreased until March 2023 (Table 3).

Regarding suicide methods among C&A, among the 52 cases during the study period, 24 (46.2%) involved hanging, 20 (38.5%) involved taking medication, and 4 (7.7%) involved falling from a height. There were 2 cases of self-harm with a knife (3.8%), 1 case of self-harm with a razor (1.9%), and 1 case of intentional electrocution (1.9%). According to the chi-square test, there was no statistically significant difference in suicide attempt methods between March 2017 and March 2023 (P = 0.841) (Table 4).

5. Discussion

The results showed that the prevalence of suicide attempts among C&A referred to the PER of AGH did not significantly change from March 2017 to March 2023. However, the prevalence increased from March 2017 to March 2021 and then decreased. The highest prevalence of suicide attempts (11.92%) was observed between March 2020 and March 2021, whereas the lowest prevalence (4.16%) was recorded between March 2022 and March 2023. Furthermore, the rate of suicide attempts among C&A during the pandemic remained stable compared with the prepandemic period. From March 2017 to March 2023, there were no changes in the age, sex, or suicide methods of C&A who were referred to the PER for suicide attempts. The prevalence of suicide attempts was higher among girls before the pandemic and higher among boys during the pandemic. The most common method of suicide attempt was hanging.

The results of this study showed that the rate of suicide attempts among C&A during the pandemic years did not change compared with the prepandemic period. This result aligns with some studies (9, 10). A study in Texas that examined electronic data from pediatric emergency centers in the first 6 months of 2020 found that the suicide rate did not change (10). A study in Japan revealed no significant change in suicide rates among C&A during the first wave of the pandemic (9). However, our result contradicts findings from other studies. An umbrella review reported an increased risk of suicidal behavior among C&A during the pandemic compared with before the pandemic (11). Another study in Japan showed a slight increase in suicide among teenagers during the pandemic (19). A systematic review and meta-analysis of 18 countries revealed that emergency room visits due to suicidal ideation and attempts among adolescents increased during the pandemic (16). Additionally, a study in a mental health emergency center in Spain reported a decrease in

Table 3. Prevalence of Suicide Attempts Among Children and Adolescents in the Psychiatric Emergency Room

Variables	Before the Pandemic (%) [a]			After the Pandemic (%) [b]		
	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023
Suicide						
Total	6.25	7.21	11.45	11.92	5.40	4.16
In boys	3.89	6.34	7.93	12.20	6.25	4.54
In girls	9.80	8.82	18.18	11.60	4.76	3.84
Three-year average suicide prevalence [c]	8.0	8.0	8.0	6.8	6.8	6.8

[a] Before the onset of the pandemic in Iran: March 21, 2017, to March 19, 2020.

[b] After the onset of the pandemic in Iran: March 20, 2020, to March 20, 2023.

[c] P-value = 0.868

Table 4. Methods of Suicide Attempts [a, ba, b]

Methods	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2017 - 2023
Hanging	3 (12.5)	4 (16.7)	4 (16.7)	6 (25.0)	3 (12.5)	4 (16.7)	24 (100.0)
Medication	3 (15.0)	3 (15.0)	5 (25.0)	4 (20.0)	3 (15.0)	2 (10.0)	20 (100.0)
Electrocution	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)
Falling from a height	2 (50.0)	0 (0.0)	1 (25.0)	1 (25.0)	0 (0.0)	0 (0.0)	4 (100.0)
Self-harm with a knife	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	2 (100.0)
Self-harm with a razor	0 (0.0)	0 (100.0)	0 (100.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)

[a] Values are expressed as No. (%).

[b] P-value = 0.841

referrals for adolescent suicide attempts during the pandemic (20).

One reason for the lack of an increase in suicide referrals in our study may be fear of attending the PER because of the risk of COVID-19 infection or limitations on psychiatric hospitalization and the allocation of hospital beds to patients with COVID-19 (12, 18, 21). However, suicide rates might be expected to increase because of the effects of this period on mental health, the challenges of quarantine, and COVID-19 mortality (5). During the pandemic, the use of psychiatric services for the hospitalization and treatment of C&A with self-harm decreased compared with the period before the COVID-19 pandemic (12, 18). Another possible reason for this finding may be reduced stress due to school absenteeism and increased parental care for children (15). Increased family support and togetherness could have reduced suicide risk (6).

In this study, the mean age of individuals referred for suicide attempts was 14.98 ± 1.73 years, which is near the end of middle adolescence. There was no significant change in age over the study years. However, the mean age of C&A referred to the PER significantly increased during the study period. Other studies conducted in Iran and other countries have also indicated that suicide attempts and completed suicides are more prevalent at the age of 15 years or in late adolescence than at younger ages (1, 13, 22). As individuals reach adolescence, the prevalence of depression, which can lead to suicide, also increases (2).

In the first 3 years of this study, more boys than girls were referred to the PER. However, in subsequent years, more girls than boys were referred, indicating a significant change over the study period. Conversely, among the 52 C&A who attempted suicide during the 6-year period, there were slightly more girls, and this pattern remained relatively stable throughout the study. The prevalence of suicide attempts was higher among girls between March 2017 and March 2020 and among boys between March 2020 and March 2023, which may be due to the greater effect of quarantine restrictions on boys. It may have been more difficult for boys to stay at home than for girls. This may be because girls tend to go out less frequently for sociocultural reasons in the study area. Several studies have shown a higher rate of suicide attempts in females (8, 14, 16, 18, 20, 22), whereas others have reported suicide attempts to be more common in boys (13). However, deaths by suicide are more prevalent

among boys (22). As age increases, depression, a leading cause of suicide, also becomes more prevalent in girls than in boys, which may influence study outcomes (2).

In this study, the most common method of suicide was hanging, followed by drug use. Falling from a height, self-mutilation with razors and knives, and electrocution were less commonly reported. Because AGH has a neurosurgery department, more patients may be referred to this center because of hanging and the possibility of spinal cord injury. In studies of C&A suicide in Iran, drug poisoning or hanging has been reported as the most common method of suicide (22). Access to firearms is also very limited, and suicide by this method was not reported in our study. Consistent with this study, Manzar et al., who investigated adolescent suicide across 11 countries during the pandemic, found that hanging was the most common method used (23).

In general, comparing the results of suicide studies is difficult because of multiple definitions, the influence of culture on the concept of suicide, different methods of recording suicide information, and different methods of evaluating suicide in studies. To our knowledge, similar studies have not been conducted in Khuzestan Province or Iran, and the results cannot be accurately compared. This is the first study in Iran to investigate the rate of suicide attempts among C&A in the emergency department and its changes during the COVID-19 pandemic. One strength of this study is that it investigated suicide attempts during the 3-year pandemic period and compared them with the previous 3 years. Another strength is that psychiatric interviews were conducted by psychiatrists to record information in the files; therefore, the risk of information bias was lower. Additionally, the use of the census method for data collection reduced the likelihood of sampling bias and enhanced the generalizability of the results to the study population.

5.1. Limitations

Although the only C&A psychiatric emergency center was selected, the data were limited to one center. Therefore, the results of this study may not be generalizable to other emergency centers. The study was retrospective and relied on previously recorded information, and some data may not have been accurately recorded.

5.2. Conclusions

Although the COVID-19 pandemic has had many psychological effects, there were no changes in the number of C&A referred for suicide attempts during the 3 years of the pandemic compared with the previous 3 years. Although children were less affected by COVID-19, the pandemic and quarantine had a significant impact on children's lives and mental health. Therefore, cohort studies of mental disorders that may lead to suicide are essential in the coming years as these children enter adolescence, a period when the risk of suicide increases. It is also recommended that suicide rates across different months and their correlations with different COVID-19 peaks be explored. To increase generalizability, similar multicenter studies are recommended. A clinical recommendation is to screen C&A for suicide in emergency rooms, especially emergency rooms for trauma, burns, and poisoning.

Acknowledgements

We thank the psychiatric emergency staff at AGH for providing the files for this study. This study was supported by the Clinical Research Development Unit at AGH, AJUMS, Ahvaz, Iran.

Footnotes

AI Use Disclosure: For the purpose of Translation, the Google Translate And Open Ai was used Minor in the Abstract section.

Authors' Contribution: All authors contributed to the study conception and design. Project administration and literature research were performed by Tashakori. Data collection and analysis were performed by Ayati. The first draft of the manuscript was written by Tashakori. Ayati and Riahi commented on the first draft of the manuscript. All authors read and approved the final manuscript.

Conflict of Interests Statement: The authors had no financial or any other competing interests related to this study.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication. The data are not publicly available due to privacy concerns.

Ethical Approval: This study was approved by the Bioethics Committee of Ahvaz Jundishapur University of Medical Sciences (IR.AJUMS.HGOLESTAN.REC.1402.162).

Funding/Support: The present study received no funding/support.

References

1. Nazari S, Ghazvini H, Seyedhosseini Tamijani SM, Rafaiee R. Suicide in Iranian Children: An Alarming Note for a Progressive and Silent Epidemic. *International Journal of High Risk Behaviors and Addiction*. 2025;**14**(1). https://doi.org/10.5812/ijhrba-157337.
2. Miri M, Rezaeian M, Ghasemi SA. Prevalence of suicidal ideation, suicidal action, and related risk factors in Iranian school and university students: a systematic review study. *Journal of Rafsanjan University of Medical Sciences*. 2022;**21**(5):551-74. https://doi.org/10.52547/jrums.21.5.551.
3. Ito S, Fukumoto T, Imagita H, Tabira K. Changes in Children's Physical Fitness Following the COVID-19 Pandemic: A Retrospective Study. *Innovative Journal of Pediatrics*. 2025;**35**(2). https://doi.org/10.5812/ijpediatr-158617.
4. Rahmani A, Rezaeian M. Possible effects of COVID-19 pandemic on suicide behavior in the world: a structured review study. *Journal of Rafsanjan University of Medical Sciences*. 2021;**20**(1):85-118. https://doi.org/10.52547/jrums.20.1.85.
5. Goyal K, Chauhan P, Chhikara K, Gupta P, Singh MP. Fear of COVID 2019: First suicidal case in India! Asian journal of psychiatry. *Asian Journal of Psychiatry*. 2020;**49**. 101989. [PubMed ID: 32143142]. [PubMed Central ID: PMC7130010]. https://doi.org/10.1016/j.ajp.2020.101989.
6. Sher L. Post-COVID syndrome and suicide risk. *QJM: An International Journal of Medicine*. 2021;**114**(2):95-8. [PubMed ID: 33486531]. [PubMed Central ID: PMC7928695]. https://doi.org/10.1093/qjmed/hcab007.
7. Pirkis J, John A, Shin S, DelPozo-Banos M, Arya V, Analuisa-Aguilar P, et al. Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. *The Lancet Psychiatry*. 2021;**8**(7):579-88. [PubMed ID: 33862016]. [PubMed Central ID: PMC9188435]. https://doi.org/10.1016/S2215-0366(21)00091-2.
8. Sakamoto H, Ishikane M, Ghaznavi C, Ueda P. Assessment of suicide in Japan during the COVID-19 pandemic vs previous years. *JAMA network open*. 2021;**4**(2):e2037378-e. [PubMed ID: 33528554]. [PubMed Central ID: PMC7856546]. https://doi.org/10.1001/jamanetworkopen.2020.37378.
9. Isumi A, Doi S, Yamaoka Y, Takahashi K, Fujiwara T. Do suicide rates in children and adolescents change during school closure in Japan? The acute effect of the first wave of COVID-19 pandemic on child and adolescent mental health. *Child abuse & neglect*. 2020;**110**. 104680. [PubMed ID: 32847679]. [PubMed Central ID: PMC7443207]. https://doi.org/10.1016/j.chiabu.2020.104680.
10. Hill RM, Rufino K, Kurian S, Saxena J, Saxena K, Williams L. Suicide ideation and attempts in a pediatric emergency department before and during COVID-19. *Pediatrics*. 2021;**147**(3). e2020029280. [PubMed ID: 33328339]. [PubMed Central ID: PMC8207057]. https://doi.org/10.1542/peds.2020-029280.
11. Hossain MM, Nesa F, Das J, Aggad R, Tasnim S, Bairwa M, et al. Global burden of mental health problems among children and adolescents during COVID-19 pandemic: an umbrella review. *Psychiatry research*. 2022;**317**. 114814. [PubMed ID: 36055064]. [PubMed Central ID: PMC9420079]. https://doi.org/10.1016/j.psychres.2022.114814.
12. Ougrin D, Wong BHC, 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. *European child & adolescent psychiatry*. 2022;**31**(7):1-13. [PubMed ID: 33677628]. [PubMed Central ID: PMC7937052]. https://doi.org/10.1007/s00787-021-01741-6.
13. Lovero KL, Dos Santos PF, Come AX, Wainberg ML, Oquendo MA. Suicide in global mental health. *Current psychiatry reports*. 2023;**25**(6):255-62. [PubMed ID: 37178317]. [PubMed Central ID: PMC10182355]. https://doi.org/10.1007/s11920-023-01423-x.
14. Mevorach T, Zur G, Benaroya-Milshtein N, Apter A, Fennig S, Barzilay S. A following Wave pattern of suicide-related Pediatric Emergency Room admissions during the COVID-19 pandemic. *International journal of environmental research and public health*. 2023;**20**(2):1619. [PubMed ID: 36674373]. [PubMed Central ID: PMC9860884]. https://doi.org/10.3390/ijerph20021619.
15. Liu J, Chai L, Zhu H, Han Z. COVID-19 impacts and adolescent suicide: The mediating roles of child abuse and mental health conditions. *Child abuse & neglect*. 2023;**138**. 106076. [PubMed ID: 36764172]. [PubMed Central ID: PMC9894761]. https://doi.org/10.1016/j.chiabu.2023.106076.
16. Madigan S, Korczak DJ, Vaillancourt T, Racine N, Hopkins WG, Pador P, et al. Comparison of paediatric emergency department visits for attempted suicide, self-harm, and suicidal ideation before and during the COVID-19 pandemic: a systematic review and meta-analysis. *The Lancet Psychiatry*. 2023;**10**(5):342-51. [PubMed ID: 36907199]. [PubMed Central ID: PMC10097509]. https://doi.org/10.1016/S2215-0366(23)00036-6.
17. Kirič B, Leben Novak L, Lušicky P, Drobnič Radobuljac M. Suicidal behavior in emergency child and adolescent psychiatric service users before and during the 16 months of the COVID-19 pandemic. *Frontiers in psychiatry*. 2022;**13**. 893040. [PubMed ID: 35633784]. [PubMed Central ID: PMC9130484]. https://doi.org/10.3389/fpsyt.2022.893040.
18. Llorca-Bofí V, Adrados-Pérez M, Sánchez-Cazalilla M, Torterolo G, Arenas-Pijoan L, Buil-Reiné E, et al. Urgent care and suicidal behavior in the child and adolescent population in a psychiatric emergency department in a Spanish province during the two COVID-19 states of alarm. *Revista de psiquiatria y salud mental*. 2023;**16**:76-83. [PubMed ID: 35755490]. [PubMed Central ID: PMC9212908]. https://doi.org/10.1016/j.rpsm.2022.03.003.
19. Goto R, Okubo Y, Skokauskas N. Reasons and trends in youth's suicide rates during the COVID-19 pandemic. *The Lancet Regional Health-Western Pacific*. 2022;**27**. 100567. [PubMed ID: 35966624]. [PubMed Central ID: PMC9366131]. https://doi.org/10.1016/j.lanwpc.2022.100567.
20. Gracia-Liso R, Portella MJ, Pujals-Altés E, Puntí-Vidal J, Llorens M, Pàmias M, et al. Comparing frequencies of adolescent suicide attempters pre-and during COVID-19 pandemic school terms. *BMC psychiatry*. 2024;**24**(1). 373. [PubMed ID: 38760731]. [PubMed Central ID: PMC11100050]. https://doi.org/10.1186/s12888-024-05823-y.
21. Revet A, Hebebrand J, Anagnostopoulos D, Kehoe LA, Gradl-Dietsch G, Anderluh M, et al. Perceived impact of the COVID-19 pandemic on child and adolescent psychiatric services after 1 year (February/March 2021): ESCAP CovCAP survey. *European child & adolescent psychiatry*. 2023;**32**(2):249-56. [PubMed ID: 34322720]. [PubMed Central ID: PMC8318839]. https://doi.org/10.1007/s00787-021-01851-1.
22. Mirahmadizadeh A, Rezaei F, Mokhtari AM, Gholamzadeh S, Baseri A. Epidemiology of suicide attempts and deaths: a population-based study in Fars, Iran (2011 - 16). *Journal of Public Health*. 2020;**42**(1):e1-e11. [PubMed ID: 30668878]. https://doi.org/10.1093/pubmed/fdy218.
23. Manzar MD, Albougami A, Usman N, Mamun MA. Suicide among adolescents and youths during the COVID-19 pandemic lockdowns: A press media reports-based exploratory study. *J Child Adolesc Psychiatr Nurs*. 2021;**34**(2):139-146. [PubMed ID: 33811706]. [PubMed Central ID: PMC8251361]. https://doi.org/10.1111/jcap.12313.