

ORIGINAL ARTICLE

Youth Suicides in the Second Wave of the Pandemic in Türkiye

Türkiye’de Pandeminin İkinci Dalgasında Genç İntiharları

¹Elif Benderlioglu , ^{2,3}Esra Cop , ⁴Funda Kurt , ^{4,5}Halise Akca , ⁴Ayla Akca Çağlar , ⁴Leman Akcan Yıldız 

¹Ankara City Hospital Children's Hospital, Department of Pediatrics, Ankara, Turkey
²Ankara City Hospital Children's Hospital, Department of Child and Adolescent Psychiatry, Ankara, Turkey
³University of Health Sciences, Gulhane School of Medicine, Department of Child and Adolescent Psychiatry, Ankara, Turkey
⁴Ankara City Hospital Children's Hospital, Department of Pediatric Emergency Medicine, Ankara, Turkey
⁵Medical School, Yıldırım Beyazıt University, Ankara, Turkey

Correspondence

Elif Benderlioglu, Ankara Bilkent City Hospital, Üniversiteler Mahallesi, Bilkent Caddesi, No:1. Çankaya/Ankara

E-Mail: elifbenderlioglu@gmail.com

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ABSTRACT

Objective: It is widely recognized that the COVID-19 pandemic and associated social isolation had significant short- and long-term effects on mental health worldwide. Previous studies have yielded mixed results regarding the short-term impact on mental health during the first wave of the pandemic. This study aims to investigate the influence of the second wave of the pandemic on suicide rates among children and adolescents.

Materials and Methods: This retrospective study recorded cases of self-harm among children and adolescents aged 6 to 18 years, who were admitted to Ankara Bilkent City Hospital's pediatric emergency department between November 1, 2020, and January 31, 2021. These cases were compared with those admitted during the same months one year ago, considering similar age groups and diagnoses.

Results: A total of 53 cases were included in our study, with 21 cases before the pandemic and 32 cases during the second wave. While the total number of admissions decreased during the second wave of the pandemic, there was an increase in suicide attempts. Suicide attempts were more prevalent among females, often linked to family or peer-related issues and impulsivity.

Conclusions: The findings of our study highlight the evident adverse effects on mental health during the second wave of the pandemic. To effectively address these consequences in the future, it is crucial to comprehend the devastating long-term impact of the pandemic on mental health.

Keywords: Mental health, Covid-19 pandemic, Suicide, Adolescents, Child

ÖZ

Amaç: Tüm dünyada etkili olan pandemi COVID -19 ve sosyal izolasyon döneminin ruh sağlığı üzerinde kısa ve uzun vadeli etkileri olduğu bilinmektedir. Yapılan çalışmalarda, pandemiyin ilk dalgasında, ruh sağlığına kısa vadeli etkilerle ilgili farklı sonuçlar gösterilmiştir. Bu çalışmada pandemiyin ikinci dalgasının çocuk ve ergenlerde intihar oranları üzerindeki etkisi incelenmiştir.

Yöntem: Ankara Bilkent Şehir Hastanesi pediatrik acil servisine 1 Kasım 2020-31 Ocak 2021 tarihleri arasında başvuran, 6-18 yaş aralığında ve kendine zarar verme ile ilişkili tanı kodu alan olgular retrospektif olarak toplanmıştır. Sonuçlar bir yıl önce aynı aylardaki, benzer yaş aralığı ve benzer tanıları alan olgularla karşılaştırılmıştır.

Bulgular: Çalışmamız 21'i pandemi öncesi, 32'si pandemi döneminde olmak üzere toplam 53 olgu ile tamamlandı. Pandemiyin ikinci dalgasında hastaneye toplam başvuru sayıları azalırken intihar ilişkili başvurularda artış saptanmıştır. İntihar teşebbüsü daha sıklıkla kadınlarda, ilaç alımı ile, aile ve arkadaş sorunları nedeniyle ve dürtüsel olarak görülmüştür.

Sonuç: Pandemiyin ikinci dalgasının mental sağlığa uzun vadeli etkisinin olumsuz yönde olduğunu gördük. Gelecekte harekete geçmek için pandemiyin zihinsel sağlık üzerindeki yıkıcı uzun vadeli etkisini anlamak önemlidir.

Anahtar kelimeler: Mental sağlık, Covid 19 pandemisi, İntihar, Ergen, Çocuk

Introduction

The emergence of COVID-19, a novel coronavirus, in Wuhan, China, on December 31, 2019, led to its rapid global spread, resulting in the World Health Organization (WHO) declaring it a pandemic on March 11, 2020. By December 2021, WHO reported over 270 million cases and more than 5 million deaths worldwide due to COVID-19 (1).

Many countries implemented strict social isolation measures from February to early May. Although restrictions have since been relaxed, social life has not fully returned to pre-pandemic levels. The healthcare system primarily focused on the physical health and

survival of patients, often neglecting their mental health. Economic challenges and social restrictions have been shown to have negative effects on mental health and increase the risk of suicide attempts (2). The pandemic may have heightened the risk of suicide due to limited supportive social relationships and inadequate access to mental healthcare (2,3).

Initially, children may appear to cope well with stressful events, and their depressive symptoms may remain hidden (4). However, mental health problems can become more evident later, once the devastating effects of the first wave of the pandemic have

subsided. This study aims to explore this phenomenon by examining the impact of the second wave of the pandemic on suicides among children and adolescents.

Methods

We conducted a retrospective analysis of patients aged 6-18 years admitted to the Ankara Bilkent City Hospital's pediatric emergency department with self-harm-related ICD diagnosis codes. The first wave of the Covid 19 pandemic in Türkiye began in March 2020, somewhat later than in other countries around the world. In June, the number of cases began to decline significantly. For this reason, it can be assumed that the first wave in Türkiye took place between March and June 2020, even though there is no clear data on this subject. Based on the number of cases around the world, it is assumed that the second wave of Covid 19 began in July. The increase in the number of cases in Türkiye also began at the end of July. However, the increasing restriction measures in the social life did not start immediately. Widespread implementation of the youth curfew started at the end of October. It was decided that schools, which were partially opened in September, would be completely closed in November (5,6). Due to the topic of our study, these two criteria rather than the number of cases were considered as the second wave of the pandemic, and the months of November-December and January were selected to understand the impact of the second wave of the pandemic on social life.

Cases from November, December 2020, and January 2021 (pandemic) were compared with cases from the same period one year ago (pre-pandemic).

We examined sociodemographic characteristics, suicide methods, prognosis, follow-up, suicide history, stressors and impulsivity related to suicide. The study obtained permission from the appropriate ethics committee. Statistical analysis was performed using SPSS Statistics 20 (IBM Corp, Armonk, New York), employing Pearson's chi-square test for comparing categorical variables between the pre-pandemic and pandemic periods. Nonparametric tests were used for comparing means of two independent variables that were not normally distributed. The Kolmogorov-Smirnov test was utilized to assess normal distribution. Statistical significance was set at $P \leq 0.05$.

Results

A total of 80 patients with self-harm-related ICD codes were identified, but 15 cases were excluded due to incorrect codes and 12 cases due to duplicate entries. The study was completed with a total of 53 cases, including 21 pre-pandemic cases and 32 pandemic cases. Among these cases, 81% were female, with a mean age of 16 ± 2.3 years. Drug ingestion was the most common method of suicide (83%). Females showed a higher preference for drug-induced suicide (90.2% vs. 44.4% in males, $p=0.005$). Other suicide methods included jumping from height in seven cases (13.2%) and hanging in two cases (3.8%) (Table 1).

There was one fatality from jumping, while the hanging cases were discharged without sequelae. Among the cases discharged with sequelae, most were falls from heights, with only one case being a medication-induced suicide. Conflicts with family/friends and school problems were the most common precipitating factors for suicide. Although conflicts with family were more common pandemic, conflicts with friends and school problems were more common pre-pandemic. But there was no significant difference (Table 2). Around 70% of suicide attempts were impulsive and unplanned, with 26% lacking clear predictors.

There were no significant differences in sex, age, suicide method, prognosis, follow-up, and history of previous suicide between the pre-pandemic and pandemic periods. However, there was an increase in suicide attempts following the pandemic, as evidenced by the number of emergency department admissions for children aged six years and older (Table 3). The ratio of males to females aged six years and older in pediatric emergency departments was similar pre-pandemic and pandemic period (61% vs 58.7%).

While there was no significant difference in admissions by month before the pandemic, the total number of emergency admissions increased in November after the pandemic. Despite the increase in emergency admissions in November, pandemic suicide attempts were lower (Table 4).

In 5 cases, the parents were separated, in 2 cases, one parent was deceased, and in 5 cases, social services were involved due to reasons such as previous abuse, family members, or their own involvement in criminal proceedings. There was 1 child with a migration background and 1 child was from an orphanage. In one case, a parent was being cared for due to a psychiatric illness.

Table 1: Comparison of suicide cases according to demographic and clinical characteristics before and after the pandemic

Characteristics	Pre-pandemic (n=21)	Pandemic (n=32)	p
Sex female*	19 (90.5%)	24 (75%)	0.15
Median age, years (IQR)**	15 (14-17)	16 (14-16)	0.69
Suicide method*			
Medicine/ Corrosive substance	19 (95%)	23 (74.2%)	0.057
Fall from height/Hanging	1 (5%)	8 (25.8%)	
Follow-up*			
Outpatient	7 (33.3%)	7 (21.9%)	
Inpatient	4 (19%)	12 (37.5%)	0.33
Intensive care	10 (47.6%)	13 (40.6%)	
Prognosis*			
With sequelae	1 (5%)	3 (9.7%)	1
Without sequelae	19 (95%)	28 (90.3%)	
Suicide history*			
Yes	3 (14.3%)	12 (37.5%)	0.067
No	18 (85.7%)	20 (62.5%)	
Event time*			
November	6 (28.6%)	8 (25%)	
December	7 (33.3%)	12 (37.5%)	0.94
January	8 (38.1%)	12 (37.5%)	
*Pearson's chi-square test			
**Mann Whitney U test	IQR: Interquartile range		

Table 2: Comparison of precipitating factors for suicide before and after the pandemic

Precipitating factors	Pre-pandemic	Pandemic	p
Conflict with family	7 (38.9%)	11 (50.0%)	0.53
Conflict with friends/school problems	7 (38.9%)	5 (22.7%)	
Others	4 (40.0%)	6 (27.3%)	
Pearson's chi-square test			

Table 3: Before and after the pandemic: comparison of the number of hospital admissions for ages six and older

Admissions	Pre-pandemic	Pandemic	p
Suicide	21 (0.2%)	32 (0.4%)	0.02
Others	9876 (99.8%)	7952 (99.6%)	
Total	9897	7984	
Pearson's chi-square test			

Table 4: Comparison of suicide and other emergency admissions by month

	November	December	January	P
Suicide	14 (26.4%)	19 (35.8%)	20 (37.7%)	0.43
Others	6221 (34.9%)	5746 (32.2%)	5861 (32.9%)	
Pearson's chi-square test				
	November	December	January	P
Pre-pandemic Suicide	6 (28.6%)	7 (33.3%)	8 (38.1%)	0.93
Others	2528 (25.6%)	3612 (36.6%)	3736 (37.8%)	
	November	December	January	P
Pandemic Suicide	8 ^a (25%)	12 ^b (37.5%)	12 ^b (37.5%)	0.05
Others	3693 ^a (46.4%)	2134 ^b (26.8%)	2125 ^b (26.7%)	
Pearson's chi-square test				
^{a, b} : Each subscript letter denotes a subset of admission month groups whose column proportions do not differ significantly from each other at the 0.05 level.				

Discussion

Children require parental support in managing their emotions during normal times. Only emotionally and physically healthy parents can provide adequate support. Additionally, the presence of other adults such as teachers, who can detect distress and abuse, is an important protective factor. Thus, children lacking social support due to lockdowns or lacking strong parental figures or having lost their parents face mental health concerns (3).

Suicide is a multifaceted condition influenced by various factors. Risk factors for youth suicide include preexisting psychiatric illnesses, often major depression, poor self-esteem, family conflicts, lack of supportive social relationships, and limited access to mental healthcare (2). Most mental disorders, including depression, typically originate in adolescence but often remain undiagnosed and untreated until adulthood (7).

After major social crises, the risk of suicide is expected

to increase due to both lack of social support and economic difficulties. However, in the literature, the results were different in studies conducted after previous infectious epidemics such as influenza or earthquakes. There are studies that have found an increase in the number of suicides, but also studies that have found no clear correlation or a decrease (8-10).

Crisis periods can have various early and long-term effects. During such periods, people's high-level needs are often disregarded, and their focus shifts to meeting basic needs like food and shelter. The short-term negative impact of the pandemic on the mental health of young people might be attributed to reduced physical activity, sleep disturbances, and increased time spent at home and on the internet (11). Over the long term, disruptions in routines, increasing anxiety and fears, economic challenges, and family tensions synergistically contribute to mental health issues (12).

The first wave of the COVID-19 pandemic primarily focused on physical health crises globally. However, discussions on potential mental health-related issues gained momentum once the initial devastating effects had subsided (3). Our study is not sufficient to fully understand the long-term impact of the pandemic as there is no follow-up study covering a broad time period. Nevertheless, it can give an idea of this topic as it focuses on a short period of time after the initial shocking effect of the crisis had passed.

Existing literature shows that the number of youth suicides did not change or even decreased after the first wave of the pandemic. These unexpected results were attributed to reduced school-related anxiety and changes in family and life dynamics during the pandemic (13-15). Consistent with this idea, an increase in suicides was observed during the second wave, particularly when schools reopened during ongoing social restrictions (16-18). There was no study that examined the effects of the pandemic period on youth suicides in our country. In one of the studies conducted with adolescents in Türkiye, a high rate of anxiety and depression was found during the pandemic period (19) while another study found that they and their parents were very worried about being infected with Covid 19 (20).

In Türkiye, where the first COVID-19 case was reported in early March, schools were closed on March 16. Online classes were conducted for almost a year, with only a brief period of in-person schooling. Türkiye has long implemented restrictions on individuals under 20 and over 65 from participating in the workforce. Face-to-face education resumed on September 21, 2021, but all schools nationwide were closed on November 16. Online education continued until mid-February for rural areas and early March for other regions. The second wave in Türkiye started later, in late November and early December, compared to many other countries (5, 18). Our study might not have fully assessed the impact of school reopening, as schools in our country remained closed longer than in other

countries. Although social life had not fully resumed, the continuation of online classes and exams likely increased stress among young people. Similar to existing literature, our study found an increase in the number of suicides during the second wave of the pandemic.

In Türkiye, the number of cases started to rise again in November 2020, leading to increased emergency admissions. The absence of a concurrent increase in suicides despite the rise in emergency admissions for other reasons might be attributed to the absence of major changes in the school and social lives of young individuals during that period.

Even before the pandemic, less than half of depressed young individuals had access to healthcare (21). Although healthcare utilization declined initially during the pandemic, subsequent increases in hospitalizations for conditions like anxiety and eating disorders were observed (22, 23). During the initial phase of the pandemic, our center continued to accept emergency admissions, but the inpatient psychiatric unit was closed, potentially leading to inadequate access to mental healthcare for young people with mental health problems.

Our study focused on understanding the impact of the pandemic on mental health, specifically examining the second wave. Although it is a single-center study, it holds value as it was conducted in the largest hospital in our capital city. However, our main limitation is that it is a retrospective study and does not explore other aspects of mental health. For socio-economic status, some sociodemographic data could not be obtained at all, and some, such as separated parents, attending school may have been incompletely obtained. Such information, which was explicitly mentioned in the case files, could be retrieved, but as a checklist was not drawn up for each case, it is not clear whether these situations were questioned each time.

Additionally, our study only included patients admitted to our center for suicide attempts, which limits our ability to assess the full spectrum of mental health effects.

Conclusion

During the second wave of the pandemic, there was an increase in suicide admissions among children aged six years and older. It is crucial to understand the long-term mental health impact of crisis periods like pandemics and develop preventive measures.

Our world has experienced similar infection epidemics before, and it is likely that this will also be the case in the future. Our country, which is susceptible to other major natural disasters such as earthquakes, should have a plan of action for the future crises.

For instance, an action plan could include a support program for children after a disaster, a special team for monitoring mental health, and the planning of alternative socialization areas for long-term periods of social isolation. Additionally, a staggered education

plan could be considered.

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