

Investigating the Sociodemographic Features of Attempted Suicide cases in a Paediatric Emergency Department from a Primary Healthcare Perspective

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Abstract

Background: The present study aimed to understand the causative sociodemographic factors to prevent the ever-increasing childhood suicides.

Methods: The records of the patients presented to the paediatric emergency department of Samsun Training and Research Hospital for attempted suicide between 01 January 2019 and 30 June 30 2021 were investigated in this cross-sectional, descriptive study. SPSS (version 20.0) software package was used for data analyses.

Results: A total of 61 children were included in this study. There was no record of mortality. The rate of repeated suicide attempts was 11.4% (n=7). The rate of girls who had attempted suicide (n=53, 86.9%) was higher than that of boys. The mean age of the children was 15.15±2.19 years. The parents of 48% of the cases were married. Hospital admissions most frequently occurred between 6:00 pm and 12:00 am midnight (n=22, 36.1%) and between July and September (n=20, 32.8%). Drug intoxication was the most common form of suicide (n=54, 88.5%), whereas the most frequent reason for attempting suicide was argument with a first-degree relative (n=12, 19.7%). Children with unmarried parents more frequently attempted suicide and were more frequently diagnosed with psychiatric disorders (p=0.031 and p=0.032, respectively). Children diagnosed with psychiatric disorders had a higher rate of previous attempted suicides (p=0.001).

Conclusion: It may be valuable to examine problems specific to certain age groups, pay attention to the signs, keep the primary healthcare institutions alert and develop clinical protocols for such cases to prevent suicides.

Key Words: Child, Hospital emergency service, Primary care, Suicide.

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1- INTRODUCTION

The World Health Organization classifies suicides as 'completed suicides' and 'attempted suicides'. Completed suicides are the acts that result in death. Attempted suicides, by contrast, are deliberate attempts to commit suicide with the aim of self-destruction and/or self-harm without leading to fatality (1).

The incidence of childhood and adolescent suicides has significantly increased in recent years. Suicide was the fifth leading cause of child deaths in 1980; it subsequently became the fourth leading cause of death in 1990, third in 2013 and second in 2015. Studies have suggested a number of risk factors associated with suicidal behaviour; the leading examples include age, gender, lower socioeconomic level, living alone, psychiatric diseases, stressful life, familial and genetic problems, timing of puberty, physical diseases, inadequate cognitive structuring, access to deadly weapons, sexual preferences, peer bullying, social media and digital communication (2-6). Suicidal behaviour is an important topic in the fields of psychiatry and crisis intervention owing to its urgency and life-threatening nature. Conscious interventions may play a critical role in the prevention of suicides (7). Understanding the factors associated with the increase in suicide rates may contribute to the efforts for adequately responding to this expanding public health problem.

The present study aimed to investigate certain sociodemographic data pertaining to patients presented to the paediatric emergency department for attempted suicide. The data may also contribute to the identification of young individuals who are at a higher risk of suicide and in the prevention of suicide.

2- METHODS

In this cross-sectional, descriptive study, the records of patients who

presented to the paediatric emergency service at the Gynaecology and Paediatric Campus of the Samsun Training and Research Hospital, University of Health Sciences, for attempted suicide between 01 January 2019 and 30 June 2021 were investigated. The 'Suicide Registration Forms' that were developed for attempted suicide cases presented to the emergency departments of the hospitals affiliated with the Turkish Ministry of Health, and completed and recorded by sociologists were retrospectively analysed. The forms captured information about gender, age, level of education, residential address and status of employment as well as month, time, reason and type of attempted suicide, previous suicide attempt, previous psychiatric diagnosis, type of treatment and marital status of the parents in addition to information on the child's life at home and school.

SPSS (version 20.0) software was used for data analyses. Descriptive statistics for continuous variables were expressed as mean, standard deviation and minimum and maximum values. Categorical variables were expressed as numbers and percentages. Chi-square test was used for comparing data, and $p < 0.05$ was considered statistically significant.

The approval of the Non-interventional Ethics Committee of Samsun Training and Research Hospital was obtained before the commencement of the study (approval No. GOKA/2021/13/14)

3- RESULTS

A total of 61 children presented to the hospital emergency department for attempted suicide during the study period; this constituted 0.0001% of the total admissions ($n = 384864$). There was no record of mortality. The rate of repeated suicide attempts was 11.4% ($n = 7$). The rate of girls who attempted suicide ($n = 53$, 86.9%) was higher than that of boys. The mean age of the children was 15.15 ± 2.19

years (8–17 years). The parents of 48.0% of the cases were married, 75.0% of cases studied at high school and 12.0% of cases themselves were employed. The admissions most frequently occurred within a 6-h period between 6:00 pm and 12:00 am midnight (n = 22, 36.1%) within a 3-month period between July and September (n=20, 32.8%). Drug intoxication was the most common form of suicide (n = 54, 88.5%), and the most frequent reason for attempting suicide was argument with a first-degree relative (n=12, 19.7%). In only 4.0% of the cases, the families had an income above the

poverty threshold. In addition, 57.1% of the cases had a low academic success, 77.2% had only one friend at most and 17.0% had a girlfriend/boyfriend. **Table 1** presents data on the history of suicidal attempts and psychiatric diagnoses of the cases and their families. Children with unmarried parents more frequently attempted suicide and were more frequently diagnosed with psychiatric disorders (p=0.031 and p=0.032, respectively; **Fig. 1** and **2**). Children diagnosed with psychiatric disorders had a higher rate of previous attempted suicides (p = 0.001).

Table-1: Suicidal and psychiatric history of the cases and their families

		Number (n)	Percentage (%)
Previous attempted suicide of the cases (n = 50)	Yes	14	28.0
	No	36	72.0
Psychiatric diagnosis of the cases (n = 50)	Yes	23	46.0
	No	27	54.0
Psychiatric treatment within the last 6 months (n = 49)	Yes	14	28.6
	No	35	71.4
Previous attempted suicide in the families (n = 50)	Yes	1	2.0
	No	49	98.0
Psychiatric diagnosis in the families (n = 49)	Yes	3	6.1
	No	46	93.9

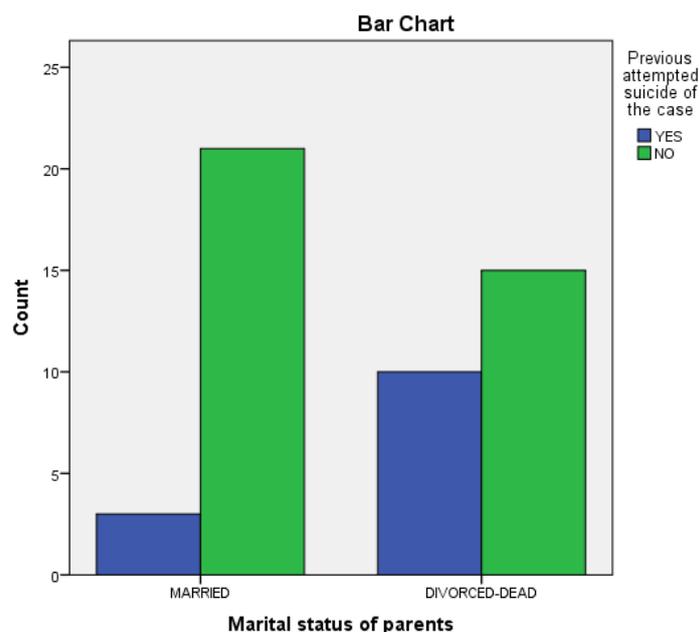


Fig. 1: Relationship between the parents’ marital status and suicide attempt of the child

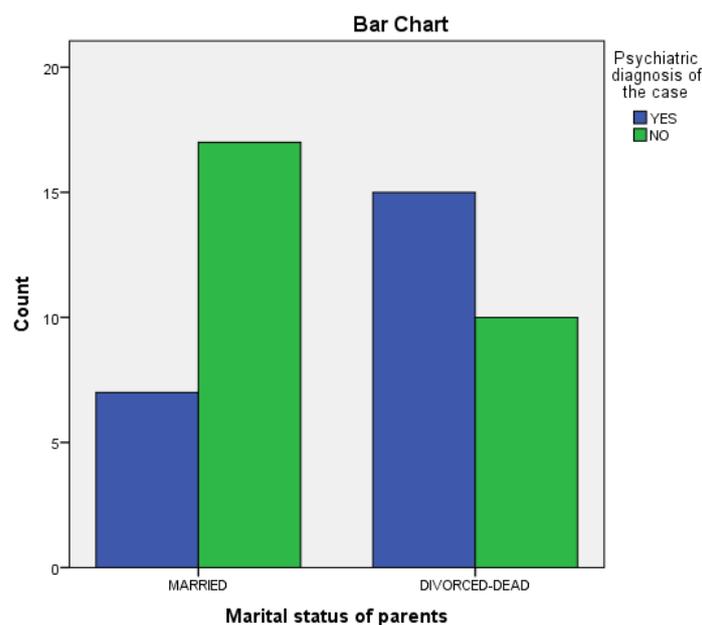


Fig. 2: Relationship between the parents' marital status and psychiatric diagnosis of the child

4- DISCUSSION

This study investigated suicide cases in children from the perspective of family medicine. The most important goal in the study plan was to make relevant inferences available for primary healthcare.

A 25-year retrospective study by Molina et al., which is one of the most comprehensive studies in literature, found that the rate of suicides in children was 5% of all suicide cases, the rate of suicide in boys was three times higher than that of suicide in girls, the mean age was 15.4 years (11–17 years), the most prevalent methods of suicide were gunshot wounds and hanging oneself, the incidence of drug intoxications was higher in girls, there was an approximately 20% rate of a history of psychiatric disorder in the completed suicide cases, 25% had a previous history of attempted suicide or suicidal thought and nearly half of cases had conflicts with their family or partner (2). Other studies have reported that the rate of attempted suicides was higher in girls and that the incidence of completed suicide was higher in boys (8-10). A psychiatric disorder was

found in approximately half of the suicidal cases (7-9). The Turkish Statistical Institute's 2019 data revealed that the number of suicide cases under the age of 15 years and between the ages of 15 and 19 years were 63 and 316, respectively; the suicide rate in boys was approximately one and a half times higher than that in girls. An examination of underlying reasons indicated higher rates of familial problems and chronic diseases, and the incidence of suicides for unknown reasons was much higher. Furthermore, hanging and firearms were the most prevalent methods of suicide (11). The results of the present study are consistent with those of the existing literature in terms of mean age, rate of previous intervention, incidence of psychiatric disease and type and cause of suicide.

A study by Can found that 74% of the cases had a lower level of income and that most attempts were made during the winter (30%) and spring (30%) seasons (12). Likewise, Asarnow et al. reported that most children in their study had low incomes (13). In a study by Gökçen and

Köylü, more than half of the cases attended high school, suicides were attempted most frequently in May, 18% had a prior attempted suicide and 31% of the attempts occurred during nighttime (14). The data of the present study on the level of income, level of education and time of suicide attempt are consistent with the existing literature; however, unlike the literature, the suicide attempts were most common during the summer season.

Kim et al. reported that the rate of cases whose parents were alive and/or lived separately was 30% (15). In our study, the rate of cases with parents living separately was higher. It is well established that the parents' not living with their child for any reason is a factor in the aetiology of suicide (16).

Suicidal attempts can be predicted in the light of certain risk factors in some cases despite the fact that it may not be possible to understand the exact reasons of an individual's decision to attempt suicide. The family doctor has a chance to observe at least the last few years of the child at risk and discuss it with the members of the family. More than 70% of adolescents are examined at the primary healthcare level at least once a year, which makes primary healthcare an important gatekeeper for adolescent health (17). In fact, it is very likely that the individual be presented to a primary healthcare institution within 30 days of death by suicide (18). Given that nearly one-third of the cases included in the present study received psychiatric treatment, these children might have been taken to a family health centre prior to the suicidal attempt for the purpose of drug prescription or managing their associated complaints.

Being aware of the personality traits of the family members and witnessing the psychosocial state of the child provides valuable inputs for primary care. It is important for the family physician, who has the opportunity to communicate with

the child during the vaccination, screening, diagnosis and treatment processes, to examine the child with a holistic approach as it is a core competency. The American Academy of Paediatrics recommends that primary healthcare providers should monitor and assess suicidal ideation in children (19, 20). Accordingly, the following tools can be integrated into primary healthcare practice in Turkey: the Columbia-Suicide Severity Rating Scale (21), which is widely recommended in child and adolescent psychiatry and designed to be used by primary healthcare providers; Ask Suicide-Screening Questions (22), an evidence-based suicide-screening tool approved by an international paediatric commission (The Joint Commission) and Youth Suicide Prevention in Primary Care (23), a model developed by Wintersteen and Diamond. Therefore, the family physician may predict the child's suicide attempt, excluding the cases without any clue.

A Youth Risk Behaviour Survey reported that 8.6% of US high school students attempted suicide in the last year and that one-third of these cases required medical treatment thereafter (24). Another relevant study found that 17.2% of high school students had serious suicidal ideation, 13.6% planned suicide, 7.4% attempted suicide, and 2.4% made an attempt that required medical attention (25). If teachers are involved in the process of referring the children at risk of suicide to family physicians, these children may be protected.

The early diagnosis and appropriate treatment of mental disorders is considered a significant strategy to prevent suicide. If primary healthcare providers identify children with mood disorders and refer their patients to child psychiatrists, whenever appropriate, the rate of suicide among children at risk may reduce (26).

The World Suicide Prevention Day, an awareness day, is celebrated on 10

September each year since 2003 to prevent suicides by means of various events worldwide (27). The purpose of this day is to raise suicide awareness in all relevant institutions; in accordance, family health centres can also contribute towards the awareness of the society by setting up stands and distributing materials and brochures.

4-1. Limitations of the study

The fact that certain information could not be verified owing to the retrospective design of the study and that there were some missing data are the most important limitations of our study. In addition, the results cannot be generalised as this was a single-centre study.

5- CONCLUSION

Childhood suicide is a tragic act, and its incidence is on the rise. It may be valuable to examine problems specific to certain age groups, pay attention to the signs, keep the primary healthcare institutions along with the families and teachers alert and develop clinical protocols for such cases to prevent suicides.

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7- REFERENCES

1. Bulut ER, Küçüker H, Bulut NS. An overview of the causes and methods of suicide from a brief history. *Cumhuriyet Medical Journal* 2012; 34: 128-137.
2. Molina DK, Farley NJ. A 25-Year Review of Paediatric Suicides: Distinguishing Features and Risk Factors. *Am J Forensic Med Pathol.* 2019; Sep; 40(3):220-226. doi: 10.1097/PAF.0000000000000485. PMID: 30994496.
3. Ghazizadeh Hashemi A, Ajilian Abbasi M, Hoseini B, Khodaei G, Saeidi M.

Youth Suicide in the World and Views of Holy Quran about Suicide. *International Journal of Paediatric.* 2014; 2(4.2):101-108. doi: 10.22038/ijp.2014.3536.

4. Ercan S, Aksoy SM, Yalçın A, Şimşek AC, Acar SR, Erçin Şahin T. Sociodemographic and clinical features of suicide attempt cases admitted to emergency services in Ankara. *Journal of Cognitive Behavioural Psychotherapy and Research* 2016; (1):5-12.

5. Bouris A, Everett BG, Heath RD, Elsaesser CE, Neilands TB. Effects of Victimization and Violence on Suicidal Ideation and Behaviors among Sexual Minority and Heterosexual Adolescents. *LGBT Health.* 2016; 3(2):153-161. doi:10.1089/lgbt.2015.0037

6. Grøholt B, Ekeberg O, Wichstrom L, Haldorsen T. Suicide among children and younger and older adolescents in Norway: a comparative study. *J Am Acad Child Adolesc Psychiatry.* 1998; 37(5):473-481. Doi: 10.1097/00004583-199805000-00008

7. Alacahan Y, Büyükkaya E, Acar H, Suicide phenomenon and prevention. (1. Oppression). (Consultants: Işık Sayıl and Rüstem Aşkın). Ankara: Ministry of Health, General Directorate of Basic Health Services, 2004.

8. Singh VD, Lathrop SL. Youth suicide in New Mexico: a 26-year retrospective review. *J Forensic Sci.* 2008; 53(3):703–708.

9. Weinberger LE, Sreenivasan S, Sathyavagiswaran L, et al. Child and adolescent suicide in a large, urban area: psychological, demographic, and situational factors. *J Forensic Sci.* 2001; 46(4):902–907.

10. Majdoub W, Mosbahi A, Naouar M, et al. Suicide in children and adolescents: a Tunisian perspective from 2009 to 2015. *Forensic Sci Med Pathol.* 2017; 13:416–425.

11. Death and Cause of Death Statistics, 2019. <https://data.tuik.gov.tr/Bulten/Index?p=Olum-ve-Olum-Nedeni-Istatistikleri-2019-33710>. Accessed on 25.10.2021
12. Can F. Evaluation of sociodemographic characteristics of adolescent cases admitted to Dicle University Medical Faculty Paediatric Intensive Care Unit due to suicide. Unpublished medical dissertation. Diyarbakir-2016
13. Asarnow JR, Baraff LJ, Berk M, et al. An emergency department intervention for linking paediatric suicidal patients to follow-up mental health treatment. *Psychiatr Serv*. 2011; 62(11):1303-1309. doi:10.1176/ps.62.11.pss6211_1303
14. Gökçen C, Köylü R. Evaluation of Cases Under 18 Years Admitted for Attempted Suicide to the Emergency Service and Transferred to the Psychosocial Support Unit. *JAEM* 2011; 18-21.
15. Kim H, Ryu JM, Kim HW. Characteristics and Trends of Suicide Attempt or Non-suicidal Self-injury in Children and Adolescents Visiting Emergency Department. *J Korean Med Sci*. 2020; 35(33):e276. Published 2020 Aug 24. doi:10.3346/jkms.2020.35.e276
16. Shek DT, Yu L. Self-harm and suicidal behaviors in Hong Kong adolescents: prevalence and psychosocial correlates. *ScientificWorldJournal*. 2012; 2012:932540. doi:10.1100/2012/932540
17. American Academy of Paediatrics. The future of paediatric: Mental health competencies for paediatric primary care. *Paediatric*. 2009; 124:410-421. doi:10.1542/peds.2009-1061
18. Ahmedani BK, Simon GE, Stewart C, et al. Health care contacts in the year before suicide death. *J Gen Intern Med*. 2014; 29(6):870-877. Doi: 10.1007/s11606-014-2767-3
19. Shain B, Committee on adolescence. Suicide and Suicide Attempts in Adolescents. *Paediatric*. 2016; 138(1):e20161420. doi:10.1542/peds.2016-1420
20. Zuckerbrot RA, Cheung A, Jensen PS, Stein REK, Laraque D; Glad-pc steering group. Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management. *Paediatric*. 2018; 141(3):e20174081. doi:10.1542/peds.2017-4081
21. Interian A, Chesin M, Kline A, et al. Use of the Columbia-Suicide Severity Rating Scale (C-SSRS) to Classify Suicidal Behaviors. *Arch Suicide Res*. 2018; 22(2):278-294. doi:10.1080/13811118.2017.1334610
22. Horowitz L, Tipton MV, Pao M. Primary and Secondary Prevention of Youth Suicide. *Paediatric*. 2020; 145(Suppl 2):S195-S203. doi:10.1542/peds.2019-2056H
23. Wintersteen MB, Diamond GS. Youth suicide prevention in primary care: A model program and its impact on psychiatric emergency referrals. *Clinical Practice in Paediatric Psychology*. 2013; 1(3): 295-305. <https://doi.org/10.1037/cpp0000028>
24. Centres for Disease Control and Prevention (CDC). Web-based Injury Statistics Query and Reporting System (WISQARS). 2016. Retrieved from: <http://www.cdc.gov/injury/wisqars/>. Date of access: 07.11.2021
25. Kann L, McManus T, Harris WA, et al. Youth Risk Behaviour Surveillance - United States, 2017. *MMWR Surveill Summ*. 2018; 67(8):1-114. Published 2018 Jun 15. doi:10.15585/mmwr.ss6708a1

26. Sisler SM, Schapiro NA, Nakaishi M, Steinbuchel P. Suicide assessment and treatment in paediatric primary care settings. *J Child Adolesc Psychiatr Nurs.* 2020; 33:187–200. <https://doi.org/10.1111/jcap.12282>
27. World Suicide Prevention Day. <https://www.who.int/vietnam/news/events/detail/2013/09/10/default-calendar/world-suicide-prevention-day> . Date of access: 07.11.2021