ARAŞTIRMA MAKALESİ

ADLİ TIP DERGİSİ
TURKISH JOURNAL OF FORENSIC MEDICINE

Geliş: 26.09.2025
Kabul: 19.12.2025

Evaluation of Forensic and Clinical Characteristics of Drug Intoxication Cases Admitted to the Pediatric Emergency Department

Pediatrik Acil Servise Başvuran İlaç Zehirlenmesi Vakalarının Adli ve Klinik Özelliklerinin Değerlendirilmesi

Mehmet Muhsin Kefçi[1], Aytaç Göktuğ[1], Gülser Esen Besli[1]

[1] Department of Pediatric Emergency, Istanbul Medeniyet University Göztepe Prof. Dr. Süleyman Yalçın City Hospital, İstanbul, Türkiye

Öz

Amaç: Bu çalışmada, çocuk acil servisine ilaç intoksikasyonu nedeniyle başvuran adli olguların demografik özellikleri, başvuru nedenleri, maruz kalınan etken maddeler, yapılan müdahaleler ve klinik seyirleri değerlendirilmiş; kaza ve özkıyım amaçlı olgular karşılaştırılmıştır.

Yöntemler: Çalışma grubunu, ilaç alımı nedeniyle adli rapor düzenlenen 304 hasta oluşturdu. Kaydedilen değişkenler arasında demografik özellikler, intoksikasyonun kökeni (kaza/özkıyım), başvuru zamanı, ilaç kategorisi, yapılan müdahaleler, konsültasyonlar ve klinik sonuçlar yer aldı. Gruplar arasındaki karşılaştırmalar ki-kare veya Fisher testi ile yapıldı ($p<0.05$).

Bulgular: Ortalama yaş 12.46±6.00 yıl olup olguların %70.4'ü kızdı. İlaç alımı erkeklerde çoğunlukla kaza (%67.7), kızlarda ise özkıyım (%80.4) amaçlıydı ($p<0.001$). Özkıyım olguları adolesan yaş grubunda, kazaya bağlı alımlar ise 0–5 yaş aralığında yoğunlaşmıştı. En sık karşılaşılan ilaç grupları nöropsikiyatrik ilaçlar, çoklu ilaç alımı ve analjezik–antipiretiklerdi; özkıyım girişimlerinde kişinin kendi ilacını kullanma oranı anlamlı düzeyde yüksekti ($p<0.001$). Olguların %90.3'üne çocuk ve ergen psikiyatrisi konsültasyonu yapılmış olup mortalite saptanmamıştır.

Sonuç: Çocukluk çağında ilaç intoksikasyonları önlenebilir bir sağlık sorunudur. Küçük yaş grubunda güvenli ilaç saklama önlemleri, adolesanlarda ise aile içi iletişim, ebeveyn kontrolünde ilaç kullanımı ve psikiyatrik destek, önleyici stratejiler arasında yer almalıdır.

Anahtar Kelimeler: Pediatri, Adolesan, Zehirlenme, İlaç, Çocuk Acil, Adli Tıp

Abstract

Aim: To evaluate pediatric drug intoxication cases presenting to a tertiary emergency department with respect to demographics, etiologies, ingested agents, interventions, and clinical outcomes, and to compare accidental and suicidal origins.

Methods: The study cohort comprised 304 patients for whom a forensic report was issued due to drug ingestion. The recorded variables included demographics, origin of intoxication (accident/suicide), time of presentation, drug category, interventions, consultations, and outcomes. Group comparisons were performed using chi-square or Fisher's exact tests (two-sided $p<0.05$).

Results: The mean age was 12.46±6.00 years, and 70.4% were female. Drug intake was predominantly accidental in boys (67.7%) and suicidal in girls (80.4%) ($p<0.001$). Suicidal cases clustered in adolescents, while accidental ingestions were concentrated in ages 0–5 years. The most common agents were neuropsychiatric drugs, multiple-drug ingestion, and analgesic–antipyretics; the use of one's own medication was significantly higher in suicide attempts ($p<0.001$). Child and adolescent psychiatry was consulted in 90.3% of the cases. No mortality occurred.

Conclusion: Pediatric drug intoxication is largely preventable. For younger children, prevention should prioritize secure storage and child-resistant practices; for adolescents, emphasis should be placed on family communication, supervised dispensing of medications, and timely psychiatric referral.

Keywords: Child, Adolescent, Poisoning, Drug Overdose, Pediatric Emergency, Forensic Medicine

Nasıl Atıf Yapmalı: Kefçi MM, Göktuğ A, Besli GE. Evaluation of Forensic and Clinical Characteristics of Drug Intoxication Cases Admitted to the Pediatric Emergency Department. Adli Tıp Dergisi 2025;39(3):(318-327) https://doi.org/10.61970/adlitip.1791384

Sorumlu Yazar: Mehmet Muhsin Kefçi, M.D., Specialist Pediatrician, Department of Pediatric Emergency, Istanbul Medeniyet University Göztepe Prof. Dr. Süleyman Yalçın City Hospital, İstanbul, Türkiye
E-posta: muhsinkefci@gmail.com

INTRODUCTION

Forensic cases are extraordinary events that arise due to external factors and result in physical and psychological impairments in an individual's health. They may occur as a consequence of one's own or another's intent, negligence, imprudence, or carelessness (1). Assault, traffic accidents, firearm and explosive injuries, injuries caused by any kind of instrument, burns, electrical injury, asphyxia, torture and ill-treatment, child abuse, falls and other injuries, poisonings, and suicide attempts are among the reasons for forensic presentations to hospitals (2). Children are continually inclined to explore and investigate and may be unaware of the potential hazards in their environment. Therefore, in situations where possible risks are not anticipated and preventive measures are not taken, accidental forensic presentations are expected to be more frequent. Worldwide, poisoning ranks among the leading preventable causes of childhood death and constitutes an important health problem requiring urgent intervention (3). According to mortality and cause-of-death statistics, the highest number of deaths among those aged 1–17 years in 2023 occurred due to external injuries and poisonings (4).

Intentional drug ingestion is a highly prevalent method of self-harm. In the post-pandemic period, several studies have demonstrated a significant increase in self-injurious behaviors and medication-related intoxications among adolescent girls in the United States, Canada, the United Kingdom, Australia, and parts of Europe. Correspondingly, the age and sex distributions of suicide attempts have shown a noticeable shift. (5). According to data from the United States, the suicide mortality rate, which was approximately 10.5 per 100,000 population in 1999, increased to 14.2 per 100,000 in 2022, corresponding to a nearly 35% increase. Mortality rates have increased across all pediatric age groups. Although substantial fluctuations have been observed within the last decade, the overall trend indicates a gradual decline from the peak level in 2016 (94 per 1000) to 2020 (70 per 1000), followed by a renewed increase. These patterns highlight the need to re-evaluate current epidemiological data and to develop targeted preventive strategies according to age- and sex-specific trends. (5–7).

In dictionaries, "poison" is defined as "mineral, botanical, animal-derived, or synthetically produced substances that, when entering a living organism, lead to deterioration in health or even death." Paracelsus stated, "All substances are poisons; the dose distinguishes a remedy from a poison." (8). Medication access and ingestion among children who grow up under parental supervision should be controlled with careful consideration of age-specific risks. When adequate attention is not paid, unintended medical and legal consequences may occur. Our study aimed to clarify the changing frequency and etiological patterns of pediatric forensic presentations due to drug intoxication in the post-COVID-19 period, while comparatively evaluating accidental and intentional ingestions.

METHODS

We retrospectively reviewed 820 forensic presentations to our tertiary pediatric emergency department between January 1, 2023 and June 30, 2024. A total of 495 cases presented for other reasons and were excluded, while 21 cases were excluded due to missing data. The final study cohort comprised 304 patients admitted following intentional or accidental drug ingestion. As the proportion of missing data was low and not expected to significantly affect the results, those cases were excluded from statistical analysis. The study flowchart is shown in Figure 1.

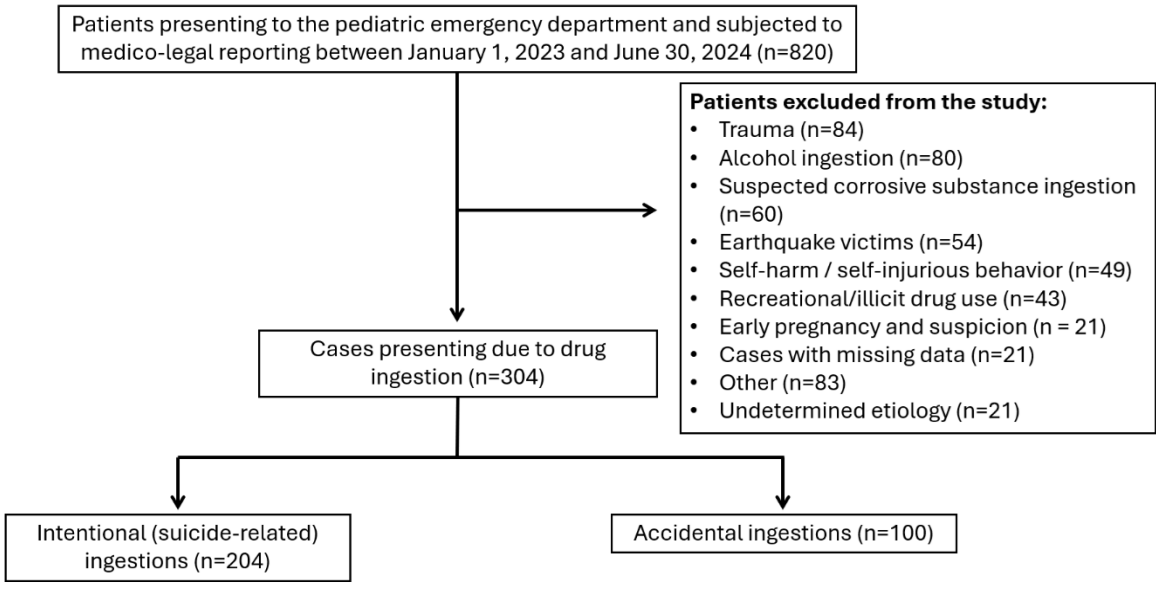

Figure 1. Study flowchart of patient selection

Patients' demographic data such as age and sex; etiology (accident, suicide); presence of concomitant self-harm; whether the event occurred in the patient's home or elsewhere; the time interval of the event (00:00-6:00 PM, 6:00-12:00 PM, 12:00-18:00 PM, 18:00-24:00 PM); the event; date and time of emergency presentation; time elapsed from the event to emergency presentation; chief complaint; category of the implicated agent; daily use of the implicated agent; physical examination notes; treatments and procedures performed; child and adolescent psychiatry and social services notes; and clinical outcomes were noted. The obtained data were compared between the drug intoxication groups with accidental and suicidal intent. Information regarding ingested medications was recorded, and drug categories were broadly classified. When the active ingredients were known, these data were verified. However, because different agents within the same drug class may lead to similar clinical effects and adverse reactions, analyses were conducted based on drug groups rather than specific compounds. Therefore, the individual names of the active ingredients were not included in the statistical comparisons. The study was approved by the Non-Interventional Clinical Research Ethics Committee of Istanbul Medipol University (Date: 10/10/2024; No: E-10840098-202.3.02-6366, Decision No: 963).

All statistical analyses were performed using IBM SPSS Statistics version 24.0 (Chicago, IL, USA). Continuous variables were expressed as mean ± standard deviation and median (minimum–maximum), while categorical variables were presented as frequencies and percentages. Group comparisons of categorical variables were conducted using the chi-square test, and Fisher's exact test was applied when chi-square assumptions were not met. For variables with more than two subgroups showing significant overall differences, post hoc pairwise comparisons were performed using the Bonferroni correction. A 95% confidence interval was adopted, and p-values <0.05 were considered statistically significant.

RESULTS

The etiological distribution of the 820 forensic pediatric emergency presentations during the study period is

presented in Table 1. Of the patients with drug intoxication (n=304), the mean age was 12.46 ± 6.00 years, and the mean ages were 14.14 ± 5.03 years in girls and 8.48 ± 6.27 years in boys. Females accounted for 70.4% of the cohort, and 66.1% of drug intoxications were intentional, whereas 33.9% were accidental.

Table 1. Etiologic distribution of forensic cases presenting to the pediatric emergency department

Etiology	Number (n)	Percent (%)
Drug intoxication	304	37.1
Trauma	84	10.2
Alcohol intake	80	9.8
Corrosive substance ingestion	60	7.3
Earthquake victim	54	6.6
Self-harm	49	6
Illicit/recreational drug use	43	5.2
Early pregnancy and suspicion	21	2.6
Foreign body aspiration	13	1.6
Drowning	9	1.1
Cardiopulmonary arrest	6	0.7
Food poisoning	6	0.7
Suspected sexual abuse	6	0.7
Inhalational poisoning	4	0.5
Other	39	4.8
Undetermined etiology	21	2.6
Total	820	100

Comparison of demographic and clinical characteristics according to etiology are summarized in Table 2.

Sex distribution differed significantly according to the reason for ingestion, with a markedly higher proportion of suicide attempts among girls (81.3%) ($p < 0.001$). Age group analysis showed that all cases in early childhood resulted from accidental ingestion, whereas intentional ingestion predominated in adolescents ($p < 0.001$). The most frequent presentation time was between 18:00 and 24:00 PM ($p = 0.006$). Arrival within the first hour was more common in the accidental group, whereas a 1–3 h delay was more frequently observed in the intentional group ($p < 0.001$). The age, drug category, and sex distributions according to ingestion origin are illustrated in Figure 2.

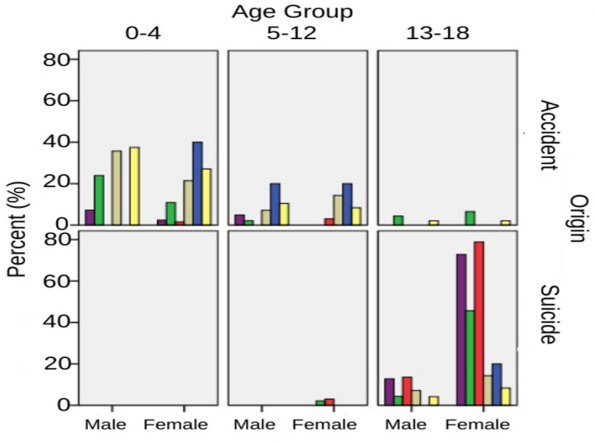

Figure 2. The distribution of sex, age group and active agent exposure according to the reason for the admission

Color codes: Drug classes: Purple - neuropsychiatric; Green - analgesic/antipyretic; Red - multiple drugs; Gray - cardiovascular; Blue - unknown; Yellow - other.

Table 2. Comparison of demographic and clinical characteristics according to etiology

	Total	Accident	Suicide	p
	n=304	n=100	n=204	
Sex, girl†	214 (70.4)	40 (18.7)	174 (81.3)	<0.001
Age, year §	15 (12)	4 (2)	17 (3)	<0.001
Age group†				
0-4	70 (23)	70 (70)[a]	0 (0)[b]	<0.001
5-12	26 (8.5)	23 (23)[a]	3 (1.5)[b]	
13-18	208 (68.4)	7 (7)[a]	201 (98.5)[b]	
Application time†				

00:00-6:00 PM	67 (22.0)	10 (10.0)[a]	57 (27.9)[b]	0.006
6:00-12:00 PM	37 (12.1)	14 (14)[a]	23 (11.2)[a]	
12:00-18:00 PM	81 (26.6)	31 (31)[a]	50 (24.5)[a]	
18:00-24:00 PM	119 (39.1)	45 (45)[a]	74 (36.2)[a]	
Application period[†]				
0-1 h	98 (32.2)	51 (51)[a]	47 (23.0)[b]	<0.001
1-3 h	117 (38.5)	34 (34)[a]	83 (40.7)[a]	
3-6 h	44 (14.5)	10 (10)[a]	34 (16.7)[a]	
>6 h	45 (14.8)	5 (5)[a]	40 (19.6)[b]	
Crime scene				
Own house	300 (98.7)	98 (98.0)	202 (99.0)	0.464
Another home/place	4 (1.3)	2 (2)	2 (1)	
Application complaint				
Asymptomatic	163 (53.6)	77 (77)[a]	93 (45.6)[b]	<0.001
GIS	61 (20)	11 (11)[a]	50 (24.5)[b]	
Neurological	67 (22)	11 (11)[a]	56 (27.4)[b]	
Respiration	1 (0.3)	0 (0)[a]	1 (0.5)[a]	
Cardiovascular	5 (1.6)	1 (1)[a]	4 (2)[a]	
Active ingredient				
Neuropsychiatric	125 (41.1)	18 (18.0)[a]	107 (52.5)[b]	<0.001
Analgesik/antipyretik	46 (15.1)	22 (22)[a]	24 (11.8)[b]	
Cardiological	14 (4.6)	11 (11)[a]	3 (1.5)[b]	
Multi-drug	66 (21.7)	3 (3)[a]	63 (30.8)[b]	
Other	48 (15.8)	42 (42)[a]	6 (2.9)[b]	
Unknown	5 (1.6)	4 (4)[a]	1 (0.5)[b]	
Source of the drug				
Own medicine	180 (59.2)	39 (39.0)	141 (69.1)	<0.001
Someone else's medicine	124 4.7)	61 (61)	63 (30.8)	
Gastric lavage	137 (45.1)	32 (32.0)	105 (51.5)	0.001
Activated charcoal	159 (52.3)	48 (48.0)	111 (54.4)	0.293
Psychiatric consultation	189 (62.2)	4 (4.0)	185 (90.7)	<0.001
Clinical course				
Outpatient follow-up	266 (87.5)	96 (96.0)[a]	170 (83.3)[b]	
Service hospitalization	18 (5.9)	1(1.0)[a]	17 (8.3)[b]	0.006
PICU hospitalization	20 (6.6)	3 (3.0)[a]	17 (8.3)[a]	

PICU, pediatric intensive care unit,[†]Number (%), [§]Median (interquartile range), [b]Groups denoted by different superscript letters in the same row differ significantly according to the Bonferroni-adjusted multiple comparison test (p <0.05).

Regarding presenting complaints, the majority of patients in the accidental group were asymptomatic (53.6%), whereas gastrointestinal and neurological symptoms were significantly more common among those with intentional ingestion (p <0.001). There were also notable differences in the types of ingested agents: neuropsychiatric medications and multiple-drug ingestions were more frequent in the intentional group, while analgesic/antipyretic and

cardiologic drugs predominated in the accidental group ($p < 0.001$). With respect to the source of the medication, it was significantly more likely to belong to the patient in intentional cases ($p < 0.001$). Gastrointestinal manifestations mainly included nausea, vomiting, and abdominal pain; neurological symptoms consisted of headache, dizziness, tremor, and paresthesia; and cardiovascular findings included syncope, palpitations, and chest pain. In our emergency department, only paracetamol levels can be measured; therefore, in cases of toxic dosing or unknown ingestion time, paracetamol levels were sampled at the fourth hour, but these data were not included in the analysis. The blood concentrations of other active substances could not be evaluated, which constitutes a limitation of this study. No severe complications such as hepatic or renal failure or QT prolongation occurred due to drug ingestion. Patients with persistent symptoms or a history of high-risk drug exposure were hospitalized in the pediatric ward or pediatric intensive care unit for close observation, whereas those whose symptoms regressed, laboratory results remained within normal limits, and who did not ingest a toxic dose were followed up on an outpatient basis.

Regarding interventions, gastric lavage and child and adolescent psychiatry consultations were significantly more frequent in the intentional ingestion group (both $p < 0.001$). In terms of clinical course, outpatient follow-up was more common in the accidental group, whereas ward admission rates were higher in the intentional group ($p = 0.006$). The intensive care unit admission rates were similar between the two groups. No mortality occurred due to drug intoxication in this study.

DISCUSSION

In this study, which simultaneously evaluated the forensic and clinical characteristics of pediatric drug intoxication cases in the post-pandemic period, accidental and intentional ingestions exhibited distinctly different demographic, clinical, and pharmacological profiles. The marked predominance of accidental ingestion among boys aged 0–5 years and intentional self-poisoning among adolescent girls highlights critical age and sex-based vulnerabilities; therefore, our findings emphasize the need to implement medication safety policies and mental health screening programs tailored to these specific risk groups.

When the age and sex distribution of our cohort (Table 2) is compared with the literature, our age profile appears consistent; however, the predominance of female patients was more pronounced in our study (9,10). This difference may be explained by the fact that trauma-related presentations, which predominantly involve male children, are not managed in our pediatric emergency department. In many hospitals across Türkiye, trauma cases are primarily evaluated in adult emergency units. If such cases were included, a male predominance would be expected. Therefore, the age–sex profile observed in our study is consistent not only with national data but also with epidemiological findings reported internationally (11,12). This is related to younger boys being more exposed to accidents due to curiosity about experiences and greater impulsive behaviors. In addition, we determined that in this age group, the most important reason for ingestion of medications was caregivers' inattentive and careless storage of medications and harmful substances under inappropriate conditions. In a study with similar results, this situation was explained by boys being more active, spending more time outside, growing up with a greater sense of freedom in society, being less supervised by parents compared with girls, and becoming an active part of the workforce at an earlier age (13,14).

Suicide is the third leading cause of death among youths aged 15–24 years in the United States, and approximately two million adolescents attempt suicide annually (15). Among deaths under 18 years of age, suicide accounts for

13.4%. Among these cases, females predominated (62.9%), and the mean age was 16.1 years (16). Suicide attempts are of direct concern to pediatricians, child psychiatrists, and parents. In the adolescent age group, the greater affective lability of girls, together with a desire to attract attention, and the observed increase in non-fatal suicide attempts may explain this significant proportion (17–19). Adolescent girls should be encouraged to communicate better with their parents within the family, to express their feelings and thoughts comfortably, and to receive guidance without entering into conflict.

In addition, their social environments and relationships with friends should be considered, and psychological pressures, such as exam anxiety, should be minimized. The peak presentation time of 18:00–00:00 in our cohort was consistent with findings reported in previous studies (1,20). The increase in accidental ingestion during this period may be associated with evening medication schedules in households, when drugs are more accessible during routine dosing. In adolescents, mood fluctuations, depressive symptoms, and impulsive behaviors tend to intensify in the evening, potentially contributing to a higher likelihood of self-harm attempts during this timeframe.

Children use imitation of adults and observation when different actions are performed as a learning method. Objects that attract attention in terms of color and shape, such as medicine boxes, arouse considerable curiosity among children. Therefore, it is important that adults living in the home take their medications in the evening in a manner that is not visible to young children. If children notice the medications, they may insist on playing with them and may accidentally ingest them during playtime. Therefore, children should be told that medications are harmful, they should not be allowed to play with them, and care should be taken to remove the medications promptly from their reach. In the adolescent age group, even if it is their own medication, attention should be paid to administering the medication under parental supervision, especially in patients using psychiatric drugs. Storing the medications of cohabiting adults in a way that is not easily accessible to children, including adolescents, will also reduce the use of medications in suicide attempts by adolescents. Children spending time in their rooms creates a period when they are out of supervision. In this situation, we recommend that no medications be kept in the room, even if they belong to the child. In the adolescent age group, in which psychological fluctuations are frequent and psychiatric support may be needed, parents should be attentive and provide necessary supervision to prevent self-harm when they notice sudden changes in their children's mood and when family conflicts are present.

When evaluated in terms of the ingested agents, although the order of frequency varies across studies, neuropsychiatric drugs, multiple-drug ingestions, and analgesic–antipyretics consistently rank among the top three categories (1,9,14,21). In our study, suicide attempts among adolescents using neuropsychiatric medications were most frequently carried out using their prescribed drugs. Similarly, one study reported that 68% of medications involved in intentional self-poisoning belonged to the patient (21). Therefore, even if the medications are their own, it is important that they are administered under parental supervision and that medications are not kept in the same room. Symptoms pertaining to the gastrointestinal system (e.g., nausea, vomiting, and abdominal pain) were more prominent. For the neurological system, symptoms and signs such as syncope, loss of sensation in the extremities, and numbness were noted. Depending on the side effects of the ingested drugs, adverse effects such as agitation, delirium, syncope, arrhythmia, and anticholinergic effects may occur. However, the absence of any complaints in more than half of the patients was noteworthy. This may be attributable to 75% of patients presenting to the hospital

within the first 3 h after the event.

Many studies have reported that, among children presenting to emergency departments with acute poisonings, the most important component of treatment is gastrointestinal decontamination. Toxic substances in the gastrointestinal tract can be removed by emesis, gastric lavage, administration of activated charcoal, cathartics, whole bowel irrigation, plasmapheresis, peritoneal dialysis, and hemodialysis. However, in recent years, the use of activated charcoal has come to the forefront instead of emesis and gastric lavage (22). Accordingly, the increased use of gastric lavage in the intentional ingestion group may be related to the higher risk nature of the agents involved, either in terms of their pharmacologic class or ingested dose. Although gastric lavage is primarily recommended within the first hour of ingestion, it may still be performed in delayed presentations when the substance is highly toxic or consumed in large quantities. In addition, activated charcoal was not administered in situations where it was unlikely to be effective against the ingested agent. These therapeutic indications may explain the intervention patterns observed in our study. No complications secondary to gastric lavage or activated charcoal were reported. An intravenous line was established and routine laboratory tests were sent; measurable drug levels (paracetamol, phenobarbital) were obtained. Gastroprotective therapy was administered to patients with gastrointestinal complaints or anticipated GI side effects based on the agent. When neurological findings were observed, close neurological examination and, when necessary, imaging were performed during follow-up. Rapid transport of patients with poisoning to the emergency department after the event plays an important role in treatment success.

The consultation rate of our patients was consistent with the literature, with the majority being referred to child and adolescent psychiatry (9). The near-universal referral of patients in the intentional ingestion group to child and adolescent psychiatry is crucial for identifying underlying psychopathology, guiding appropriate interventions, and ensuring follow-up. To reduce the risk of repeated self-harm, a standardized psychiatric evaluation protocol should be implemented in all centers (e.g., the Suicide Assessment Five-Step Evaluation and Triage [SAFE-T] tool in combination with the Columbia Suicide Severity Rating Scale [C-SSRS]). All cases of intentional self-poisoning should undergo mandatory psychiatric consultation. In adolescents who attempt suicide, decisions regarding hospitalization or discharge must consider the risk of suicide, psychiatric comorbidities, and the strength of familial and social support systems. Hospital admission is indicated in the presence of severe or persistent suicidal ideation, major psychiatric disorders (particularly depression or bipolar disorder), low Risk-Rescue Rating Scale (RRRS) scores, or an unsafe home environment (23,24). Discharge is appropriate only when suicidal thoughts have subsided, clinical stability has been achieved, family support has been reinforced, and a safe environment is secured. Therefore, the post-attempt evaluation of suicidal adolescents requires a comprehensive approach in which safe discharge planning, early follow-up, and robust psychosocial support are essential.

In cases where symptoms had improved but not fully resolved, or when a high-risk substance or high dose had been ingested, hospital admission for close monitoring was deemed appropriate by the experts. Ward and intensive care unit admission rates were significantly higher in patients with intentional ingestion. Importantly, no deaths due to drug intoxication were reported in our cohort. In this respect, our findings are consistent with previous studies (1). In a study evaluating forensic cases in the pediatric intensive care unit, two patients (1.27%) died due to poisoning; these deaths were reported to result from multiple organ failure following ingestion of numerous and unknown medications

(14). Although mortality and morbidity rates in childhood intoxication cases are low, measures should be taken and awareness efforts should continue to eliminate these rates entirely, which arise from preventable causes.

This study had several limitations. Owing to its single-center, retrospective design, causal relationships cannot be definitively established. Some clinical and presentation data were incomplete, resulting in the exclusion of 21 patients from the analysis. Additionally, the lack of post-discharge follow-up data limits the evaluation of long-term clinical and psychosocial outcomes of the study. Except for paracetamol, serum drug concentrations could not be assessed, and laboratory parameters were not included in the analysis. Therefore, the findings should be interpreted with caution in light of these considerations.

In conclusion, accidental and intentional drug ingestion in childhood demonstrates markedly different clinical and forensic characteristics. Safe medication storage strategies are crucial during early childhood, whereas in adolescence, psychiatric evaluation, mood monitoring, and strengthened family communication play pivotal roles. Accurate identification of high-risk groups and the implementation of targeted preventive programs will help reduce morbidity and mortality in pediatric emergency practice.

Declarations

Conflict of Interest

The authors declare that they have no conflict of interest related to this article.

Funding

The authors declare that no financial support was received for this study.

KAYNAKLAR

1. Bolat A. Evaluation of forensic cases admitted to the pediatric emergency department. J Health Sci Med. 2023;6(1):111–5. https://doi.org/10.32322/JHSM.1197015

2. Sever M, Saz EU, Koşargelir M. An evaluation of pediatric medico-legal admissions to a tertiary hospital emergency department. Ulus Travma Acil Cerrahi Derg. 2010;16(3):260–7.

3. Öztoprak Ü, Energin V. Evaluation of Cases Presenting to the Pediatric Emergency Department Due to Poisoning [in Turkish]. J Contemp Med. 2020;10(4):585–90. https://doi.org/10.16899/JCM.679961

4. TÜİK Kurumsal [Internet]. [cited 2025 Dec 7]. Available from: https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2024-54197

5. Koppen A, Thoonen IMJ, Hunault CC, van Velzen AG, de Lange DW, Rietjens SJ. Significant increase in deliberate self-poisoning among adolescents during the second year of the COVID-19 pandemic. J Adolesc Health. 2023;73(2):319–24. https://doi.org/10.1016/j.jadohealth.2023.02.041

6. Predescu E, Calugar I, Bibu-Monus C, Sipos R. Trends and prevalence of hospital admissions related to deliberate self-poisoning in Romanian adolescents between 2016 and 2022. Children (Basel). 2023;10(5):790. https://doi.org/10.3390/children10050790

7. NCHS Data Query System. Suicide deaths [Internet]. Hyattsville (MD): National Center for Health Statistics; [cited 2025 Dec 7]. Available from: https://www.cdc.gov/nchs/dqs/index.html.

8. Dökmeci İ. Toksikoloji - Zehirlenmelerde Tanı ve Tedavi. 3rd ed. İstanbul: Nobel Tıp; 1991

9. Polat S, Terece C, Yaman A, Gurpinar K. Evaluation of forensic cases in pediatric intensive care unit. Sisli Etfal Hastan Tip Bul. 2021;55(1):122–8. https://doi.org/10.14744/SEMB.2019.73693

10. Arslan İ, Demir KI. Evaluation of forensic cases presented to pediatric emergency department. Turk J Emerg Med. 2022;22(3):137–42. https://doi.org/10.4103/2452-2473.348432

11. Singer CE, Văruț RM, Singer M, Cosoveanu S, Abdul Razzak J, Popescu ME, Gaman S, Petrescu IO, Popescu C. Epidemiological and Clinical Characteristics of Pediatric Acute Drug Intoxications: A Retrospective Analysis. Children (Basel). 2024;12(1):44. https://doi.org/10.3390/children12010044

12. Pac-Kożuchowska E, Krawiec P, Mroczkowska-Juchkiewicz A, Mełges B, Pawłowska-Kamieniak A, Kominek K, Gołyska D. Patterns of Poisoning in Urban and Rural Children: A Single-Center Study. Adv Clin Exp Med. 2016;25(2):335-40. https://doi.org/10.17219/acem/36142

13. Kadıoğlu E. Pediatric forensic cases: an emergency department experience. Turk J Forensic Med. 2018;32(1):1–9. https://doi.org/10.5505/ADLITIP.2018.43765

14. Duramaz BB, Yıldırım HM, Kıhtır HS, Yeşilbaş O, Şevketoğlu E. Evaluation of forensic cases admitted to pediatric intensive care unit. Turk Pediatri Ars. 2015;50(3):145–50. https://doi.org/10.5152/TurkPediatriArs.2015.2399

15. Kennedy SP, Baraff LJ, Suddath RL, Asarnow JR. Emergency department management of suicidal adolescents. Ann Emerg Med. 2004;43(4):452–60. https://doi.org/10.1016/j.annemergmed.2003.09.009

16. Arslan M, Akçan R, Hilal A, Batuk H, Çekin N. Suicide among children and adolescents: data from Cukurova, Turkey. Child Psychiatry Hum Dev. 2007;38(4):271–7. https://doi.org/10.1007/s10578-007-0060-y

17. Park J, Jeon W, Ko Y, Choi YJ, Yang H, Lee J. Comparison of the clinical characteristics of pediatric poisoning patients before and during the COVID-19 pandemic. J Korean Med Sci. 2022;37:e337. https://doi.org/10.3346/jkms.2022.37.e337

18. Yazar A, Akın F, Türe E, Odabaş D. Evaluation of Medico-Legal Cases Admitted to the Pediatric Emergency Department [in Turkish]. Dicle Med

J. 2017;44(4):345–53. https://doi.org/10.5798/dicletip.362395

19. Kırcı GS, Öztürk DU, Bölükbaşı HS, Çakır H, Özer E. Evaluation of intoxication cases admitted to the pediatric emergency department between 2016–2021. Bull Leg Med. 2023;28(1):66–73. https://doi.org/10.17986/blm.1638

20. Ökçesiz AK, Kozacı N, Avcı M, Demirel B. Evaluation of pediatric forensic cases presented to emergency department. Disaster Emerg Med J. 2018;3(3):75–81. https://doi.org/10.5603/DEMJ.2018.0018

21. Larson EK, Johnson KP, Sheridan DC. Sources of medications used by children and adolescents for intentional ingestion: a retrospective chart review. Pediatr Emerg Care. 2022;38(4):e1213–6. https://doi.org/10.1097/PEC.0000000000002553

22. Sarıkayalar F, Uzel N, Karaböcüoğlu M, Üçsel R, Çıtak A. (2001). Poisonings in Children [in Turkish]. Katkı Pediatri Derg. 2001;22:377–95.

23. Czyz EK, King CA. Longitudinal trajectories of suicidal ideation and subsequent suicide attempts among adolescent inpatients. J Clin Child Adolesc Psychol. 2015;44(1):181–93. https://doi.org/10.1080/15374416.2013.836454

24. Kim HJ, Lee DH. Predictive factors for medical hospitalization in patients visiting the emergency department after suicide attempt. BMC Psychiatry. 2021;21:580. https://doi.org/10.1186/s12888-021-03089-2