



Why do Parents Choose to Attend the Emergency Department? A Cross-Sectional Study

 **Nevin Cambaz Kurt**,  **Esin Yıldız Aldemir**,  **Tuğçe Kurtaraner**

Department of Pediatrics, Başakşehir Çam and Sakura City Hospital, Istanbul, Türkiye

Abstract

Introduction: The aim of this study is to assess the parents' reasons for choosing to attend the pediatric emergency department. Moreover, the levels of awareness of parents about the patient complaints to an emergency service as well as their level of socio-cultural level were investigated.

Methods: Patients aged 0–18 years who admitted to the pediatric emergency department during working hours in 2020 were enrolled in the study. The mothers were asked about the 10-question questionnaire form. The results were statistically evaluated.

Results: Two hundred and ninety patients were enrolled in the study. Most common symptoms on admissions were upper respiratory tract infection symptoms (%74) such as fever and runny nose/nasal congestion. Parents were asked about their reasons go to the pediatric emergency department; the reasons given by parents include that they think the situation is urgent (61%).

Discussion and Conclusion: We found that the main reasons the emergency departments are so busy is that families are particularly concerned about fever and want to get treatment quickly. Furthermore, we believe that increasing awareness on this subject among patients with low socio-cultural level will considerably reduce the rate of emergency admissions.

Keywords: Children; emergency department; fever; mother; patient; triage.

Admissions to emergency services for non-urgent situations remain on the agenda as a global issue. A study from Australia reported that admissions to the pediatric emergency department of the pediatric hospital increased by 40% in the last three years^[1].

According to 2017 data from the Ministry of Health in Turkey, the number of admissions to the pediatric emergency department in the first nine months was approximately 296 million; according to the 2008 report of the Pediatric Emergency and Intensive Care Association, it

was reported that pediatric patients account for 30% of all emergency admissions^[2]. In the United States, it was highlighted that emergency service admissions account for 25% of all admissions, and admissions to pediatric emergency units increased by 14.4% in the last decade^[3].

The rising number of admissions to the emergency departments may lead to some challenges for health care workers in the emergency department when choosing, assessing, and setting the treatment priorities for these patients. One of the reasons for this is that there are inap-

Correspondence: Nevin Cambaz Kurt, M.D. Department of Pediatrics, Başakşehir Çam and Sakura City Hospital, Istanbul, Türkiye

Phone: +90 533 372 22 65 **E-mail:** nevinbinnurkurt@gmail.com

Submitted Date: 28.07.2021 **Revised Date:** 28.07.2021 **Accepted Date:** 25.11.2021

Copyright 2023 Haydarpaşa Numune Medical Journal

OPEN ACCESS This is an open access article under the CC BY-NC license (<http://creativecommons.org/licenses/by-nc/4.0/>).



appropriate admissions to the emergency department^[4]. An “inappropriate” admission to the emergency department refers to a condition where a patient’s complaints do not require emergency service experiences and emergency intervention and can be treated in primary care by a general practitioner or family physician. It is well known that most admissions to the emergency department are not true emergencies, and these patients can be treated outside of emergency departments. One study reported that 37% of patients preferred the emergency department because they could not get an outpatient appointment^[5]. A retrospective study in our country reported that 48.8% of the 46,038 patients admitted to the pediatric emergency department were admitted outside working hours, and 97.6% were sent home without hospitalization for treatment^[6].

Our clinic, with 522,364 pediatric emergency admissions in 2019, is one of the third-level emergency clinics with the highest number of patient admissions in our country.

Our present study aims to assess the parents’ reasons for attending the pediatric emergency departments and the levels of awareness of parents about admission complaints to an emergency service. Furthermore, the effect of the parents’ sociocultural level on admission to the emergency service was assessed.

Materials and Methods

The present study was conducted prospectively with patients admitted to our hospital’s pediatric emergency department during working hours between August 1, 2020, and January 1, 2021.

Ethical approval for the study was obtained from the local ethics committee on July 08, 2020 and number 131 and the Declaration of Helsinki conducted the study.

The inclusion criteria were defined as children aged 0–18 years presenting with their parents during working hours (8.30–16.30), having a complaint that did not require urgent intervention, and parents agreeing to answer the survey questions; exclusion criteria were defined as children presenting due to trauma, patients arriving by 112 ambulance, and those too urgent to wait for evaluation.

The survey questions were prepared by compiling the existing literature^[2,5-8]. Seven hundred and forty-two parents were invited to the study and 290 (39%) participated. Written informed consent was obtained from all parents who participated in the study.

The questions included information about sociodemographic characteristics such as the child’s age, gender,

parental educational level (primary/secondary-high school/university), admission complaint (fever, runny nose, cough, abdominal pain, diarrhea and vomiting, other), and reason for admission to the emergency department (to believe in its urgency, not to be admitted to an outpatient clinic, closeness to their own home, to receive service quickly), the time of the previous admission and whether the admission was an emergency or outpatient clinic, their compliance with the previous treatment given (whether they used the drug regularly or not), whether the reason for the application was a previous illness or another illness and whether it was a chronic disease or not.

Each case was first met by the triage physician in the emergency department. Here, as a result of the evaluation performed using the Canadian Triage Scale (Canadian Triage and Acuity Scale), the patients were divided into three groups based on color coding: Green-Yellow-Red^[9]. While the green and yellow groups were categorized as minor diseases and formed the study group, the red group was considered major causes and was excluded from the study. The patient admitted to the yellow and green areas took anamnesis, was thoroughly assessed, and their treatment was planned and scheduled. Following that, the survey questions were asked of the parents.

SPSS Statistics 26 academic edition software was used to create a statistical database. Visual (histograms and probability graphs) and analytical methods (Kolomogorov-Smirnov/Shapiro-Wilks) were used to assess the variables’ suitability to normal distribution. Descriptive analysis; used mean and standard deviation for normally distributed variables while using median (minimum-maximum) values for ordinal variables that did not fit the normal distribution.

The variables were compared using the Mann-Whitney U test for non-normally distributed variables. The categorical variables were analyzed with the χ^2 and Fisher’s exact tests. The results were evaluated at a 95% confidence interval, and significance was set at $p < 0.05$.

Results

The study included 209 patients admitted during working hours, did not require emergency intervention, applied for minor reasons, and were directed to the yellow and green triage areas.

Considering the patients’ gender, 145 (50%) were girls and 145 (50%) were boys. 180 (62%) of the patients were under five. Triage color was; yellow 46 (15.9%), green 244 (84.1%). As for admission complaints, 96 (33%) of the patients had

upper respiratory tract infection findings (runny nose, nasal congestion, and cough), 87 (30%) had just cough, 35 (12%) had only fever, 29 (10%) had diarrhea and vomiting, and 17 (6%) had only admitted with abdominal pain. Less common causes included headache/dizziness in 6 (2%) of cases, chest pain in 4 of cases (1%), bowel obstruction in 4 (1%) of cases, skin rash in 3 (1%), and 13 (4.4%) patients were listed as other causes.

When the parents were asked about why they attended the emergency service, 177 (61%) of the parents stated that they viewed it as urgent, 104 (36%) said they couldn't get an outpatient clinic appointment, 3% stated that they attended because of closeness to their home and were thinking of getting service quickly.

Table 1 shows the educational status of the parents to evaluate their sociocultural status. A total of 73.1% (212) mothers and 68.9% (200) fathers were primary school graduates. There was no difference between the child's admission complaint, the reason for emergency admission, and the

mother's educational level ($p > 0.05$) (Table 2).

As the sociocultural level decreased, the admission rate to the yellow triage area increased statistically ($p = 0.03$). It was found that the higher the mother's education level, the more frequently the children with chronic diseases present to the emergency unit ($p = 0.04$).

Most patients admitted to the emergency department had been admitted to the emergency department before (Table 3).

The number of patients who complied with the treatment given in the previous examination (using the given drug regularly) was 242 (83.4%). Although no difference was found between compliance with treatment and patient age and gender, the difference between triage color and treatment compliance was significant. Sixteen (34.7%) of the patients who applied to the yellow area failed to comply with the treatment ($p = 0.02$).

The difference between the previous admission time and the reason for admission was significant; the patients reapplied in a shorter time because they assumed they had not been treated for the same reason ($p = 0.01$). For 72% (147) of patients, the preceding application place was the emergency department.

A total of 78% (226) of the families had a thermometer in their homes. When the mother's educational attainment was investigated in terms of whether or not she had a thermometer at home, the rate of having a thermometer at home increased as the mother's educational level increased ($p = 0.00$).

When mothers were asked to define fever, 64 (22.1%) of them defined fever as it was 37°C or higher, 138 (47.6%) as it was 37.5°C or higher, and 64 (22.1%) as it was 38°C or

Table 1. Parents' educational level

Mother's educational status	n	%
Primary school	212	73.10
High school	46	15.86
University	20	6.90
Illiteracy	12	4.14
Father's Educational Status		
Primary school	200	68.97
High school	68	23.45
University	19	6.55
Illiteracy	3	1.03

Table 2. Mother's educational level

Mother's education Complaint	Primary-secondary school n (%)	University n (%)	p
Fever	85 (41.6)	6 (53.4)	0.12
Common cold and cough	120 (58.8)	63 (73.2)	
Diarrhea and vomiting	21 (10.2)	8 (9.3)	
Pain	17 (8.3)	10 (11.6)	
Other	8 (3.7)	5 (5.8)	
The reason for emergency admission			
To believe its urgency	120 (61.7)	52 (60.4)	0.84
Not to admitted to an outpatient clinic	74 (36.2)	33 (38.3)	
Closenes to their own home	4 (2.1)	1 (1.1)	

$p < 0.05$.

Table 3. Previous admission place

	n	%
Emergency Department	209	72.1
Emergency Dep.+ Family physician	2	0.7
Family physician	49	16.9
Outpatient clinic	29	10.0
None	1	0.3

higher. Twenty-four (8.3%) people answered this question as "I do not know." When the mothers' educational level who gave the correct definition of fever was examined, there was no significant difference between their educational levels ($p=0.12$).

When mothers were asked if they gave any antipyretics, 134 (26.2%) responded that they did not. When the mother's educational attainment was examined to the state of providing antipyretic, the rate of giving antipyretic increased as the educational status increased ($p=0.00$).

One hundred and eighty-four mothers who believed fever is harmful were primary school graduates, whereas 59 (20.3%) were high school and university graduates. There was no difference between groups regarding mothers' educational attainment and their beliefs about fever ($p=0.57$).

A total of 10.7% (31) of the patients had a chronic illness. There was no statistical difference in the frequency of admission to the emergency department between the chronic and non-chronic disease groups ($p=0.98$). It was found that the most common reason for admission in both cases with and without chronic disease was that the disease did not recover ($p=0.01$). Those with chronic disorders, however, applied more frequently for reasons associated with their disease ($p=0.02$).

Discussion

The patient's expectation of acute and rapid solutions to their health problems is an important factor in their preference for emergency departments. Admissions to the emergency departments of hospitals are increasing daily; this burdens emergency services in terms of medical equipment and health care personnel. This issue remains on the agenda in our country and other countries^[4,10-13].

In our study, the non-urgent admission rate to the emergency department reasons was 86%. This rate was higher than that reported in the literature. Karakaş et al.^[2] reported that 47.7% of the patients admitted to the emergency department were discharged with recommendations without a prescription. Yılmaz et al.^[10] reported that 66.7% of

the patients admitted to the emergency department were discharged with a prescription. In a five-year retrospective evaluation of the admissions to the emergency department of a university hospital, it was found that 49.5% of the patients were admitted for non-emergency reasons^[12].

In our study, when the mothers were asked why they preferred the pediatric emergency department, 61% of them viewed that the disease needed urgent treatment, while 36% stated that they came to the emergency department because they could not get an outpatient appointment; a very small part of them admitted to the emergency department because they were close to home and were considering receiving services quickly. In the study by Williams et al.^[11] from Australia, 60% of parents reported that they viewed their children's illness as serious, and 24% preferred it because a specialist doctor saw them in the emergency department. This result coincides with the outcome of our study.

Burokiene et al.^[14] reported that 78.2% of patients admitted to the emergency department were non-urgent in Lithuania. The same study found that only 18.2% of 148 children whose families brought in were deemed urgent. A meta-analysis reported that patients preferred emergency rooms because they thought their condition was serious; other reasons were that they were close to their homes and wanted to receive fast service^[10].

It was reported that the reason for parents to apply to the emergency department was that they believed that their children's condition was urgent and would worsen if they waited; they also thought that faster and better quality service was provided and that there was a more experienced physician in the emergency department than in primary care^[15].

The studies conducted in most countries, including Türkiye, emphasized that most emergency admissions were not urgent and should be made to outpatient clinics^[12-14].

Our study found that 74% of the most common reasons for the presentation were upper respiratory tract infection complaints, such as fever and runny nose/nasal congestion. Yılmaz et al.^[10] reported that the most common acute upper respiratory tract infection diagnosis was 53%.

Türe et al.^[13] found that the most common reason for the presentation was the complaint of upper respiratory tract infection, with 34.9%. Burokiene et al.^[14] reported that 79% of the patients who applied to the emergency unit were diagnosed with acute upper respiratory tract infection. This ratio was close to the result of our study. In the same study, parents stated they went to the emergency service because they believed their child's illness required urgency.

In our study, 22% of mothers accurately defined fever, and there was no difference in educational levels. It has been found that a large proportion of parents have a fever phobia. Butun et al.^[15] found in their meta-analysis study that parents brought their children to the emergency department because they were concerned about fever. According to a study conducted by Kua et al.^[11] in Singapore, parents who applied to the emergency department were worried about their children's fevers.

Admissions to the emergency department are seen to be largely for reasons such as fever and upper respiratory tract illnesses, which the policlinic service can treat. We envisage that training parents on how to manage their children's fever will remove their concerns and, as a result, reduce the number of admissions to the emergency department.

A total of 62% of the patients were under the age of five. Kua et al.^[11] reported that 50% of the patients were between the ages of four and seven. Temizkan et al.^[12] reported that 69.6% of the patients were under the age of three, whereas Türe et al.^[13] reported that 46.2% of the patients were under the age of five. As can be seen, most patients admitted to the emergency department are in the age group of five and under. Because these are the ages at which children start kindergarten, the fact that this age group is sick more often than older ages may play a role.

The present study found that 70% of mothers and fathers had lower educational levels than the literature when examined on a socio-cultural basis. The fact that our hospital is located in a settlement with a relatively low socio-economic status might have an impact on it. The study reported from Australia emphasized that 47% of mothers and 51% of fathers have higher education^[1]. Burokienié et al.^[14] in their study, reported that 54.5% of the parents were university graduates. It has been reported that patients with low socioeconomic status prefer the emergency department more^[2,16-18]. The result of our study is consistent with the literature.

Limitation

This study had some limitations. Our study is that it is single-centered and was conducted in a short period with a limited patient population. The admission complaints could have changed if they had been done longer.

Conclusion

Our study found that most patients were admitted to the emergency department because they believed their child's illness was urgent. Raising awareness about fever management can reduce admissions to the emergency department.

The public should regularly be educated on this issue by providing information about emergency patients and triage in visual and printed media in the potential of emergency patients, primarily consisting of people from low socio-cultural backgrounds.

The study was presented as a poster at the 19th Çukurova Pediatrics Days held on March 19-20, 2021.

Ethics Committee Approval: Ethical approval for the study was obtained from the local ethics committee with the date July 08, 2020 and number 131 and the Declaration of Helsinki conducted the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions: Concept: E.Y.A., T.K.; Design: E.Y.A., T.K.; Supervision: E.Y.A., T.K., N.C.K.; Data Collection or Processing: E.Y.A., T.K.; Analysis or Interpretation: E.Y.A., T.K., N.C.K.; Literature Search: N.C.K., E.Y.A.; Writing: N.C.K.; Critical Review: E.Y.A., T.K., N.C.K.

Conflict of Interest: None declared.

Financial Disclosure: The authors declared that this study received no financial support.

References

- Williams A, O'Rourke P, Keogh S. Making choices: Why parents present to the emergency department for non-urgent care. *Arch Dis Child* 2009;94:817–20. [\[CrossRef\]](#)
- Karakaş N, Özdemir B, Kılıç S, Akbulut Ö. Causes of pediatric emergency department applications of parents: 4 years follow-up. *Osmangazi J Med* 2020;42:67–74.
- Rasooly IR, Mullins PM, Alpern ER, Pines JM. US emergency department use by children, 2001-2010. *Pediatr Emerg Care* 2014;30:602–7. [\[CrossRef\]](#)
- Durand AC, Palazzolo S, Tanti-Hardouin N, Gerbeaux P, Sambuc R, Gentile S. Nonurgent patients in emergency departments: Rational or irresponsible consumers? Perceptions of professionals and patients. *BMC Res Notes* 2012;5:525. [\[CrossRef\]](#)
- Baykan O, Meral O, Ozturk T, Gonullu H. Characteristics of non-urgent visits in emergency department. *Ann Med Res* 2021;28:906–11. [\[CrossRef\]](#)
- Pakdemirli A, Orbatu D, Berksoy E. Evaluation of the patients admitted to the pediatric emergency service: Cross-sectional analysis of the pediatric emergency and trauma clinic of a tertiary training hospital in Turkey. *Ulus Travma Acil Cerrahi Derg* 2020;26:296–300.
- Ogilvie S, Hopgood K, Higginson I, Ives A, Smith JE. Why do parents use the emergency department for minor injury and illness? A cross-sectional questionnaire. *JRSM Open* 2016;7:2054270415623695. [\[CrossRef\]](#)
- Butun A, Hemingway P. A qualitative systematic review of the reasons for parental attendance at the emergency department with children presenting with minor illness. *Int Emerg Nurs* 2018;36:56–62. [\[CrossRef\]](#)

9. Jiménez JG, Murray MJ, Beveridge R, Pons JP, Cortés EA, Garrigós JB, et al. Implementation of the Canadian Emergency Department Triage and Acuity Scale (CTAS) in the Principality of Andorra: Can triage parameters serve as emergency department quality indicators? *CJEM* 2003;5:315–22.
10. Yılmaz AA, Köksal AO, Ozdemir O, Yılmaz S, Yıldız D, Kocak M, et al. An evaluation of cases presenting to the pediatric emergency department of a training and research hospital. *Turkish J Pediatr Dis* 2015;1:18–21.
11. Kua PH, Wu L, Ong EL, Lim ZY, Yiew JL, Thia XH, et al. Understanding decisions leading to nonurgent visits to the paediatric emergency department: Caregivers' perspectives. *Singapore Med J* 2016;57:314–9. [\[CrossRef\]](#)
12. Temizkan RC, Önder NB, Ankaralı HK, Kocabay K. Bir tıp fakültesi hastanesinin çocuk acil servisine başvuran hastaların özellikleri. *Anadolu Kliniği Tıp Bilimleri Derg* [Article in Turkish] 2019;24:122–31. [\[CrossRef\]](#)
13. Türe E, Eraslan E, Yazar A, Akın F, Odabaş D. Evaluation of clinical and demographical characteristics of the patients who admitted to the pediatric emergency department of a university hospital. *Haydarpasa Numune Med J* 2020;60:292–9. [\[CrossRef\]](#)
14. Burokienė S, Raistenskis J, Burokaitė E, Čerkauskienė R, Usonis V. Factors determining parents' decisions to bring their children to the pediatric emergency department for a minor illness. *Med Sci Monit* 2017;23:4141–8. [\[CrossRef\]](#)
15. Butun A, Linden M, Lynn F, McGaughey J. Exploring parents' reasons for attending the emergency department for children with minor illnesses: A mixed methods systematic review. *Emerg Med J* 2019;36:39–46. [\[CrossRef\]](#)
16. Coster JE, Turner JK, Bradbury D, Cantrell A. Why do people choose emergency and urgent care services? A rapid review utilizing a systematic literature search and narrative synthesis. *Acad Emerg Med* 2017;24:1137–49. [\[CrossRef\]](#)
17. Kangovi S, Barg FK, Carter T, Long JA, Shannon R, Grande D. Understanding why patients of low socioeconomic status prefer hospitals over ambulatory care. *Health Aff (Millwood)* 2013;32:1196–203. [\[CrossRef\]](#)
18. Andrews H, Kass L. Non-urgent use of emergency departments: Populations most likely to overestimate illness severity. *Intern Emerg Med* 2018;13:893–900. [\[CrossRef\]](#)