



## ARAŞTIRMA / RESEARCH

# In-hospital pediatric patient transfers to the pediatric emergency department

Hastane içi alandan çocuk acil servise yapılan hasta nakilleri

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### Abstract

**Purpose:** The aim of this study was to determine whether the clinical features of the cases referred from in-hospital areas to the pediatric emergency department (ED) with “reverse transport” have emergency characteristics and the reasons for the transfer, and to contribute to intra-hospital transfer protocols to be prepared.

**Materials and Methods:** This is a retrospective cohort study. The clinical properties of 120 patients who were sent to the ED from the hospital area were evaluated.

**Results:** 57.5% (69) of the patients were male and the median age was 42 months (0-210 months). 45.8% (55) were referred to the ED because their clinical condition required emergency treatment. 54.8% of these patients were stable according to Pediatric Assessment Triangle (PAT) and 78.6% were category 3, 4, 5 according to Emergency Severity Index (ESI). Only 4 patients received ESI life-saving procedures. 70% (84) were treated in the ED. There was a statistically significant difference between the PAT and ESI and the group of patients whose clinical status needed urgent treatment.

**Conclusion:** Most of the patients sent to PED from other wards within the hospital are stable patients. For the effective use of the PED, the patients who will be transferred to the PED should be carefully evaluated by the relevant physician, priority should be given to the transport of hemodynamically unstable patients to the emergency room, and they should be treated appropriately in short-term follow-up or treatment units. For stable patients, an area independent from the emergency department should be created in line with the facilities of each hospital.

**Keywords:** Children, emergency, intra-hospital transport, transport

### Öz

**Amaç:** Bu çalışmanın amacı hastane içi alanlardan çocuk acil servise (ÇAS) “ters nakil” ile sevk edilen olguların klinik özelliklerini, aciliyetlerini ve nakil nedenlerini belirlemek ve hazırlanacak hastane içi nakil protokollerine katkıda bulunmaktır.

**Gereç ve Yöntem:** Bu çalışma retrospektif kohort çalışmasıdır. Hastane içinde, acil servis dışında muayene edilen ve ÇAS’a nakledilen 120 hastanın klinik özellikleri değerlendirildi.

**Bulgular:** Hastaların %57,5’i (69) erkek olup, ortanca yaş 42 (0-210) ay idi. %45,8’i (55) klinik durumları acil tedavi gerektirdiği için ÇAS’a sevk edilmişti. Bu hastaların %54,8’i Pediatric Değerlendirme Üçgenine (PDÜ) göre stabil ve %78,6’sı Acil Şiddet İndeksi’ne (ESI) göre kategori 3, 4, 5 idi. Sadece dört hastaya ESI hayat kurtarıcı prosedürler uygulanmıştı. %70’i (84) acil serviste tedavi edildi. ÇAS’a nakil nedenleri ile PDÜ ve ESI triyaj kategorileri arasında istatistiksel bir anlamlılık vardı.

**Sonuç:** ÇAS’e hastane içindeki diğer servislerden gönderilen hastaların büyük kısmı stabil hastalardır. Acil servisin etkin kullanımı için acil servise nakledilecek hastaların ilgili hekim tarafından titizlikle değerlendirilmesi, hemodinamik olarak stabil olmayan hastaların acil servise nakline öncelik verilmeli ve kısa süreli takip veya tedavi ünitelerinde uygun bir şekilde tedavi edilmelidir. Stabil hastalar için her hastanenin imkanları doğrultusunda acil servisten bağımsız bir alan oluşturulmalıdır.

**Anahtar kelimeler:** Çocuk, acil, hastane içi nakil, nakil

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## INTRODUCTION

The patient transfer can be defined as the safe removal of the patient from one area to another. Patient transfer to the emergency department (ED) can occur from the prehospital area or a health institution with Emergency Medical Services (EMS). In some cases, it is also possible that the patient needs to be transferred to ED from any other outpatient clinic of the hospital. The American Academy of Pediatrics has created guidelines that include protocols for care and management of problems during the transfer of pediatric cases. These guidelines emphasize that coordination and communication before transport, personnel, transport equipment, monitoring, and documentation during transport form the basis of a comprehensive and effective transfer<sup>1,2</sup>.

When intra-hospital patient transfer in the literature is evaluated, it is seen that this guide is often used for the transfer of critical patients<sup>2-5</sup>. However, there are severe shortcomings regarding the transfer of patients from outpatient clinics to ED. Most patients are transferred to the ED without accompanying medical staff and treatment plans, and some do not need emergency treatment. Regardless of how the patient comes to the ED, evaluation is carried out in the triage area, and the patient's emergency state is determined. The majority of these patients think that they need priority care and request to be evaluated before the patients who need urgent intervention. Therefore they create chaos in the ED. As the capacity of the ED is also limited, exceptionally stable patients transferred in this manner cause ED to be overcrowded and decrease the service quality in the ED.

Although each hospital has specific written procedures for patient transfer from ED to inwards, there are no protocols for intra-hospital transport from the outpatient clinic to the ED. Although there are publications in the literature regarding the intra-hospital transfer from the intensive care unit and the ED to the related departments in the hospital for various tests (for example; endoscopy, radiologic imaging), or hospitalization<sup>2-5</sup>, there are no studies evaluating transfer methodology hospital outpatient clinics to the ED.

In 2000, the American Academy of Pediatrics published the first international training program for prehospital healthcare professionals. The Pediatric Assessment Triangle (PAT) program is presented as

an assessment tool. The PAT is not a diagnostic tool. The aim of the PAT was designed to enable the health care professional to articulate a general impression of the child, establish the severity of the presentation, and determine the type and urgency of the intervention<sup>6</sup>.

Our study was designed to answer the question, "Can physicians' use of PAT, especially outside the ED, reduce the number of patients referred to the ED?" For this purpose, the study aims are to determine whether the clinical features of the cases transferred from the intra-hospital area to the Pediatric Emergency Department (PED) have the necessary characteristics and reasons needed for the transfer according to the PAT and the Emergency Severity Index (ESI) Triage assessment model.

## MATERIALS AND METHODS

The data for this retrospective study was collected in Gazi University Faculty of Medicine, Pediatric Emergency Department between October 1, 2019, and March 31, 2020. Demographic information of patients transferred to the PED, hospital admission complaints, reasons for being transferred to the PED, physiological status classification according to the PAT, emergency status according to the Emergency Severity Index (ESI) Triage assessment model, interventions performed in the ED, follow-up in PED and follow-up plans were recorded in the data form.

Ethics approval for the study was obtained from Gazi University Ethical Committee with the protocol code 2020-317 (with the meeting decision dated 06.06.2020 and numbered 06).

### System of emergency department

The study was carried out in Gazi University Faculty of Medicine, Pediatric Emergency Service, the Ankara 3rd Stage University Hospital. Our emergency department is a center that treats approximately 45,000 patients annually. Due to the intensity of patient admission, triage is applied in our emergency department. A paramedic and a second-year assistant physician work in the field of triage. Patients who apply to the emergency department are first evaluated and taken to the examination rooms during the urgency. In the first evaluation in the triage area, the patient's short history is taken, his vital signs are examined, his physiological status according to

the Pediatric evaluation triangle, and the triage category according to the ESI is determined. These records are recorded on the hospital data recording system and the emergency triage registry. The way the patient applied to the emergency service (out-patient, ambulance, in-hospital, blue code) is also recorded during the application. This application started on October 1, 2019. Therefore, this date was taken as the beginning of the study.

### **Pediatric assessment triangle and ESI scores**

The PED of our hospital in which this study was carried out uses the PAT and ESI patient evaluation model. Although the triage depends on the person's experience, there are essential evaluation systems to categorize patients. The patient evaluation method known as PAT enables the audiovisual assessment of the patient in the triage area and allows for rapid determination of the physiological state of the patient. The PAT consists of three areas of assessment: Appearance; Work of Breathing, and Circulation to Skin. Physiological status is stable, respiratory distress, respiratory failure, shock, central nervous system dysfunction, or cardiopulmonary arrest <sup>6,7</sup>. The PAT has been taught to and used internationally by health care professionals in various different settings. There have been very few validation studies <sup>8</sup>.

Studies of ESI implementation and validation have verified that triage nurses can predict ED patients' resource needs <sup>9,10</sup>. ESI is a five-level emergency triage algorithm that allows patients to be divided into five groups from 1 (most urgent) to 5 (least urgent) according to clinically significant acute or resource needs. ESI also describes life-saving interventions (bag valve mask ventilation, intubation, surgical airway, CPAP, BiPAP, defibrillation, cardioversion, external pacing, needle thoracostomy, pericardiocentesis, thoracotomy, intraosseous intervention, marked fluid resuscitation, blood transfusion, significant bleeding control, Naloxone, Dopamine, Atropine, 50% Dextrose use) <sup>11</sup>.

### **Pediatric emergency observation unit**

Pediatric emergency observation units (OUs) are typically well-defined, short-term (typically under 24 or 48 hours) hospital areas used to provide medical evaluation and/or manage health-related conditions in pediatric patients. Although it does not have a

universally accepted terminology or definition, it can be defined as "separate areas that allow observation of patients to determine whether admission is necessary" <sup>12</sup>. For this purpose, there is a 6-bed observation unit in our emergency department where patients are followed up for a short time (usually less than 24 hours) and a decision is made for hospitalization and discharge. This area was used to determine the duration of stay of the patients, that were transferred to PED. This data was also used to evaluate if these patients needed emergency care.

Pediatric patients, aged 0-18 years, who were examined in any outpatient clinics of this hospital and transferred to the PED during weekday working hours (08:00-18:00) were included in the study. In addition, patients who were brought to the PED after code blue were included in the study

### **Statistical analysis**

The data were analyzed with IBM SPSS V23. Suitability with normal distribution was examined with the Kolmogorov Smirnov and Shapiro Wilk test. The Chi-square test was used to compare categorical data. Categorical data were presented as frequency (percentage). Analysis results were presented as mean  $\pm$  standard deviation and median (minimum - maximum) for quantitative data, and frequency (percent) for categorical data.  $P < 0.05$  was accepted as statistically significant in all analyses.

## **RESULTS**

Seventeen thousand two hundred forty-three patients were admitted to the PED within the study period. Of those, 4,404 patients (25.54%) were admitted during weekday working hours (inclusion criteria), and therefore only these patients were evaluated for the study. One hundred twenty of these patients (2.72%) were transferred to the PED from outpatient clinics. The number of patients admitted to the PED over each month of the study period is presented in Table 1.

Sixty-nine of the patients (57.5%) were male with a median age of 42 (0-210) months. Forty-eight of the patients (40%) had an underlying chronic disease. Fifty-eight of the patients (48.33%) were referred to the ED between the hours of 14:00-18:00. Four of the patients (3.3%) arrived with a code blue. Fifty (41.7%) of the patients were referred from general outpatient clinic pediatrics. The demographic data of the patients are presented in Table 2.

The PED was informed before 96 of the patients (81.4%) were transferred in. One hundred thirteen of the patients (94.2%) arrived at the PED accompanied by a family member and without any healthcare personnel, while five patients (4.2%) arrived at the PED with accompanying healthcare personnel. Two patients were accompanied by a physician. Sixty-five of the patients (54.6%) had a transfer note.

When the diseases of the patients transferred to the PED were evaluated, it was found that 41 patients (34.16%) were transferred due to a respiratory condition. The reasons for PED transfer for the study group are presented in Table 3. The patient group transferred to the PED under the pretext of 'the patient should receive urgent treatment' consists of the patients who were transferred for the following reasons: "Clinical condition requiring urgent treatment; should be treated in PED; the patient has hospitalization indication, no place found in the ward; and the patient should be monitored in the pediatric emergency OUs." These patients constituted 84 of all patients (70%) (Table 3).

Table 3 displays the initial emergency evaluations of the patients transferred to the PED and their classifications according to PAT and ESI triage categories. Seventy-eight of the patients (65%) transferred to the PED was stable according to PAT. Ninety-nine of the patients (73.1%) were evaluated at an ESI category 3, 4, or 5.

Eighty-four of the patients (70%) received treatment in the PED. One hundred and one of the patients (84.9%) were placed in the pediatric emergency OUs for follow-up and treatment. Seventy-eight of the patients (67.2%) stayed in the PED for 0-6 hours. Seventy-one of the patients (60.2%) were discharged from the PED after treatment, 32 patients (27.1%)

were transferred from the PED to the pediatric ward (Table 3).

Four of the patients (3.4%) received life-saving interventions according to ESI. Accordingly, two patients received High Flow Nasal Cannula (HFNC) oxygen therapy, one patient received inhaler adrenaline, and one patient received intramuscular adrenaline. Three of these four patients were sent to the ED because their clinical condition required urgent treatment, while one patient was sent with a code blue. Two of these patients were evaluated as 'stable' according to PAT, one patient was evaluated as 'respiratory distress/failure,' and one was evaluated as 'respiratory failure.' Three patients were in the ESI 2 triage category, and one patient was in the ESI 3 triage category.

Table 4 compares patients transferred to the PED for urgent treatment who are listed in Table 3. Forty-six of the patients (54.8%) transferred to receive urgent treatment were stable according to PAT; respiratory distress/failure was present in 13 of the patients (15.5%). Thirty-two of the patients (88.9%) who did not need urgent treatment were stable. There was a statistically significant difference between the PAT and the group of patients whose clinical status needed urgent treatment (p=0.004) (Table 4).

According to ESI, 47 of the patients (56%) transferred to receive urgent treatment were category 3, while 16 of the patients (45.7%) of the patients who did not require urgent treatment were category 3. There was a statistical significance between the ESI triage category and the group of patients whose clinical status needed urgent treatment (p=0,002). No statistical significance was found with the hospitalization/discharge decision (p=0,099) (Table 4).

**Table 1. Number of patients admitted to the Pediatric Emergency Department (PED) by months**

	Total number of patients admitted to the PED N=17.243 (%100)¶	Number of all patients admitted to the PED during working hours N=4.404 (%25.54)	Number of patients who meet the inclusion criteria N=120 (%2.72)*
October 2019	3.105 (18)	890 (28.66)	23 (2.58)
November 2019	2.744 (15.92)	712 (25.94)	20 (2.80)
December 2019	3.665 (21.25)	870 (23.73)	37 (4.25)
January 2020	3.243 (18.80)	790 (24.36)	9 (1.13)
February 2020	2.665 (15.45)	668 (25.06)	16 (2.39)
March 2020	1.821(10.56)	474 (26.02)	15 (3.16)

\*Percentage of patients who meet the inclusion criteria with respect to the number of patients admitted during working hours

¶ Percentage of patients admitted during working hours (08:00-18:00) with respect to total number of patients

§ Percentage of total number of patients by months

**Table 2. Demographic characteristics of patients transferred to the PED from outpatient clinics**

Variable	Frequency (n)	Percentage (%)
Age (months)	42 (0 – 210)*	
Gender		
Female	51	42.5
Male	69	57.5
Time of admission		
08:00-12:00	48	40
12:00-14:00	14	11.66
14:00-18:00	58	48.33
Did patient arrive with code blue?		
Yes	4	3.3
No	116	96.7
From which outpatient clinic was the patient transferred from?		
General outpatient clinic	52	43.33
Pulmonary medicine	9	7.5
Nephrology	8	6.7
Gastroenterology	7	5.8
Healthy children	6	5.0
Infection	6	5.0
Cardiology	5	4.2
Allergy	5	4.16
Newborn	4	3.3
Neurology	3	2.5
Hematology	3	2.5
Oncology	2	1.66
Metabolism	2	1.66
Other departments of the hospital (pediatric surgery. eye diseases. blood collection unit. adult oncology. dialysis unit)	8	6.66
Diagnosis		
Respiratory system diseases (Pneumonia. bronchiolitis. asthma. croup. respiratory distress. tachypnea. cystic fibrosis)	41	34.16
Gastrointestinal system diseases (AGE. vomiting. abdominal pain. invagination. cyclic vomiting. cholecystitis. cholestasis. groin pain. abdominal pain. vitamin K administration)	26	21.66
Infectious disease (fever. UTI. LAP. CK elevation)	16	13.33
Cardiovascular system diseases (chest pain. hypertension. pre-syncope. tachycardia)	15	12.5
Neurological system diseases (epilepsy. stigma. intracranial mass. hypertensive encephalopathy. hemiplegia. stiff neck)	7	5.83
Rheumatological and nephrological diseases (elevated uric acid. hyperpotassemia. metabolic acidosis. metabolic alkalosis. prerenal kidney failure. FMF attack. HUS)	7	5.83
Traumatic (hematoma. fracture)	3	2.5
Newborn problems (indirect hyperbilirubinemia)	1	0.83
Intoxication (cycloplegic toxicity)	1	0.83
Allergic (anaphylaxis)	1	0.83
Endocrine problems (DKA)	1	0.83
Hematological (thrombocytosis)	1	0.83

\*Median (minimum – maximum)

Abbreviations: AGE: Acute gastroenteritis; UTI: urinary tract infection; LAP: lymphadenopathy; CK: Creatinine kinase; FMF: Familial Mediterranean Fever; HUS: hemolytic uremic syndrome; DKA: diabetic ketoacidosis

**Table 3. Characteristics of patients transferred to the PED from outpatient clinics**

	Frequency (n=120)	Percentage (%)
Reason for transfer to the PED		
Clinical condition requires emergency treatment	55	45.8
Patient should receive treatment in PED	18	15.0
Radiological imaging should be conducted	13	10.8
Results of laboratory examinations performed in the outpatient ward clinic should be followed	10	8.3
Patient has indication for emergency hospitalization. ward is full	6	5.0
Patient should receive treatment; patient will be evaluated by the referrer ward	6	5.0
Patient should be followed in the pediatric emergency OUs	5	4.2
Code blue	4	3.3
Evaluated in the department. blood tests should be performed	2	1.7
Patient fainted during blood sampling	1	0.8
PAT category		
Stable	78	65.0
Respiratory Distress-Failure	14	11.7
Respiratory Distress	10	8.3
Respiratory Failure	9	7.5
Compensated Shock	7	5.8
CNS Dysfunction	1	0.8
Metabolic diseases	1	0.8
ESI triage category		
2	20	16.8
3	63	52.9
4	25	21.0
5	11	9.2
Did patient receive treatment in PED?		
Yes	84	70.0
No	36	30.0
Was patient placed in the pediatric emergency OUs?		
Yes	101	84.9
No	18	15.1
Duration of pediatric emergency/ OUs stay		
0 – 6 hours	78	67.2
6 – 12 hours	24	20.7
12 – 24 hours	14	12.1
Hospitalization/Discharge		
Discharged from PED	71	60.2
Hospitalized in ward from PED	32	27.1
Sent to relevant outpatient clinics	8	6.8
Referred from PED	4	3.4
Remained in emergency follow-up	2	1.7
Other	1	0.8

**Table 4. Comparison of patients transfer to the PED for urgent treatment\***

PAT category	Is the patient transferred on the reason of urgent treatment?			X <sup>2</sup>	P
	Yes	No			
Stable	46 (54.8)	32 (88.9)		$\chi^2=18,910$	<b>0,004*</b>
Respiratory Distress-Failure	13 (15.5)	1 (2.8)			
Respiratory Distress	10 (11.9)	0 (0)			
Respiratory Failure	9 (10.7)	0 (0)			
Compensated Shock	5 (6)	2 (5.6)			
CNS Dysfunction	1 (1.2)	0 (0)			
Metabolic diseases	0 (0)	1 (2.8)			
Emergency Severity Index triage category					
2	18 (21.4)	2 (5.7)		$\chi^2=14.583$	<b>0.002*</b>
3	47 (56)	16 (45.7)			
4	16 (19)	9 (25.7)			
5	3 (3.6)	8 (22.9)			
Hospitalization/Discharge					
Discharged from PED	43 (52.4)	28 (77.8)		$\chi^2=9.271$	0.099
Hospitalized in ward from PED	5 (6.1)	3 (8.3)			
Sent to relevant outpatient clinics	4 (4.9)	0 (0)			
Referred from PED	27 (32.9)	5 (13.9)			
Remained in emergency follow-up	2 (2.4)	0 (0)			
Other	1 (1.2)	0 (0)			

$\chi^2$ : Chi-square test \*p<0.05 compared to group

\* Patient group referred to PED with the pretext of 'patient should receive urgency treatment' consist of patients referred to the PED for the following reasons: "Clinical condition requires urgent treatment, should receive emergency treatment, patient has hospitalization indication, no place in the ward, patient should receive emergency treatment and will be evaluated by the department, patient should be monitored in the emergency observation unit".

## DISCUSSION

Very few studies evaluate patients transferred from the in-hospital area to the pediatric ED. Most of the studies on intra-hospital patient transport focus on the transfer of critical patients from the ED or intensive care units to other wards, radiology units, or interventional areas in the hospital<sup>2-5,13</sup>. However, one of the problems of ED is the transfer of patients evaluated in different areas of the hospital and directed to the ED. Our study determined that 2.72% of the patients assessed in the emergency service during weekday working hours were transferred to the PED from outpatient clinics.

The precautions taken to avoid any problems during patient transport can be classified as measures before, during, and after transport. It is essential to determine the transport team, prepare the appropriate materials and equipment, and establish communication with the destination area before the transport<sup>2</sup>. In particular, it is reported that lack of communication before transport is responsible for almost 60% of transport-related incidents<sup>2,14</sup>. Taking these measures

only for critical patients is not a suitable approach as these patients, due to their conditions, naturally are transported more carefully. Transport-related incidents and problems do occur even though protocols are used during the transport of these patients<sup>2-5</sup>.

As seen in our study, most of the patients who are transferred to ED are claimed to require urgent treatment, but in reality, they are hemodynamically stable and do not require urgent treatment. According to PAT, 65% of the patients transferred to the ED were stable, while almost 70% were in the non-emergent category according to ESI.

Considering that the clinical conditions of these patients were stable, almost all of the patients were transferred to the ED without healthcare professional supervision. However, the ED was informed for 80% of the patients, and treatment plans were sent with the patient in almost half of the cases. The fact that the clinical condition of the patients is stable or that the condition is not urgent in the initial evaluation should not suggest that the

clinical picture will not deteriorate during follow-up. For this reason, the patient's clinical status should be recorded before the patient transfer, the relevant ward should be contacted, and the transfer should be made with a supervising healthcare professional if possible.

When the reasons for transfer to the ED were examined in our study, it was seen that most of the patients were directed to the ED to receive urgent treatment. However, patients who did not need urgent care were transferred to the ED to benefit more quickly from laboratory and radiology services. Some of the patients were transferred to the ED because the results of the examinations performed during working hours can be reported outside the working hours only if the patient is in ED. Emergency departments are areas that provide uninterrupted service 24 hours a day, seven days a week. It is vital to provide fast and accurate laboratory and radiological imaging services. It should not be forgotten that EDs are primarily emergency care units, and their primary purpose is to provide patient stabilization. Carrying out the care of these patients without preventing services for actual emergency patients or opening outpatient clinics in addition to regular working hours according to hospital capabilities should be considered.

Admission to the ED can be in the form of outpatients, EMS, or intra-hospital transport. Outpatients presenting to the emergency room with any complaint often come to the emergency room with non-emergency complaints. The emergency physician can make the decision whether the complaint is urgent during admission. For this reason, triage scoring systems are used to determine the urgency of patients presenting to the ED <sup>11</sup>. Each center can use these scoring systems according to the operation of its ED. The ESI, used in this clinic, examines patients under five categories. In the present study, 70% of the patients who were transferred to the ED were transferred to receive urgent treatment. However, only one-fifth of the patients who were sent to receive urgent treatment were in ESI triage category 2. According to PAT, in the present study, half of the patients who were sent to receive urgent treatment were stable patients. The present study showed that both ESI and PAT are appropriate models for identifying patients who need urgent treatment. The use of ESI and PAT also revealed that the majority of the patients sent to the ED did not require urgent treatment. Using these

scoring and triage systems in childcare areas in the hospital may also contribute to physicians' referral decisions before transferring patients to the ED.

Respiratory distress/failure is the most common reason for hospital admission in children. Respiratory distress/failure constitutes almost 10% of all pediatric emergency applications and 20% of applications under two years of age. The resulting hypoxia/hypoxemia often requires urgent treatment and hospitalization <sup>15</sup>. In the present study, almost one-third of the patients were transferred to the ED due to respiratory distress and respiratory failure. Two patients received HFNC treatment for bronchiolitis, one patient received inhaler adrenaline treatment for croup, and one patient received intramuscular adrenaline treatment for anaphylaxis. The procedures considered as life-saving procedures by ESI were performed/used in only four patients in this study. Three of these patients were evaluated as ESI 2.

Pediatric OUs are the areas where follow-up for patients occurs for a short period. It is here where the decision to hospitalize the patient is made and where the severity and treatment of disease are determined. Follow-up of hemodynamically stable patients is also frequently performed in this area <sup>16</sup>. In our study, the vast majority of patients were taken to the observation unit for follow-up and treatment, and a large number of these patients were discharged from the emergency room within the first six hours. The most important reason for this is that patients were hemodynamically stable at admission, and their ESI triage categories were 3, 4, or 5.

This study was performed in the PED of a single university hospital, resulting in a small sample size. In Turkey and the world, the use of ED, occupancy rates, patient admissions, and triage applications are not standard. Therefore, conducting a multicenter study would pose difficulties for consistent data collection. For this reason, although this is a single-center study, it is essential to determine the clinical features of patients who are transferred to the PED after being consulted by a physician.

Another limitation of this study is that, except for communication and coordination before transport, the transport team, equipment, monitoring, and recording processes during and after transport could not be evaluated due to the study's retrospective design. Therefore, this study can be evaluated as a pilot study. A prospective study can better reveal the



deficiencies/problems of the patients who are transferred to the PED. Also, the low number of patients who received life-saving interventions or urgent treatment is another significant limitation of this study.

In conclusion, during the patient transfer from other outpatient clinics in the hospital to the ED, it is essential that in-hospital patient transfer rules and that each hospital or ED has its protocols. For the efficient use of ED, patients who will be transferred to the ED should be evaluated meticulously by the relevant physician. The transfer of hemodynamically unstable patients to the ED should be prioritized. It is recommended that the physicians evaluate the patient's condition according to PAT and give his/her decision about the need for transfer to ED according to the outcomes of this evaluation.

**Yazar Katkıları:** Çalışma konsepti/Tasarımı: ODG; Veri toplama: ODG; Veri analizi ve yorumlama: ODG; Yazı taslağı: ODG; İçeriğin eleştirilme: ODG; Son onay ve sorumluluk: ODG; Teknik ve malzeme desteği: ODG; Süpervizyon: ODG; Fon sağlama (mevcut ise): yok.

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