

Satisfaction and Knowledge Levels of Adult Patients Admitted to the Emergency Department of a Secondary State Hospital: An Observational Survey Study

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Abstract

Objective: Emergency departments (EDs) operate continuously (“24/7”) throughout the year. However, an increase in ED admissions often compromises the quality of service and patient satisfaction. This study identified problems related to overcrowding in the ED.

Materials and Methods: We conducted a patient satisfaction survey of adult patients presenting to the ED of a secondary state hospital. The patient satisfaction questionnaire, comprising 17 closed-ended questions, was administered to patients who agreed to participate in the study.

Results: The study included 148 patients: 70 men (47.3%) and 78 women (52.7%). We found that 91.2% (n=135) of the patients were aware of their family physician, but only 30.4% (n=45) had sought a consultation with before approaching the ED. The most common reason for visiting the ED was the ability to undergo an immediate medical examination without an appointment. Furthermore, 43.2% of the patients were unaware of the triage system. We found that 66.9% of the patients were very satisfied with our ED services, whereas 25% were satisfied.

Conclusion: Our findings indicate that a significant proportion of patients approach the ED with non-urgent complaints, which contributes to longer waiting times and reduced patient satisfaction. To improve this situation, it is crucial to enhance public awareness of the role and function of EDs and establish effective referral systems.

Keywords: Patient satisfaction, emergency department, length of stay, waiting time

Introduction

Emergency departments (EDs) are dedicated units that operate round the clock throughout the year in our country. Their primary purpose is to identify and manage life-threatening or organ-damaging conditions [1]. However, it has been widely reported that many patients not in a state of emergency tend to seek medical assistance from EDs, often because of sociocultural factors such as the patient’s unfamiliarity with ED procedures, ignorance about when ED care should be sought, the convenience of immediate and free examinations in the ED, and the need to procure a prescription [2,3].

To manage the flow of patients and determine their priority based on medical urgency, a triage system is implemented

[4]. Many hospitals in our country employ a three-tier (green-yellow-red) triage system. Green represents non-emergency patients in stable condition who can be treated on an outpatient basis. Yellow and red indicate emergency and highly urgent patients, respectively. A red triage patient is expected to be examined within 10 minutes, a yellow patient within 1 hour, and a green patient within approximately 2 hours [2]. While the waiting time from admission to physician consultation is perceived to be shorter in our EDs, it negatively impacts patient satisfaction.

Patient satisfaction, despite being a subjective measure influenced by various factors such as lifestyle, past experiences, knowledge level, expectations, and sociocultural values, is a critical indicator of healthcare quality [5]. Positive changes



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to modifiable factors could mitigate the issues faced by emergency services.

Healthcare services worldwide are transitioning from a paternalistic approach toward a model in which patients take more responsibility for decisions concerning their health. Encouraging patient participation by enhancing their health awareness and understanding of healthcare services improves satisfaction, reduces costs, and helps patients receive optimal care [6]. A similar shift is anticipated for emergency healthcare services in Japan.

The objective of our study was to analyze survey data to enhance public knowledge about EDs, help reduce ED overcrowding, ensure quality services for true emergency patients, and enhance patient satisfaction.

Materials and Methods

This descriptive study was conducted in the adult ED of our hospital from April 1 to 30, 2023. This study was approved by the provincial health directorate and the Ethics Committee of Tokat Gaziosmanpaşa University Faculty of Medicine (approval number: 23-KAEK-017, date: 19.01.2023). Patients aged ≥18 years who consented to participate and signed the consent form were included in the study. Patients aged <18 years, those who declined to participate, and those who did not respond to all questions were excluded from the study.

A total of 148 patients participated in our study. A questionnaire consisting of 17 closed-ended questions was administered to the patients. The patient satisfaction questionnaire was divided into two sections. The first section solicited sociodemographic information from the participants, including age, gender, educational status, and employment status. The second section consisted of questions aimed at assessing patients’ knowledge about the ED and evaluating their satisfaction with the services received (Table 1).

Statistical Analysis

For statistical analysis, the SPSS for Windows software package (version 16.0; SPSS Inc., Chicago, IL, USA) was employed, and data were analyzed using descriptive statistical methods.

Results

In April 2023, 148 adult patients were admitted to our ED and agreed to participate in the study. Of these patients, 78 (52.7%) were female and 70 (47.3%) were male. The demographic data revealed that 34.5% (n=51) of participants were aged 18-30 years, 23% (n=43) were aged 30-40 years, 20.3% (n=30) were aged 41-50 years, 15.5% (n=23) were aged 51-65 years, and 6.8% (n=10) were aged ≥66 years.

Regarding educational status, 2% of participants were uneducated, 17.6% were primary school graduates, 15.5% were

Table 1. The questionnaires of the survey

1. Age
• 18-30
• 30-40
• 41-50
• 51-65
• 66 and older
2. Gender
• Female
• Male
3. Education status
• Uneducated
• Primary school graduates
• Secondary school graduates
• High school graduates
• University graduates
4. Employment status
• Employed
• Student
• Retired
• Unemployed
5. Frequency of admitted the emergency department
• Once a year or less
• 2-6 times a year
• Every time when I feel sick
6. Did You consult your family physician before admitted the emergency service?
• Yes, I admitted to my family doctor
• No, I did not admitted to my family doctor
7. Do you know who your family doctor is?
• Yes, I know
• No, I do not know
8. What is your complaint to admit the emergency service? (You can choose more than one)
• Sore throat, body pain, fever, cough
• Headache, migraine
• Back/neck pain
• Itching, skin eruption
• Nausea, vomiting, diarrhea, dysurea
• Severe abdominal pain
• Shortness of breath
• Chest pain/palpitations
• Falling (body injury; cut or fracture)
• Traffic accident
• Nervous breakdown
• Other (Write:.....)

Table 1. Continued	
9. What is your reason for choosing emergency service?	
• To be examined quickly without an appointment	
• To receive an injection or serum that will make me feel good	
• To obtain a rest report	
• Giving a blood/urine test, pregnancy test, or get prescription medications	
• Intervention if I am in a life-threatening situation.	
10. How did you arrive to the emergency service ?	
• By ambulance	
• By my own transportation	
11. Do you know the triage system used in the emergency department?	
• Yes, I know	
• No, I do not know	
12. How long can green area patients wait for examination?	
• 0-10 minute	
• 10-30 minute	
• 30 minute-2 hours	
• I do not know	
13. In which area did you examined in the emergency department?	
• Green triage area	
• Yellow-red triage area	
• I do not know	
14. Select your examination and treatment (You can tick more than one)	
• Blood/urine analysis requested	
• X-ray/tomography/MR requested	
• Serum/injection given	
• Prescription written	
• I was hospitalized	
15. Mark about emergency service that is appropriate for you.	
• I immediately visit to the ED when I feel sick, this is useful in emergencies	
• The ED is for the diagnosis and treatment of life-threatening serious diseases, I will visit the ED in case of an emergency.	
16. Rating the service you receive from our emergency department between 5 and 1. (5: very satisfied; 4: satisfied; 3: neither satisfied nor dissatisfied; 2: not satisfied; 1: not at all satisfied)	
• 5	
• 4	
• 3	
• 2	
• 1	
17. Would you admit to our hospital emergency department if needed?	
• Yes	
• No	
ED: Emergency department, MR: Magnetic resonance	

secondary school graduates, 25.7% were high school graduates, and 39.2% were university graduates. The participant group comprised 47.3% employed individuals, 16.2% students, 9.5% retirees, and 27% unemployed individuals. Demographic data are presented in Table 2.

In our study, when asked how often they visited the ED, 29.1% (n=43) of the patients responded “once a year or less,” 37.8% (n=56) stated “2-6 times a year,” and 33.1% (n=49) stated “every time when I feel sick.”

To the question “Do you know who your family doctor is?”, 91.2% (n=135) of the patients responded “Yes, I know,” while 8.8% (n=13) answered “No, I don’t know.” Additionally, when asked if they had sought help from their family doctor before visiting the ED, 30.4% (n=45) of the patients responded “Yes,” while 69.6% (n=103) responded “No.”

In total, 19.6% (n=29) of our patients reported arriving at the ED by ambulance, whereas 80.4% (n=118) arrived via their own transportation. When asked about the area where they were examined, 53.4% reported being seen in the green triage zone and 35.8% in the yellow-red triage zone; 10.8% were unsure. The total number of hospitalized patients was 12 (4.6%).

The reasons for seeking ED care varied in this study. Notably, 42.4% (n=72) of the patients cited “to be examined quickly without an appointment” as the reason. Other reasons included “to receive an injection or serum that will make me feel good” (21.2%, n=36), “to obtain a rest report” (5.3%, n=9), and “to have a blood test, pregnancy test, or get prescription medications” (4.7%, n=8). A total of 26.5% (n=45) of patients cited the need for intervention in a life-threatening situation as the reason for their ED visit.

When asked about their perspective in the ED, 57.4% (n=85) of patients chose the answer option “I immediately visit the ED when I feel sick; this is useful in emergencies,” while 42.6% (n=63) selected the answer option “The ED is for diagnosis and treatment of life-threatening serious diseases, I will visit the ED in case of an emergency.”

Patient satisfaction was rated on a scale of 1-5, with 5 corresponding to “very satisfied.” In total, 66.9% of the patients scored 5, 25% scored 4, and 8.1% scored 3 (neutral regarding satisfaction). No patient scored 2 or 1, indicating a high level of satisfaction overall. All participants stated that they would revisit our hospital if necessary.

In terms of education level, participants with university-level education reported higher satisfaction with the health services provided than those with high school education. However, patients with primary or secondary school education and those with no education reported the highest satisfaction levels (Table 3).

Discussion

In our study, the majority of ED patients were female (52.7%). There are varying reports in the literature regarding ED patient gender ratios, with some studies reporting a higher number of female patients and others reporting more male patients [7]. The rate of ED visitation in our cohort was 1.5 times higher than that in the country overall. The population stood at 84.6 million in 2021, with 129.5 million ED visits and 136.9 million outpatient visits [8].

When asked about the frequency of ED visits, only 29.1% of the patients reported visiting “once a year or less”; 37.8% indicated “2-6 times a year” and 33.1% stated “every time I am sick.” The high number of visits can be attributed to easy, free access to EDs, the opportunity for quick, appointment-free examinations at any time, and the general lack of understanding about how EDs function [2,3].

Efficient primary healthcare services could reduce the number of secondary and tertiary healthcare visits. In our country, a family medicine system has been in place since 2010, providing each individual with a family physician [9]. However, the lack

of a compulsory referral system allows patients to choose their preferred healthcare provider, leading to an increase in secondary and tertiary hospital visits without primary care consultation. Although 91.2% of the patients knew their family physician, 69.6% did not consult their physician before their ED visit. Green triage zone patients, who commonly visit the ED [7], can receive treatment from their family physicians. By bypassing primary care physicians, such patients contribute to the overcrowding in EDs.

Sert et al. [7] reported that 79.7% of ED visits were by green triage (non-emergency) patients. Kılıçaslan et al. [10] found that the hospitalization rate of ED patients was 12%. In our study, 68.5% of the patients were classified as non-emergency (green triage zone), in line with the literature (Table 4).

Red triage patients should be examined within 10 minutes, yellow triage patients within 1 hour, and green triage patients within 2 hours [2]. However, our patients were not familiar with the triage system or the associated potential wait times. In fact, 43.2% of the patients were completely unaware of the triage system. When asked about expected wait times in the green triage area, 48% of patients estimated “0-10 minutes,” 26.4% estimated “10-30 minutes,” and 4.7% estimated “30 minutes to 2 hours”. The average green triage zone examination time in our hospital is approximately 11 minutes, and dissatisfaction often stems from this wait time. Even during typical wait periods in the ED, a tense atmosphere can contribute to violent incidents. However, 91.9% of our participants indicated that they were “very satisfied” or “satisfied” with the service they received, possibly because of our relatively short average green triage zone examination time. Nevertheless, enhancing public understanding of the triage system and potential wait times could help prevent negative experiences.

Aljarallah et al. [11] discovered that university graduate patients were more satisfied with hospital services, which they attributed to better awareness of the services offered by the hospital among higher-educated participants. However, our findings in this regard were contrary to those of Aljarallah et al. [11]. Primary and secondary school graduates, and illiterate patients, exhibited the highest satisfaction rates, whereas high school graduates reported the lowest satisfaction rates. This could be due to a lack of education in our country about

Table 2. Socio-demographic features of the participants

		n	%
Gender	Female	78	52.7
	Male	70	47.3
Years	18-30	51	34.5
	31-40	34	23
	41-50	30	20.3
	51-65	23	15.5
	≥66	10	6.8
Educational status	Uneducated	3	2
	Primary school	26	17.6
	Secondary school	23	15.5
	High school	38	25.7
	University	58	39.2
Employment status	Employed	70	47.3
	Student	24	16.2
	Retired	14	9.5
	Unemployed	40	27

Data are expressed as numbers (n), percentages (%)

Table 3. Satisfaction score by education status

		5 point		4 point		3 point		1 point	
		n	%	n	%	n	%	n	%
Educational status	Uneducated, primary, secondary school	39	75	11	21.2	1	1.9	1	1.9
	High school	19	50	15	39.5	4	10.5	0	0
	University	40	69	11	19	7	12	0	0

Data are expressed as numbers (n), percentages (%)

Table 4. Clinical characteristics of the participants admitted to the our ED in 1-30 April 2023

		n	%
Patient	Green triage zone	14.993	68.5
	Yellow/red triage zone	6.886	31.5
		Mean	
Duration of examining (minute)	Green triage zone	11,45	
	Yellow/red triage zone	4.6	
		n	
The most common diagnoses			
Upper respiratory tract infection/cold		6333	28.9
Soft tissue disorder		2471	11.3
Myalgia/lumbalgia		1341	6.1
Acute gastroenteritis		977	4.5
Headache		533	2.4
Data are expressed as numbers (n), percentages (%). ED: Emergency department			

emergency services operations or because the less-educated elderly population perceives ED services to have improved over the years.

In analyzing the reasons for choosing ED care, we found some notable trends. Patients who visited the ED “to be examined quickly without an appointment” often did so with non-urgent complaints, as outpatient clinic appointment systems were consistently at full capacity. The absence of a compulsory referral system and patients’ freedom to select their healthcare provider have resulted in an overflow of outpatient clinic appointments in secondary and tertiary hospitals. Some patients appear unaware of the scope of the emergency healthcare system. Moreover, the preference of patients who visit “to receive an injection or serum that will make them feel better” to be involved in treatment decisions, coupled with their propensity for intravenous treatment, are also drivers of ED visits in our country. Non-urgent requests from chronic patients for routine blood tests, prescriptions, reports, and pregnancy tests also contribute to the load on the ED. Inappropriate report requests from patients seeking a rest report rather than a medical examination add to the challenges faced by ED staff. These factors collectively contribute to overcrowding in the ED.

Study Limitations

Our study had several limitations. The study was restricted by its single-center, small-scale design and short-term evaluation of patients. In addition, it only included 148 adult patients admitted to the ED.

Conclusion

In conclusion, it appears that a significant proportion of patients presenting to the ED with non-urgent complaints perceive the wait times to be extensive, which negatively impacts patient

satisfaction. Implementing compulsory referral systems to improve the efficiency of appointment bookings, directing patients deemed to require ED care by family doctors to the appropriate referral center, enhancing public understanding of emergency health services, introducing health literacy lessons at the primary school level, and public service announcements delivered via the media may improve service quality and patient satisfaction, reduce healthcare-related violence, and allow emergency health systems to operate more effectively.

Ethics

Ethics Committee Approval: This study was approved by the provincial health directorate and the Ethics Committee of Tokat Gaziosmanpaşa University Faculty of Medicine (approval number: 23-KAEK-017, date: 19.01.2023).

Informed Consent: Patients aged ≥ 18 years who consented to participate and signed the consent form were included in the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: T.B.Ü., H.İ.A., Design: T.B.Ü., H.İ.A., Data Collection or Processing: T.B.Ü., Analysis or Interpretation: T.B.Ü., Literature Search: T.B.Ü., Writing: T.B.Ü., H.İ.A.

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