



## Original Article

## Non-urgent adult patients in the emergency department: Causes and patient characteristics

Hasan Idil\*, Turgay Yılmaz Kilic, İbrahim Toker, Kadriye Dura Turan, Murat Yesilaras

Department of Emergency Medicine, Tepecik Training and Research Hospital, Izmir, Turkey

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## ABSTRACT

**Objective:** Non-urgent patients are one of the important causes of emergency department (ED) overcrowding. In this study, it is aimed to identify the characteristics of these patients and the reasons why they prefer the ED.

**Method:** This study was conducted during regular office hours. The characteristics of non-urgent patients, their complaints, the frequency of visits to family physicians (FPs), the frequency of using the Central Hospital Appointment System (CHAS) and reasons for preferring the ED were questioned by a questionnaire.

**Results:** This study was conducted on 624 patients. Among them, 326 (52.2%) were male. The mean age was 38.4 years (SD: 14.4). It was identified that 80.3% of the patients had no chronic disease and that 97.4% had health insurance. The most common complaints at presentation were musculoskeletal system pain (25.2%) and upper respiratory tract infections symptoms (19.7%). It was identified that 28.7% of the patients did not prefer to visit their FPs and that 48.6% did not use the CHAS. The reasons of preferring ED were as follows: rapid physical examination (36.4%), not being able to book an earlier appointment at alternative health facilities (30.9%), being close to the facility (12.8%) and being at the hospital for a different reason (12.3%). Among the patients, 20.2% did not express any particular reason.

**Conclusions:** Non-urgent patients who admitted to the ED are mostly middle-aged patients with no chronic disease. They usually visit the ED for preventable reasons. The use of alternative health facilities and CHAS should be encouraged.

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## 1. Introduction

The use of emergency departments (EDs) by non-urgent patients has become an important public health problem globally.<sup>1,2</sup> In many studies, it has been determined that more than half of the ED applications are non-urgent.<sup>3–5</sup> This negatively impacts the quality of patient care and the satisfaction of patients and staff of the ED.<sup>2,6</sup>

In EDs, patients are prioritized based on triage categories. Urgent cases are admitted to the ED immediately.<sup>7,8</sup> In many EDs, non-urgent patients are evaluated in fast-track units. These patients are

taken to the waiting room and are examined in turns. In these units, Emergency Physicians (EPs) work as if they were in the polyclinics. The purpose of this is to distinguish non-urgent patients and to increase the quality of the care of actual urgent patients.<sup>9,10</sup>

In the triage system used in Turkey, patients are grouped as green, yellow or red, respectively, beginning from the lowest level of urgency to highest. The green triage code distinguishes non-urgent patients from others.<sup>11</sup> These are patients in the low-risk group that do not require urgent interventions. They can be treated outside the ED in polyclinics or by their FPs.

The overcrowding of EDs is at critical levels in Turkey. The number of annual ED visits exceeds total population. The rate of ED visits per person was calculated as 1.11 in 2009 and 1.12 in 2013.<sup>12</sup> In 2010, this rate was 0.43 in the USA.<sup>13</sup>

Turkey adopted the family medicine system in 2010 to improve the quality of primary health care services. The objective of this system was to perform the initial evaluation of each patient by a FP, and referral to a health facility if necessary. Besides this, the

\* Corresponding author. Department of Emergency Medicine, Tepecik Training and Research Hospital, Yenisehir, 35120, Izmir, Turkey.  
E-mail address: [hsnidil@gmail.com](mailto:hsnidil@gmail.com) (H. Idil).

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Ministry of Health founded the Centralized Health Appointment System (CHAS) in 2013. In this system, patients were able to book their appointments through 182 Call Center, internet or mobile applications.

It is an important issue that non-urgent patients continue to apply for EDs, despite precautionary measures. In this study, the reasons and factors influencing the fact that ED is preferred by non-urgent patients were investigated.

## 2. Material and methods

This descriptive study was conducted between 1 April - 30 June 2016 in a training and research hospital that has approximately 180,000 ED visits annually. This hospital is located in the city center and provides health services in all branches including sub-specialties. The study was launched after obtaining ethical board approval.

The study was conducted with adult patients (age over 18) that visited the ED during regular office hours (through monday to friday and between 08:00–16:00) and had a green triage code. The study was conducted during the the time period where an alternative health unit (polyclinics and family physicians) that patients could apply to were accessible.

The patients were selected based on the convenience sampling method by triage nurses. After oral briefing, written consent was also obtained from the patients that accepted to participate in the study. Following this, patients were given one questionnaire form each. Patients were asked to hand in the forms they completed to the triage unit once their treatment is completed. Patients that did not complete the questionnaire were excluded from the study. Patients who were not able to talk in Turkish, non-compliant patients, and those that did not accept to participate in the study were not included in the evaluation.

The questionnaire contained 4 sections in total. The first section questioned patients' demographic features, their health insurance status, and presence of chronic diseases. The second section questioned the patients' complaints and whether they visited the ED before for similar complaints within the previous two weeks or not.

The third section questioned how often they preferred to visit their family physicians for their health problems and how often they use the CHAS to book an appointment with polyclinics and/or their FPs. In the fourth and final section, it was questioned why patients preferred the ED instead of FPs or the polyclinics. The major queries of the survey are listed in Table 1.

### 2.1. Statistical analysis

The SPSS 22.0 (IBM Inc., Chicago, Illinois, USA) software bundle was used to analyze the data obtained. At the end of the study, the patient complaints and the justifications for preferring the ED were grouped and evaluated. Categorical variables were reported with their counts and percentages. The Type I error accepted in this study was 5%.

**Table 1**

The major queries of the survey.

What is your primary complaint for admitting to the ED?
Did you visit ED before due to similar complaints within the last two weeks?
Do you use the Central Hospital Appointment System (CHAS) to book an appointment at polyclinics or FPs?
Do you prefer visiting you FP for your health problems?
Why did you choose the ED instead of polyclinics or your family physician?
ED: Emergency department

## 3. Results

Twelve (n = 12) patients who did not complete the survey were excluded from the study. Of the 624 patients that were included in the study 326 (52.2%) were male, 298 (47.8%) were female, and the mean age was 38.4 years (SD: 14.4).

Most common complaints of non-urgent patients were musculoskeletal system pain (25.2%) and upper respiratory tract infections (URTI) symptoms (19.7%). The complaints of patients at presentation to the ED are shown in Table 2. It was identified that 107 (17.1%) patients had visited the ED for similar complaints again within the previous two weeks.

It was determined that 501 (80.3%) of the patients did not have any chronic diseases, 608 (97.4%) had health insurance, 303 (48.6%) did not use the CHAS and 179 (28.7%) did not prefer visiting their FPs.

The most common reasons why non-urgent patients preferred the ED was being able to get examined quicker (36.4%), and not being able to book early appointments with alternative health units (polyclinics and FPs) (30.9%). The reasons why patients preferred the ED instead of alternative health units are presented in Table 3.

## 4. Discussion

Non-urgent patients are a significant cause of ED overcrowding. Therefore, the reasons for the preference of EDs by these patients have been the subject of research around the world. These reasons vary from region to region.<sup>5</sup>

In their study, Tsai et al. determined that the mean age of patients that presented to the ED with non-urgent reasons was 37.4 years and the proportion of patients without any chronic diseases was 73.9%.<sup>4</sup> Gentile et al. determined the mean age of these patients as 36.3 years.<sup>14</sup> Likewise, in our study, the mean age of the non-urgent patients was identified as 38.4 years, and the proportion of patients without any chronic diseases as 80.3%. Based on these results it can be deduced that non-urgent patients are mostly middle-aged patients without chronic diseases.

In similar studies, it has been identified that the most common

**Table 2**

The complaints of non-urgent patients at presentation to the emergency department.

	n	%
Musculoskeletal system pain	157	25.2
URTI symptoms	123	19.7
Headache	48	7.7
Acute gastroenteritis	46	7.4
Eye complaints	45	7.2
Fatigue	44	7.1
Skin lesions, itching	34	5.4
Dizziness	31	5.0
Flank pain	31	5.0
Dyspeptic complaints	17	2.7
Dysuria	29	4.6
Ear complaints	19	3.0

URTI: Upper respiratory tract infections.

**Table 3**

The reasons why non-urgent patients prefer the ED over alternative health units (polyclinics and FPs).

	n	%
I can get examined faster in the ED.	227	36.4
I cannot book early appointments with alternative health units.	193	30.9
There is no particular reason I prefer the ED.	126	20.2
The ED is physically closer than my FP.	80	12.8
I visited the ED for my complaints when I was at the hospital for a different reason. <sup>a</sup>	77	12.3
Other reasons <sup>b</sup>	50	8.0

<sup>a</sup> Hospital staff, patient companions, patient visitors etc.<sup>b</sup> Patients that want to get their medications prescribed, to get incapacity report, or that seek medical counseling services etc.

complaints of non-urgent patients are pain and URTI symptoms.<sup>3,5,14,15</sup> This was found to be consistent with the findings of our study. The fact that some patients admitted to the ED with similar complaints within the following two weeks shows that they continued to abuse the ED even after the initial evaluation.

In the literature, the reasons why patients preferred the ED were stated as not wanting to wait to be examined,<sup>3,16,17</sup> EDs being more accessible and convenient,<sup>4,17–19</sup> the lack of knowledge about alternative health units,<sup>5,16,20</sup> the fact that extensive diagnostic procedures are available throughout 24 hours,<sup>14,18</sup> patients' belief that they need urgent care,<sup>4,14,18</sup> being at work and not having a dedicated spare time for seeking healthcare,<sup>4,5,14</sup> the lack of the patients' health insurance,<sup>18,19</sup> and difficulty accessing primary care or polyclinics.<sup>14,21</sup>

These facts were found to be consistent with the results of our study. However, the proportion of patients that visited the ED because of insufficient health insurance was found to be lower in our study (2.6%). In another study conducted in a different region of Turkey, this rate was determined as 1.3%.<sup>22</sup> It has been considered that this proportion might have turned out low because the government health insurance is widely used in our country.

In our study, it was identified that patients most commonly prefer the ED to be able to get examined in a much shorter time. It appears that patients in our country tend to prefer the most comprehensive health care institutions and request the fastest way of providing health care. EDs are often preferred because they are easily accessible and provide rapid and extensive health care throughout 24 h.

In our study, approximately one-third of the patients visited the ED because they were unable to book an early appointment with polyclinics or their family physicians. This could be explained by the inefficient use of the Centralized Health Appointment System (CHAS) or the insufficient of alternative health units. In our study, it was identified that nearly half of the patients did not utilize the CHAS. Besides this, another important issue that warrants attention is the fact that almost one third of the patients did not prefer to visit their FPs for their health problems. Additional studies are required to determine the reasons behind these high proportions.

#### 4.1. Limitations

The main limitations of this study are the facts that it was conducted in a single center during regular office hours, that it only included patients that accepted to participate in the study and patients that are literate in Turkish. The results obtained could be different in other hospitals and other societies.

#### 4.2. Conclusions

According to these results, most of the non-urgent patients presenting to the ED are middle-aged patients without chronic

disease. They usually visit the ED for preventable reasons. It should be ensured that patients apply to their family physicians or polyclinics for non-urgent complaints. To enable this, the more frequent use of the CHAS should be encouraged.

#### Conflicts of interest

None declared.

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