

# The Interaction Level of Emergency Department Patients with Their Family Physicians and Their Expectations from Primary Health Care: A Survey Study

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## Abstract

**Aim:** One of the main reasons of emergency department (ED) crowding is that non-urgent patients often use EDs instead of primary health care. The aim of this study was to determine the interaction level of ED patients with their family physicians and their expectations from primary health care.

**Materials and Methods:** This study was carried out with adult patients who admitted to ED within the regular working hours in a period of one month. The study was conducted through questionnaires in a training and research hospital, in Turkey. The data of 800 patients were analyzed and compared, half of which were from non-urgent patients.

**Results:** Urgent patients were mostly between 40 and 68 years of age with chronic diseases, while non-urgent patients were between 28 and 48 years of age with a higher level of education and employment in a full-time job. It was determined that patients often applied to ED on their own decision. Approximately one third of the patients stated that they did not initially consult their family physicians about their health problems. As recommendations, both patient groups indicated that the primary health care should be more accessible and it should provide more medical analysis.

**Conclusion:** It was observed that non-urgent patients did not interact adequately with their family physicians. The recommendations of the patients should be taken into consideration and they should be encouraged to use primary health care more efficiently. This may be effective in reducing the ED crowding.

**Keywords:** Emergency department, crowding, non-urgent, family physicians, primary health care

## Introduction

The emergency department (ED) crowding is an important problem worldwide (1,2). One of the fundamental reasons for this problem is that non-urgent patients frequently prefer EDs (3,4). This situation negatively affects the quality of patient care and the satisfaction levels of the patients and the ED staff (1,2,5).

In several studies, it was determined that at least one-third of the patients applying to the ED were non-urgent (4-6). There is no specific universal definition of non-urgent patients. Generally, these are described as patients who can also be treated in the

primary care (7). Even in a research study conducted with the assessments of general practitioners, 43% of ED patients were found to be eligible for being treated in primary care (8). Therefore, primary health care is an important factor affecting ED crowding.

In EDs, the severity of patients is determined according to triage levels. Regarding the 5-level triage system used in Turkey, the patients are classified as red (level 1 and 2), yellow (level 3 and 4) and green (level 5). This classification was derived from the Canadian Triage and Acuity Scale. Level 5 patients are in the



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lowest risk group and do not need urgent intervention. Most of these patients can also be treated in primary care (9).

Worldwide, primary health care is mostly provided by family physicians. In this system, it is aimed to have the patients examined initially by family physicians and then have them referred to the advanced healthcare centers if necessary. However, it is seen that non-urgent patients do not prefer family physicians frequently and they continue to use ED (4,10).

In this study, it was aimed to investigate the basic characteristics of the patients admitted to the ED, their level of interaction with their family physicians, and their further expectations from primary health care services. Ultimately, it was targeted to contribute to the more efficient utilization of EDs and primary health care services.

## Materials and Methods

This cross-sectional observational study was conducted between 1-30 April 2018 at an ED of a training and research hospital with approximately 180,000 adult patient applications annually. In this central hospital in the Aegean Region of Turkey, comprehensive health services are delivered in all disciplines related to surgery and internal diseases. The research was commenced after obtaining approval from the local board of ethics.

This survey study was planned to be conducted with adult patients (>18 years of age) who were admitted to ED when family physicians were available (between 8 am and 4pm on weekdays). The five-level triage system was in use at the ED in which the study was conducted. Level 3, 4 and 5 patients who agreed to participate were included in the study by the triage nurses based on convenience sampling. Non-urgent patients were selected from Level 5 patients. The patients who were also suitable for treatment in the primary care were considered to be non-urgent. The nurses in the triage unit had at least one year of experience in ED.

The patients were asked to fill in the survey form and leave it to the triage unit before leaving ED. It was stated that they could get help from the triage nurses or their companions if needed. The center in which the study was conducted reached approximately 5000 ED applications per month, meeting the inclusion criteria. It was planned to conduct 30 to 40 surveys daily to include 15% of these patients in the study. Furthermore, it was planned to select half of the patients from the non-urgent group.

The patients who did not fill in the survey form or who did not complete the questionnaire were excluded from the study. The patients who were level 1 or 2, who did not accept to participate in the study, whose family physicians had changed in the last

3 months, who had language problems, who had low mental status and who were not suitable to fill in a survey because of reasons such as pain or anxiety were excluded.

The survey consisted of five sections. In the first section, the demographic characteristics (age, gender, marital status), socio-economic characteristics (health insurance, employment status, education level) and chronic diseases were investigated. In the second section, the patients were asked to grade their interactions with the family physicians using the satisfaction scale. In the third section, the patients were asked the reasons for their last visit to the family physicians. In the fourth section, the patients were required to answer some questions aiming to determine the level of interactions with their family physicians. In the fifth section, the expectations and recommendations of the patients regarding primary health care services were investigated. At the end of the study, answers given to the open-ended questions were grouped with respect to their frequency. The results obtained from non-urgent and urgent patient groups were compared and the statistical differences between them were determined.

## Statistical Analysis

SPSS 22.0 (SPSS Inc., Chicago, Illinois, USA) software package was used in the analysis of the data obtained. Qualitative data were expressed as number and percentages, and quantitative data as median, interquartile range (IQR), minimum (min) and maximum (max). Pearson's chi-square test or Fisher's exact test was used for the analysis of qualitative variables and Mann-Whitney U test was used for the analysis of quantitative variables. In all analyses, the odds ratios were given with 95% confidence interval (95% confidence interval) and  $p < 0.05$  was considered statistically significant.

## Results

Forty-three patients who did not complete the survey were excluded from the study. Results from a total of 800 patients, half of which were non-urgent, were analyzed. The median age of the patients was 39 years (min=18, max=83, IQR= 28-48 years) in the non-urgent group and it was 54 years (min=18, max=93, IQR=40-68 years) in the urgent group ( $p < 0.001$ ). The median residence time in patients' current residence was 12 years (IQR=5-12 years) in the non-urgent group and 19 years (IQR=5-35 years) in the urgent group. The basic characteristics of the patients with respect to the triage groups are shown in Table 1.

The satisfaction of the patients with primary health care services was investigated and patients were asked to grade their interactions with their family physicians. The results obtained using the satisfaction scale are shown in Table 2.

The patients were asked about the reasons of their last family physician visits and the answers obtained were grouped at the end of the study. The reasons of application according to patient groups are shown in Table 3.

**Table 1. The basic characteristics of the patients**

	Non-urgent patients (n=400)	Urgent patients (n=400)	Odds ratio (95% CI)	p
<b>Gender</b>				
Male	205 (51.3%)	169 (42.3%)	1.44 (1.09-1.90)	0.011
Female	195 (48.8%)	231 (57.8%)		
<b>Marital status</b>				
Married	289 (72.3%)	291 (72.8%)	1.03 (0.75-1.40)	0.874
Single	111 (27.8%)	109 (27.3%)		
<b>Chronic disease</b>				
Yes	102 (25.5%)	230 (57.5%)	3.95 (2.93-5.33)	<0.001
No	298 (74.5%)	170 (42.5%)		
<b>Health insurance</b>				
Yes	390 (97.5%)	396 (99.0%)	2.54 (0.79-8.16)	0.106
No	10 (2.5%)	4 (1.0%)		
<b>Employment status</b>				
Employed	221 (55.2%)	112 (28.0%)	3.17 (2.37-4.26)	<0.001
Unemployed	179 (44.8%)	288 (72.0%)		
<b>Education level</b>				
Primary education or less	197 (49.3%)	265 (66.3%)	2.02 (1.52-2.69)	<0.001
More than primary education	203 (50.8%)	135 (33.8%)		

CI: Confidence interval

**Table 2. Interaction levels of patients with their family physicians**

	Non-urgent patients n (%)	Urgent patients n (%)	Total n (%)	p
Very good	69 (17.3%)	106 (26.5%)	175 (21.9%)	<0.01
Good	211 (52.8%)	196 (49.0%)	407 (50.9%)	
Fair	39 (9.8%)	30 (7.5%)	69 (8.6%)	
Poor	10 (2.5%)	11 (2.8%)	21 (2.6%)	
Very poor	2 (0.5%)	4 (1.0%)	6 (0.8%)	
No interaction	69 (17.3%)	53 (13.3%)	122 (15.3%)	
	400 (100%)	400 (100%)	800 (100%)	

**Table 3. The reasons of patients' last visits to family physicians**

	Non-urgent patients n (%)	Urgent patients n (%)	Total n (%)	p
Renewal of prescriptions	106 (26.5%)	159 (39.8%)	265 (33.1%)	<0.001
URTI symptoms	83 (20.8%)	52 (13.0%)	135 (16.9%)	0.003
Musculoskeletal system pain	44 (11.0%)	20 (5.0%)	64 (8.0%)	0.002
Vaccination	19 (4.8%)	21 (5.3%)	40 (5.0%)	0.862
Obtaining incapacity report	18 (4.5%)	17 (4.3%)	35 (4.4%)	0.862
Infant and pregnancy follow-ups	13 (3.3%)	17 (4.3%)	30 (3.8%)	0.458
Abdominal pain	7 (1.8%)	17 (4.3%)	24 (3.0%)	0.038
Other reasons	31 (7.8%)	42 (10.5%)	73 (9.1%)	0.177
Has no applications	79 (19.8%)	55 (13.8%)	134 (16.8%)	0.023
	400 (100%)	400 (100%)	800 (100%)	

URTI: Upper respiratory tract infection

The interaction levels of the patients with family physicians, which were previously investigated with satisfaction scale, were re-evaluated with some questions. These questions and answers according to patient groups are shown in Table 4.

The answers given to the 4<sup>th</sup> question in Table 4 were classified at the end of the study. It was determined that 627 patients (78.4%) applied to the ED on their own decision, 72 patients (9%) with the consent of someone who is not a health professional (family, employer, friend etc.), 68 patients (8.5%) with the guidance of the family physicians and 33 patients (4.1%) with the guidance of other health professionals (doctor, nurse, health officer etc.).

The expectations and recommendations of the patients regarding the primary health care were asked. The answers given were classified at the end of the study and are shown in Table 5.

### Discussion

The ED crowding is an important issue that should be investigated in all aspects. In this study, it was seen that the patients applying to the ED with non-urgent complaints did not utilize the primary health care efficiently. Consistent with this result, it is noted in the literature that non-urgent patients can also be treated in primary care (7,10,11). Determination of basic characteristics of these

**Table 4. The questions about the level of interaction of patients with their family physicians**

		Non-urgent patients (n=400)	Urgent patients (n=400)	Odds ratio (95% CI)	p
1. Do you know the name of your family physician?	Yes	252 (63.0%)	284 (71.0%)	1.44 (1.07-1.93)	0.016
	No	148 (37.0%)	116 (29.0%)		
2. Do you know the office address of your family physician?	Yes	365 (91.2%)	355 (88.8%)	1.32 (0.83-2.11)	0.238
	No	35 (8.8%)	45 (11.3%)		
3. Do you initially consult your family physician about your health problems?	Yes	276 (69.0%)	283 (70.8%)	1.09 (0.80-1.47)	0.590
	No	124 (31.0%)	117 (29.3%)		
4. Did your family physician guide you to the emergency department today? If someone else, please indicate	Yes	12 (3.0%)	56 (14.0%)	5.26 (2.78-9.98)	<0.001
	No	388 (97.0%)	344 (86.0%)		

CI: Confidence interval

**Table 5. The expectations and recommendations of patients about primary health care**

	Non-urgent patients n (%)	Urgent patients n (%)	Odds ratio (95% CI)	p
I have no recommendations (Satisfied or has no interaction)	256 (64.0%)	246 (61.5%)	1.11 (0.84-1.48)	0.467
It must provide more extensive medical analysis	58 (14.5%)	48 (12.0%)	1.24 (0.83-1.87)	0.296
My family physicians must be at a closer distance to me	14 (3.5%)	40 (10.0%)	3.06 (1.64-5.73)	<0.001
Family physicians must also be available outside the regular working hours	32 (8.0%)	10 (2.5%)	3.39 (1.64-7.00)	<0.001
Family medicine centers must not be crowded	12 (3.0%)	16 (4.0%)	1.35 (0.63-2.89)	0.442
Family physicians must not often refer to the advanced centers	8 (2.0%)	10 (2.5%)	1.26 0.49-3.22	0.632
Family physicians must provide possibility of home care	2 (0.5%)	14 (3.5%)	7.22 (1.63-31.97)	0.003
Other recommendations	18 (4.5%)	16 (4.0%)	1.13 (0.57-2.25)	0.729
	400 (100%)	400 (100%)	800 (100%)	

CI: Confidence interval

patients, their levels of interaction with the family physicians, and their opinions and recommendations about primary health care can be guiding for the solution of this serious problem. In this study organized with that aim, the results coming from the urgent and non-urgent patients are given separately. There is limited data presented in the literature in this manner.

According to the results of the study, it was seen that urgent patients were mostly female patients between 40 and 68 years of age and mostly had one or more chronic diseases. It was determined that non-urgent patients, in turn, were males between 28 and 48 years of age and mostly had a high level of education and a full-time job. These results were found to be consistent with the literature (3,10,12).

According to the results of the study, it was seen that one third of the patients consulted their family physicians for having their regular drugs prescribed again. This rate was higher in the urgent patient group (odds ratio=1.83; 95% confidence interval=1.36-2.47). According to the literature, it was found that the most frequent reasons of complaint-based family physician visits were similar with that of the ED applications. These include upper respiratory tract infections and musculoskeletal system pain (5,7,13). These results show that many of the patients applying to ED can also be treated in primary care.

Of the patients of interest, 17% stated that they never consulted their family physicians for any reason. Also, 15% of the patients did not score in the satisfaction scale because they had no interaction with their family physicians. These remarkable rates indicate that a significant proportion of patients have serious communication problems with their family physicians.

As a result of the questions investigating the interaction levels of the patients with their family physicians, it was determined that approximately one third of the patients did not know the names of their family physicians. This ratio was found to be higher among non-urgent patients (odds ratio=1.44; 95% confidence interval=1.07-1.93). It was learned that one in ten patients did not even know the office addresses of their family physicians. The reasons for these remarkable results should be investigated in detail.

Approximately one third of the patients stated that they did not initially consult their family physicians for their health problems. It is seen that these patients often prefer ED. This was found to be consistent with the results of other studies (3,10,12). It was seen that only 9% of the patients were referred to ED by their family physicians. It was determined that the patients often admitted to ED by their own decision or with the recommendations of non-healthcare professionals. This was found to be consistent

with the literature (3,6,12). All these results reveal that the patients applying to EDs do not have a good level of contact and communication with their family physicians.

Both patient groups wished that primary health care units were more accessible and provided more extensive medical analysis. The urgent patients with a higher rate of chronic diseases and a higher mean age wished family physicians to be closer to them and to provide home care when needed. The non-urgent patients having a higher rate of employment in a full-time job, in turn, wished family physicians to be available also outside the regular working hours.

### Study Limitations

The main limitation of the study was that it was conducted in a single center with a limited number of patients who agreed to participate in the research. Failure to evaluate patients with triage levels of 1 and 2 might have affected the outcomes of the urgent patients. Furthermore, the results may vary from region to region.

### Conclusion

In conclusion, it can be postulated that non-urgent patients do not efficiently utilize the primary health care and they do not have sufficient level of interaction and communication with their family physicians. Considering the recommendations of the patients, primary health care services should be improved and used more effectively. Encouraging patients to consult their family physicians for their non-urgent complaints, tackling the difficulties in accessing the primary care and having the referral chain system among the healthcare units can help reduce ED crowding.

### Ethics

**Ethics Committee Approval:** Ethical approval for this study was obtained from the Ethics Committee of University of Health Sciences - Tepecik Training and Research Hospital, İzmir, Turkey (approval number: 2018/1-53, date: 10/01/2018).

**Informed Consent:** Obtained.

**Peer-review:** Externally and internally peer-reviewed.

### Authorship Contributions

Concept: H.İ., T.Y.K., C.Ü., M.Y., Design: H.İ., İ.A.B., C.Ü., Data Collection or Processing: Y.E., İ.A.B., C.Ü., Analysis or Interpretation: H.İ., T.Y.K., M.Y., Literature Search: Y.E., T.Y.K., İ.A.B.; Writing: H.İ., Y.E., M.Y.

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## References

1. Bektemur G, Osmanbeyoglu N, Cander B. Emergency Department Care Survey. *Eurasian J Emerg Med.* 2015;14(Supplement 1):1-38.
2. Higginson I. Emergency department crowding. *Emerg Med J.* 2012;29:437-43.
3. Gentile S, Vignally P, Durand AC, Gainotti S, Sambuc R, Gerbeaux P. Nonurgent patients in the emergency department? A French formula to prevent misuse. *BMC Health Serv Res.* 2010;10:66.
4. Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Emergency department visits for nonurgent conditions: Systematic literature review. *Am J Manag Care.* 2013;19:47-59.
5. Şimşek P, Gürsoy A. Turkish health care providers' views on inappropriate use of emergency department: Who, when and why? *Int Emerg Nurs.* 2015;27:31-6.
6. Tsai JCH, Liang YW, Pearson WS. Utilization of emergency department in patients with non-urgent medical problems: patient preference and emergency department convenience. *J Formos Med Assoc.* 2010;109:533-42.
7. Durand AC, Gentile S, Devictor B, Palazzolo S, Vignally P, Gerbeaux P, et al. ED patients: how nonurgent are they? Systematic review of the emergency medicine literature. *Am J Emerg Med.* 2011;29:333-45.
8. Thompson MI, Lasserson D, McCann L, Thompson M, Heneghan C. Suitability of emergency department attenders to be assessed in primary care: survey of general practitioner agreement in a random sample of triage records analysed in a service evaluation project. *BMJ Open.* 2013;3:e3612.
9. Public Hospitals Institution of Turkey Database, 2017. Web site. Available at [http://www.tkhk.gov.tr/828\\_tebbligler](http://www.tkhk.gov.tr/828_tebbligler).
10. Idil H, Kilic TY, Toker I, Dura Turan K, Yesilaras M. Non-urgent adult patients in the emergency department: Causes and patient characteristics. *Turk J Emerg Med.* 2018;2:71-4.
11. Penson R, Coleman P, Mason S, Nicholl JJ. Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department? *Emerg Med J.* 2012;29:487-91.
12. Durand AC, Palazzolo S, Tanti-Hardouin N, Gerbeaux P, Sambuc R, Gentile S. Non-urgent patients in emergency departments: rational or irresponsible consumers? Perceptions of professionals and patients. *BMC Research Notes.* 2012;5:525-33.
13. Andrews H, Kass L. Non-urgent use of emergency departments: populations most likely to overestimate illness severity. *Intern Emerg Med.* 2018;13:893-900.