Research Article

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EMERGENCY DEPARTMENT CONSULTATIONS IN THE GREEN ZONE: FREQUENCY, SPECIALTIES, AND OUTCOMES

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Abstract

Objectives: The green zone covers patients with stable vital signs who do not require urgent intervention; however, due to the high number of presentations, this group constitutes a significant portion of the emergency department workload. This study aimed to determine the characteristics of consultations requested for green zone patients in the emergency department and to reveal their impact on emergency department operations.

Materials and Methods: Our study was conducted retrospectively on adult patients who visited the emergency department green zone between June 2024 and May 2025. The demographic characteristics of patients who required consultation, the speciality for which consultation is requested, the time of consultation, the diagnosis code, and patient outcomes were analysed.

Results: In our study, 75,011 green zone applications were reviewed, and it was determined that consultations were requested for 237 patients (0.32%). The most frequently requested speciality was orthopaedics (47.3%), followed by plastic surgery (8.0%), ear, nose, and throat (6.3%), and paediatrics (5.9%). 70% of patients for whom consultations were requested were admitted, and 29.5% were discharged. The rate of admission to the intensive care unit was significantly higher in patients who were consulted by cardiology ($p<0.001$).

Conclusion: Although the consultation rate among green zone patients is low, the majority of these patients have serious clinical conditions requiring hospitalisation. Proper management of the consultation process is important for both patient safety and the efficient use of emergency department resources. Strengthening primary care services may play an important role in the management of low-acuity patients in emergency departments.

Keywords: Emergency medical services, primary health care, referral and consultation, triage.

Introduction

Emergency departments are units with the highest patient admissions and operate 24 hours a day. In Türkiye, the number of emergency department visits ranges between 100 and 130 million annually, accounting for 31.6% of total hospital visits in 2016 and 48.6% in 2021.[1] Due to increasing patient admissions over the years, the functions of emergency departments in both diagnosis and treatment have become more complex.

Triage systems aim to reduce this complexity by classifying patients according to their level of urgency. These systems enable the efficient use of healthcare resources, reduce waiting times in emergency departments, and help lower morbidity and mortality rates.[2] In Türkiye, patient triage in emergency departments is carried out according to three color codes, as specified in the "Communication on the Procedures and Principles for the Implementation of Emergency Department Services in Inpatient Health Facilities" published by the Ministry of Health: red zone (life-threatening), yellow zone (stable but requiring urgent intervention), and green zone (vital signs stable, not requiring urgent intervention).[3, 4]

Green zone patients generally represent stable individuals without life-threatening conditions. However, they constitute a substantial proportion of emergency department visits in Türkiye and may contribute significantly to emergency department crowding. [5,6] Many of these patients could potentially be managed at the primary care level.[7]

A large proportion of complaints from green zone patients consist of symptoms related to minor trauma, musculoskeletal complaints, and upper respiratory tract infection symptoms.[8] However, in some patients, unexpected findings may emerge after the initial assessment, and consultation with specialists may be required. Appropriate consultations requested in emergency departments increase diagnosis and treatment optimisation, while inappropriate consultation requests can prolong waiting times and reduce emergency department efficiency. Appropriate consultation requests are critical in terms of patient satisfaction and emergency department performance.[9]

It has been determined that the rate of consultations requested from emergency departments worldwide varies between 20% and 40%.[10,11] Studies conducted in Türkiye show that this rate generally ranges between 6% and 20%.[12,13] Studies on green zone patients in the literature are quite limited. Determining the consultation needs of green zone patients, who constitute a large proportion of emergency department visits, can provide valuable information for emergency department management from both clinical and administrative perspectives.

In our study, the characteristics, timing, and outcomes of consultations requested for green zone patients in the emergency department of a tertiary education and research hospital were examined; the data obtained were evaluated by comparing them with the literature. Our study aimed to determine the characteristics of consultations requested from the emergency department green zone and to reveal their impact on emergency department operations.

Materials and Methods

Study design

Our study was designed as a single-centre retrospective observational study. The study was conducted with the approval of the Non-Interventional Clinical Research Ethics Committee of Bilecik Şeyh Edebali University (Date: 30/10/2025, Decision No: 10/8).

Patients who visited the emergency department green zone of a tertiary education and research hospital between June 2024 and May 2025 were examined, and patients requiring consultation were included in the study.

In our institution, triage is performed by trained emergency nurses in accordance with the nationally implemented three-level colour-coded triage system used widely in emergency departments across Türkiye. Patients are categorised as red, yellow, or green based on clinical severity, vital signs, and presenting complaint. Patients whose vital signs are stable, who do not have a life-threatening emergency, and whose complaints are assessed as low priority have been triaged as green zone patients.

As an inclusion criterion, all patients directed to the green zone during their initial visit were evaluated in our study, and all patients who requested at least one specialist consultation during their stay in the emergency department were analysed. No patients who requested consultation from the green zone were excluded from the study.

Patients were excluded if they were triaged to the red or yellow zones at initial presentation. In addition, green zone patients for whom no specialist consultation was requested during their emergency department stay were not included in the analysis. Patients with incomplete or missing electronic medical records were also excluded to ensure data accuracy and reliability. Furthermore, individuals who left the emergency department before being evaluated or before completion of their clinical assessment were excluded from the study.

Data collection

Data obtained from the hospital information management system was used. Patients' demographic information (age, gender), requested consultation departments, consultation times (during/after hours), diagnosis codes (ICD-10), outcomes (discharge, admission, referral), and admission units were recorded.

Statistical Analysis

Data analysis was performed using IBM SPSS 25.0 software. Descriptive statistics are presented as counts and percentages for categorical variables. The normality of numerical variables was assessed using the Shapiro-Wilk test. Variables that fitted a normal distribution are expressed as mean ± standard deviation (SD), while variables that did not fit a normal distribution are expressed as median and min-max. The Chi-square test and Fisher's Exact test were used in the analysis of categorical variables; the Mann-Whitney U test was used in the analysis of numerical variables that did not conform to a normal distribution in independent groups. The statistical significance level was accepted as $p<0.05$.

Because the study aimed to describe the characteristics, timing, patterns, and outcomes of consultations requested for green zone patients, no predictive modelling was planned. Therefore, multivariable analyses such as logistic regression were not performed. The study does not aim to establish causal relationships or determine independent predictors of hospitalisation; rather, it aims to present a descriptive profile of consultation practices in green zone patients.

Results

It was determined that 75,011 patients visited the emergency department's green zone between June 2024 and May 2025. Of these patients, 237 (0.32%) were referred to specialist departments. The demographic data of the patients, consultation times, outcomes, and distribution of hospitalised patients according to the units they were admitted to are presented in Table 1.

Table 1. The demographic data of the patients, consultation times, outcomes and distribution of hospitalised patients according to the units they were admitted to

Age	Median (min-max)
Year	41 (0-91)
Sex	n (%)
Female	96 (40.5%)
Male	141 (59.5%)
Consultation Time	n (%)
Working Hours	101 (42.6%)
Outside Working Hours	136 (57.4%)
Outcome	n (%)
Discharged	70 (29.5%)
Admitted to the Hospital	166 (70.0%)
Transferred	1 (0.5%)
Hospital Admission Unit	n (%)
Ward	160 (96.4%)
Intensive Care Unit	6 (3.6%)

When examining the age distribution of the patients consulted, the median age was found to be 41 (0-91). The median age for male patients was 38 (0-89), while the median age for female patients was 54 (3-91). It was determined that the age values for male patients were statistically significantly lower than those for female patients. (p=0.005, Mann-Whitney U test)

When consultation numbers were evaluated, it was determined that consultations were requested for an average of 0.65 patients per day.

The distribution of the 15 most common diagnosis codes among patients requiring consultation is shown in Figure 1. The distribution of departments requested for consultation is shown in Figure 2. The distribution of departments requesting consultations and the times at which consultations were requested is provided in Table 2.

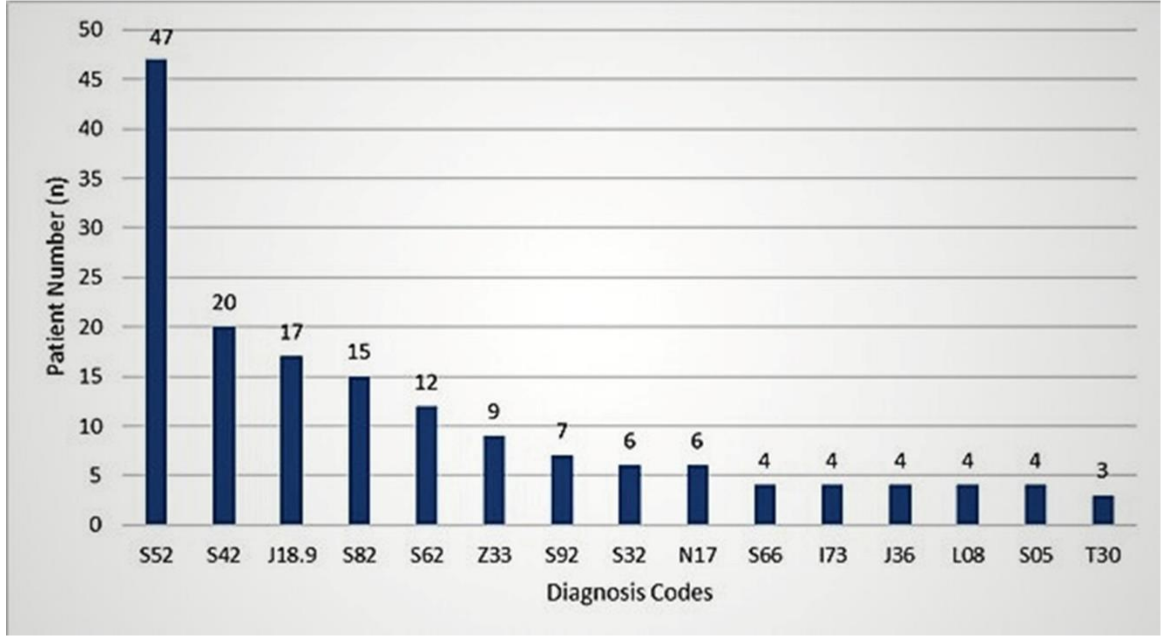

Figure 1. The distribution of the 15 most common diagnosis codes among patients requiring consultation

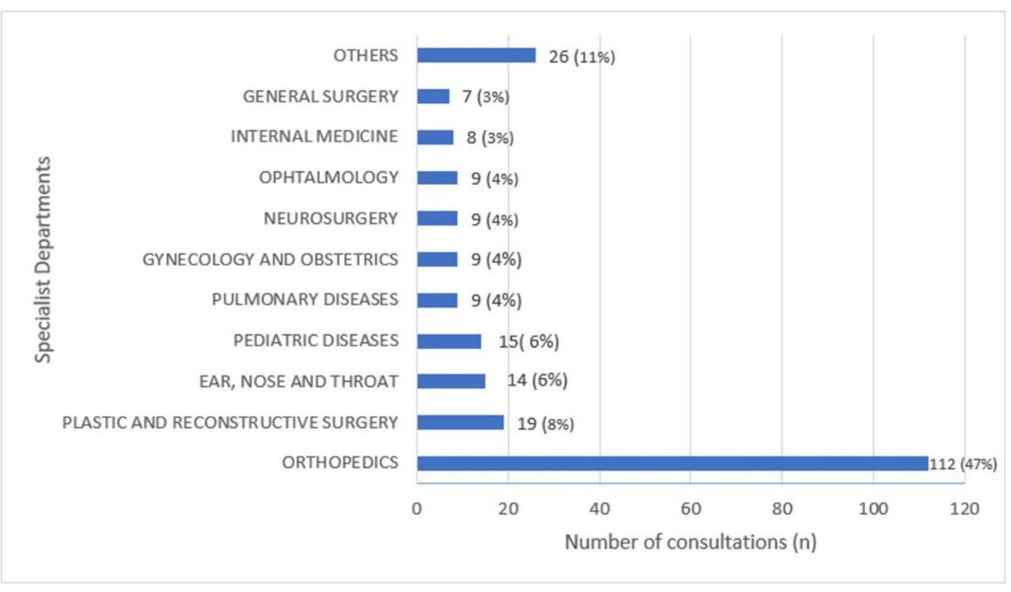

Figure 2. The distribution of departments requested for consultation

Table 2. The distribution of departments requesting consultations and the times at which consultations were requested

Departments Requesting Consultations	Working Hours n (%)	Outside Working Hours n (%)
Ear, Nose, and Throat	2 (13.3%)	13 (86.7%)
Pediatric Diseases	5 (35.7%)	9 (64.3%)
Orthopedics	51 (45.5%)	61 (54.5%)
Neurology	0 (0.0%)	3 (100.0%)
Gynaecology and Obstetrics	4 (44.4%)	5 (55.6%)
Plastic and Reconstructive Surgery	12 (63.2%)	7 (36.8%)
General Surgery	3 (42.9%)	4 (57.1%)
Cardiology	1 (20.0%)	4 (80.0%)
Neurosurgery	5 (55.6%)	4 (44.4%)
Pediatric Surgery	2 (66.7%)	1 (33.3%)
Internal Medicine	4 (50.0%)	4 (50.0%)
Cardiovascular Surgery	4 (39.5%)	0 (39.5%)
Gastroenterology	2 (39.5%)	0 (39.5%)
Infectious Diseases	2 (40.0%)	3 (60.0%)
Ophthalmology	3 (33.3%)	6 (66.7%)
Pulmonary Diseases	1 (11.1%)	8 (88.9%)
Psychiatry	0 (0.0%)	1 (100.0%)
Urology	0 (0.0%)	2 (100.0%)
Thoracic Surgery	0 (0.0%)	1 (100.0%)

Patient ages were evaluated according to the departments requested for consultation, and it was determined that the departments with the highest median ages were neurology at 77 (75-85) years, internal medicine at 74 (29-91) years, and urology at 73 (64-82) years. The departments with the lowest median ages were pediatrics with 7 (0-15) years, pediatric surgery with 14 (3-17) years, and otorhinolaryngology with 22 (4-46) years. A box plot graph showing the age distribution of patients according to consultation departments is provided in Figure 3.

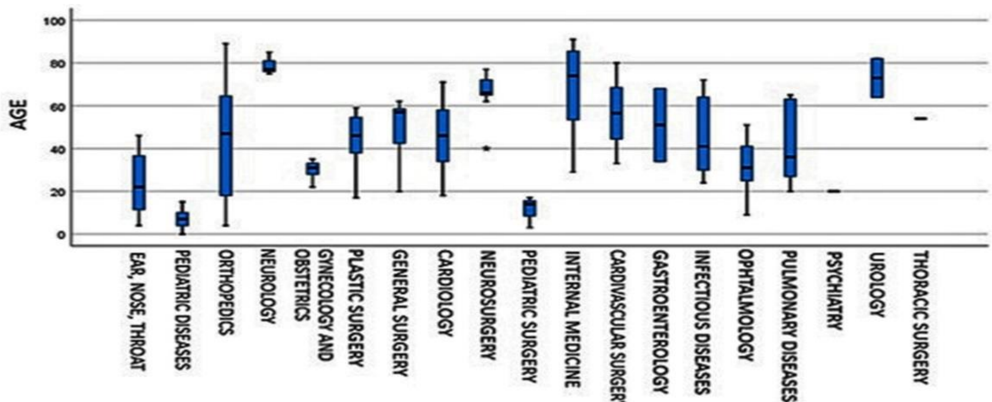

Figure 3. Box plot graph of the age distribution of patients according to the consultation speciality departments

When examining the departments requesting consultations and the gender ratio, it was determined that among consultations requested from the orthopaedics department, there were 52 female patients (46.4%) and 60 male patients (53.6%). In consultations requested from the plastic and reconstructive surgery department, the number of female patients was 4 (21.1%) and the number of male patients was 15 (78.9%); in consultations requested from the ear, nose, and throat department, the number of female patients was 5 (33.3%) and the number of male patients was 10 (66.7%).

The age distribution was evaluated according to patient outcomes, and the median age of discharged patients was found to be 38 (4-82), while the median age of hospitalised patients was 45 (0-91), with no statistically significant difference found between the groups. (p=0.208, Mann-Whitney U test) When evaluating the relationship between the units where patients were admitted and their age groups, the median age of patients admitted to the ward was 45 (3-91), while the median age of patients admitted to the intensive care unit was 46 (0-87), and no statistically significant difference was found between the groups. (p=0.866, Mann-Whitney U test)

When evaluated by gender groups according to patient outcomes, it was determined that 26 (37.1%) of the discharged patients were female and 44 (62.9%) were male. Among patients admitted to the hospital, 70 (42.2%) were female, and 96 (57.8%) patients were male. One patient transferred to an external centre was male. No statistically significant difference was found between the groups (p=0.549, Chi-square Test). When the gender groups of hospitalized patients were evaluated according to the units they were admitted to, it was determined that 68 (42.5%) of the patients admitted to the ward were female and 92 (57.5%) were male. 2 (33.3%) of the patients admitted to the intensive care unit were female and 4 (66.7%) were male. No statistically significant difference was found between the groups. (p=1.000, Fisher's Exact Test)

The relationship between the speciality departments requested for consultation and patient outcomes was examined, and as outcomes of orthopaedic consultations, 15 (13.4%) patients were discharged, and 97 (86.6%) patients were admitted. As a result of plastic and reconstructive surgery consultations, 11 (57.9%) patients were discharged, and 8 (42.1%) patients were admitted; as a result of ear, nose, and throat consultations, 8 (53.3%) patients were discharged, and 7 (46.7%) patients were admitted. All 9 (100.0%) patients referred to neurosurgery were discharged, while all 8 (100.0%) patients referred to internal medicine and all 9 (100.0%) patients referred to pulmonary medicine were admitted. When evaluating the relationship between the departments requested for consultation and the units where admission was given, 4 (100.0%) patients referred to the cardiology department were admitted to the intensive care unit, and no patients were admitted to the ward. Of the patients referred to the pediatric department, 1 (10.0%) was admitted to the intensive care unit, and 9 (90.0%) were admitted to the ward; of the patients referred to the orthopaedics department, 1 (1.0%) was admitted to the intensive care unit, and 96 (99.0%) were admitted to the ward. Patients admitted to all other departments were admitted to the ward. A statistically significant difference was found between the groups, and the significant difference was found between the cardiology department and the other departments. ($p<0.001$, Chi-Square Test)

Discussion

Our study demonstrated that the overall consultation rate among green zone patients was 0.32%, which is considerably lower than the overall consultation rates reported for all triage areas in emergency departments in Türkiye.[12,13] However, most studies evaluate consultation patterns across all emergency department triage categories, whereas our analysis focused specifically on green zone patients. Since these patients typically present with low-acuity conditions and can often be managed directly by emergency physicians, consultation requests are expected to occur less frequently. This finding is consistent with previous studies reporting that a substantial proportion of low-acuity emergency department presentations can be effectively evaluated and treated without specialist involvement.[14, 15] Therefore, the lower consultation rate in our study likely reflects the characteristics of the green zone population rather than differences in consultation practices.

The fact that orthopaedics is the most frequently consulted speciality in the green zone, with a ratio of 47.3%, is consistent with many studies in the literature. In the study by Şener et al., the ratio of orthopaedic consultations to all consultations was determined to be 12.2%, while in the study by Gülaçtı et al., this ratio was found to be 30.8%.[13,16] Considering that the most common diagnosis codes identified in patients requiring consultation were for forearm, upper arm, and shoulder fractures, it can be inferred that orthopaedic consultation is frequently requested due to upper extremity injuries. Furthermore, the fact that plastic surgery and otorhinolaryngology are also frequently consulted fields can be explained by the prevalence of facial and extremity injuries in this group of patients.

The time periods during which consultations were requested were examined, and it was determined that 57.4% of consultations were requested outside of working hours. When reviewing the literature on the rates of consultations requested outside of working hours, Leblebici et al. found that 66% of consultations were requested outside of working hours, while Leithead et al. found that 57.8% of consultations were requested outside of working hours.[17, 18] The results of our study are consistent with the literature. Due to the absence of outpatient services during non-working hours, patients can only use emergency departments to receive healthcare services. Increasing green zone density, especially in hospitals in large cities, makes the efficient use of emergency department resources difficult. Since all patients are evaluated in emergency departments, consultation rates may also increase in this context.

In our study, it was determined that consultations were requested for 0.32% of green zone patients, but the admission rate among these patients was 70%. In this context, it was found that the admission rate among green zone applications was 0.22%. When green zone hospital admission rates were examined in the literature, Alnasser et al. reported a rate of 0.4%, Honigman et al. reported a rate of 4.0%, and Leey-Echavarría et al. reported a rate of 6.4%.[19-21] According to the results of our study, the admission rates of green zone patients are low when evaluated in comparison with the international literature. The high number of emergency department visits in our country and the triage system's classification of a large group of patients as green zone may be the reasons for this difference. In addition, the fact that emergency departments partially take over primary health care services leads to many outpatient clinic visits being directed to the emergency department. In other countries, the definition of green zone is narrower and only covers patients with mild symptoms who are suitable for outpatient treatment. Therefore, although the proportion of cases requiring consultation among green zone patients is low, it is clinically important that the majority of these cases require hospitalisation for further evaluation and treatment. Our findings indicate that the consultation process in emergency departments needs to be carefully planned, and unnecessary referrals should be prevented.

In Türkiye, emergency departments are often used as a primary access point to healthcare, particularly for patients with low-acuity conditions. Studies based on the perspectives of family medicine describe how it would be possible to manage a large portion of the emergency department patient population at the primary care level.[7,22] Strengthening the integration between emergency departments and primary care services may improve patient flow and reduce unnecessary emergency department utilisation.

Despite the low consultation frequency, the hospitalisation rate among consulted green zone patients was notably high. This suggests that green zone patients who require specialist consultation represent a clinically distinct and potentially more severe subgroup. Similar findings have been reported in tertiary care settings, where patients for whom consultation is requested demonstrate higher admission rates and greater clinical severity.[23,24] The high admission rate may reflect selective and appropriate consultation practices by

emergency physicians, cautious triage decisions in borderline cases, and, in a limited number of instances, possible under-triage at initial presentation. Emergency department triage decisions are made rapidly based on initial clinical presentation and vital signs. Consequently, some patients may initially appear clinically stable but later demonstrate disease progression or previously unrecognised severity. Therefore, a small proportion of patients initially classified as green zone may subsequently require more advanced care.

Our study found that patients requiring cardiology consultation had a statistically significantly higher rate of intensive care unit admission. This suggests that some green zone patients may have been assessed in a low triage category due to inadequate risk assessment at the time of presentation. A review of the literature shows that errors in triage threaten patient safety, and therefore triage systems need to be strengthened with objective, transparent, and evidence-based criteria. The most important factors affecting patient safety in the triage process include accurate and continuous patient assessment, experienced personnel, and the use of objective criteria.[25,26] High workload, lack of experience, and subjective assessments can negatively affect patient safety. When the results of our study are evaluated in conjunction with the literature, it is evident that the triage system, which is critical for patient safety, needs to be strengthened with objective criteria.

An important operational finding of our study was that the majority of consultations were requested outside regular working hours. This pattern suggests a disproportionate increase in emergency department workload during off-hours, when outpatient services are unavailable and access to specialist care is limited. In this context, proper management of the consultation process and strengthening the role of family medicine in the management of low-acuity patients are essential for maintaining patient safety and ensuring the efficient use of emergency department resources.

This study has several limitations. First, due to its single-centre retrospective design, the generalizability of the findings may be limited. Second, the statistical analysis was primarily descriptive, as the main aim of the study was to present the characteristics and outcomes of consultations requested for green zone patients rather than to develop predictive models. Although this approach was appropriate for the exploratory nature of the study, future multicenter prospective studies with larger datasets may allow more advanced statistical modelling to identify predictors of consultation requests and hospitalisation.

Ethical Considerations: The study was conducted with the approval of the Non-Interventional Clinical Research Ethics Committee of Bilecik Şeyh Edebali University (Date: 30/10/2025, Decision No: 10/8).

Conflict of Interest: The authors declare no conflict of interest.

References

1. Beştemir A, Aydın H. 300 million Patient Examinations per year; Evaluation of Emergency and Polyclinic Services of 2nd and 3rd Stage Public Health Facilities in Türkiye. Sakarya Med J. 2022;12(3):496-502 (doi:10.31832/smj.1128439).
2. Lampi M, Junker JPE, Tabu JS, Berggren P, Jonson CO, Wladis A. Potential benefits of triage for the trauma patient in a Kenyan emergency department. BMC Emergency Medicine. 2018;18(1):49 (doi:10.1186/s12873-018-0200-7).
3. Durmaz H, Pamuk Cebeci S. Triage attitude of health professionals who work in emergency services. Anatolian J Emerg Med. 2021;4(2):72-78.
4. Polat O, Koca A, Günalp M, Gürler S, Genç S, Oğuz AB, et al. Emergency department triage decisions: Personnel and parameters. Ankara Univ Tip Fak Mecmuasi. 2018;71(2):152-157
5. Butun A, Kafdag EE, Gunduz H et al. Emergency department overcrowding: causes and solutions. Emerg Crit Care Med. 2023;3(4):171-6 (doi:10.1097/EC9.0000000000000078).
6. Birinci Ş, Ülgü MM, Gözükara MG. Critical Insights Based on the Ministry of Health's 6-Year Data Analysis: An Epidemiological Study of Patient Visits Trends of Emergency Departments in Türkiye. Haydarpasa Numune Med J. 2023;63(3):334–9 (doi:10.14744/hnhj.2023.17048).
7. Tetik B. Evaluation of patients admitting emergency care services from the point of view of family medicine. Ankara Med J. 2020;(2):281-9 (doi:10.5505/amj.2020.61214).
8. Idil H, Kilic TY, Toker İ, Turan KD, Yesilaras M. Non-urgent adult patients in the emergency department: Causes and patient characteristics. Turk J Emerg Med. 2018;18(2):71-4 (doi:10.1016/j.tjem.2018.06.002).
9. Shin S, Lee SH, Kim DH et al. The impact of the improvement in internal medicine consultation process on ED length of stay. Am J Emerg Med. 2018;36(4):620-4 (doi:10.1016/j.ajem.2017.09.041).
10. Lee RS, Woods R, Bullard M, Holroyd BR, Rowe BH. Consultations in the emergency department: a systematic review of the literature. Emerg Med J. 2008;25(1):4-9.
11. Vosk A. Response of consultants to the emergency department: a preliminary report. Ann Emerg Med. 1998;32(5):574-7.
12. Boğan M, Sultanoğlu H, Demir MC, Karadağ M, Altınsoy HB. Analysis of the contents of consultations requested by the emergency department. IMC J Med Sci. 2021;15(1):9-15 (doi:10.3329/imcjms.v15i1.54196).
13. Şener K, Arslan B, Güven R, Kapçı M. Analysis of Consultations that are Requested from the Emergency Department. Cam and Sakura Med J. 2021;1(3):90-4 (doi:10.4274/csmedj.galenos.2021.2021-11-2).
14. Fischer-Rosinský A, Slagman A, Legg D, Wu YN, King R, Roll S, et al. Frequency, demographics, diagnoses and consultation patterns associated with low-acuity attendances in German emergency

departments: a retrospective routine healthcare data analysis from the INDEED project. BMJ Open. 2024;14(12):e084986.

15. Aslan N, Guneysu F, Guner NG, Durmuş E, Akdeniz S, Yurumez Y. The role of emergency medicine specialists and general practitioners in yellow zone patient management: A case in the Sakarya Province. Hong Kong J Emerg Med. 2024;31(6):360-365.
16. Gulacti U, Lok U, Hatipoglu S, Polat H. An Analysis of WhatsApp Usage for Communication Between Consulting and Emergency Physicians. J Med Syst. 2016;40(6):130(doi:10.1007/s10916-016-0483-8).
17. Leblebici M, Alimoğlu O. Type, source, adequacy and outcome of consultations requested from the department of general surgery: a retrospective cohort study. Eur Res J. 2021;7(6):658-66 (doi:10.18621/eurj.866546).
18. Leithead CC, Matthews TC, Pearce BJ et al. Analysis of emergency vascular surgery consults within a tertiary health care system. J Vasc Surg. 2016;63(1):177-8 (doi:10.1016/j.jvs.2015.08.057).
19. Alnasser S, Alharbi M, AAlibrahim A et al. Analysis of Emergency Department Use by Non-Urgent Patients and Their Visit Characteristics at an Academic Center. Int J Gen Med. 2023;16:221-32 (doi:10.2147/IJGM.S391126).
20. Honigman LS, Wiler JL, Rooks S, Ginde AA. National study of non-urgent emergency department visits and associated resource utilization. West J Emerg Med. 2013;14(6):609-16 (doi:10.5811/westjem.2013.5.16112).
21. Leey-Echavarría C, Zorrilla-Riveiro J, Arnau A, Jaén-Martínez L, Lladó-Ortiz D, Gené E. Predicting hospital admission of patients with emergencies considered low priority according to assigned triage level. Emergencias. 2020;32(6):395-402.
22. Holzinger F, Kümpel L, Cantu R, Alberter A, Möckel M, Heintze C. Could low-acuity emergency medical services patients be redirected to primary care? Findings from a multi-center survey in Berlin, Germany. BMC Emergency Medicine. 2025; 25:138 (doi:10.1186/s12873-025-01295-9).
23. Veen DVD, Heringhaus C, Groot BD. Appropriateness, reasons and independent predictors of consultations in the emergency department (ED) of a Dutch tertiary care center: a prospective cohort study. PLoS One. 2016;11(2):e0149079.
24. Kümpel L, Oslislo S, Cantu RR, Möckel M, Heintze C, Holzinger F. Exploring the views of low-acuity emergency department consulters on an educational intervention and general practitioner appointment service: a qualitative study in Berlin, Germany. BMJ Open. 2023;13(4):e070054.
25. Fekonja Z, Kmetec S, Fekonja U, Mlinar Reljić N, Pajnkihar M, Strnad M. Factors contributing to patient safety during triage process in the emergency department: A systematic review. J Clin Nurs. 2023;32:5461–77 (doi:10.1111/jocn.16622).
26. Cotte F, Mueller T, Gilbert S et al. Safety of Triage Self-assessment Using a Symptom Assessment App for Walk-in Patients in the Emergency Care Setting: Observational Prospective Cross-sectional Study. JMIR Mhealth Uhealth. 2022;10(3):e32340 (doi:10.2196/32340).