

## RESEARCH ARTICLE

**Server Sezgin Uludag<sup>1</sup>**  
**Betul Guzelyuz<sup>1</sup>**  
**Afsin Ipekci<sup>2</sup>**  
**Abdullah Kagan Zengin<sup>1</sup>**  
**Mehmet Faik Ozcelik<sup>1</sup>**

<sup>1</sup> Istanbul University-Cerrahpasa,  
Cerrahpasa Faculty of Medicine,  
Department of General Surgery,  
Istanbul, Turkey

<sup>2</sup> Istanbul University-Cerrahpasa,  
Cerrahpasa Faculty of Medicine,  
Department of Emergency  
Medicine, Istanbul, Turkey

### Corresponding Author:

Afsin Ipekci

Istanbul University-Cerrahpasa,  
Cerrahpasa Faculty of Medicine,  
Department of Emergency Medicine,  
Istanbul, Turkey

mail: [afsin.ipekci@istanbul.edu.tr](mailto:afsin.ipekci@istanbul.edu.tr)

Phone: +90 2124143000- 65220

Received: 10.07.2020

Acceptance: 28.01.2021

DOI: 10.18521/ktd.767493

**Konuralp Medical Journal**  
e-ISSN1309-3878  
[konuralptipdergi@duzce.edu.tr](mailto:konuralptipdergi@duzce.edu.tr)  
[konuralptipdergisi@gmail.com](mailto:konuralptipdergisi@gmail.com)  
[www.konuralptipdergi.duzce.edu.tr](http://www.konuralptipdergi.duzce.edu.tr)

## Analysis of General Surgical Consultations Requested from the Emergency Department in the Period of Pandemic and Non-Pandemic

### ABSTRACT

**Objective:** To investigate the emergency department admissions, the general surgery consultation request, and the necessity of immediate treatment of patients even though the society did not leave the house unless necessary during the pandemic period.

**Methods:** The files of patients were retrospectively scanned between March-May 2020, which is the Covid 19 pandemic period, and March-May 2019, as a period in which normal social life continues. Age, gender, complaints, comorbid diseases, the necessity of truly emergency surgical treatment as well as the socioeconomic level scale for each individual were recorded and analyzed.

**Results:** The rate of request for consultation was 2.7% (n = 170) in the pandemic period, and 3.1% (n = 316) in the non-pandemic period. The most common complaints were nausea-abdominal pain-difficulty defecation in both periods. Although individuals without comorbidities are predominant in both periods, the proportion of individuals with comorbid diseases was higher during the pandemic period (p = 0.001). Patients who did not require urgent treatment in both periods were in the majority. In patients requiring urgent treatment, the rate of hospitalized patients was higher during the pandemic period, whereas the rate of operated patients was higher in the non-pandemic period (p = 0.005). The majority of the patients had a low socioeconomic level and a small portion had a moderate socioeconomic level in both periods (p> 0.05).

**Conclusions:** Although there is a significant decrease in the number of emergency department admissions and the number of general surgical consultations requested during the pandemic period, the fact that more than half of the patients who are consulted do not require emergency surgical treatment still shows the unnecessary use of emergency services.

**Keywords:** Covid 19, Pandemic, Emergency Department, General Surgery, Consultation

## Acil Servisten İstenen Genel Cerrahi Konsültasyonları: Pandemi ve Pandemi Dışı Dönemin Analizi

### ÖZET

**Amaç:** Pandemi döneminde toplumun gerekmedikçe evden çıkmama durumuna rağmen acil servise yapılan başvurular ve istenen genel cerrahi konsültasyonlarının acil tedavi gereksinimi incelemeyi amaçladık.

**Gereç ve Yöntem:** Acil servisine başvuran ve genel cerrahi konsültasyonu istenen hastaların dosyaları Covid 19 pandemi dönemi olan mart-mayıs 2020 ve normal sosyal hayatın devam ettiği bir zaman dilimi olarak seçilen mart-mayıs 2019 tarihleri arasında retrospektif olarak incelendi. Hastaların yaş, cinsiyet, başvuru şikayeti, mevcut ek hastalıklar, gerçekten acil cerrahi tedavi gerekme durumu ve sosyoekonomik durumları kayıt edilerek analiz edildi.

**Bulgular:** Konsültasyon isteme oranı pandemi döneminde %2.7 (n=170) iken pandemi dışı dönemde ise %3.1 (n=316) tespit edildi. Hastaların başvuru şikayetleri her iki dönemde de en sık başvuru şikayeti bulantı-karın ağrısı-dışkılama güçlüğü idi. Her iki dönemde de ek hastalığı olmayan bireyler ağırlıklı olmakla birlikte, ek hastalığı olan bireylerin oranı pandemi döneminde daha yüksektir (p=0.001). Acil müdahale gereken hastalarda ise pandemi döneminde yatırılarak tedavi edilen hasta oranı yüksek iken pandemi dışı dönemde ise ameliyat edilen hasta oranı daha yüksek tespit edildi (p=0.005). Her iki dönemde hastaların çoğunluğunun düşük ve az bir kısmının da orta sosyoekonomik düzeye sahip olduğu tespit edildi (p>0.05).

**Sonuç:** Her ne kadar pandemi döneminde acil servis başvuru sayısı ve istenen genel cerrahi konsültasyon sayısında belirgin bir azalma olsa da konsültasyon istenen hastaların yarısından fazlasının acil cerrahi tedavi gerektirmemesi acil servislerin hala gereksiz kullanımını göstermektedir.

**Anahtar Kelimeler:** Covid 19, Pandemi, Acil Servis, Genel Cerrahi, Konsültasyon

## INTRODUCTION

The crowdedness and unnecessary applications made to the hospitals' emergency department (ED) throughout the world; lead us to investigate the reasons for this conundrum. During the COVID-19 pandemic period, with the 'stay at home' call made to the community, individuals should apply to the hospitals only if necessary and postpone all other health services to prevent contamination.

Individuals with health problems cannot distinguish when and where to apply to their complaints. A clear example of this situation is seen in the emergency department of the hospitals. There are unnecessary applications to the EDs in every segment of society, and there is more than one reason for it. Patients' applications to EDs are shaped by reasons such as the type of health insurance, increasing life expectancy in the world, accompanying chronic diseases, difficulties in accessing healthcare, and incompatibilities during working hours, thus adding to the ED workload (1).

The COVID-19 disease becoming pandemic, overwhelmed health systems, strangling the global economy, and caused a devastating loss of life (2). Our hospital started serving as a pandemic hospital like all other hospitals during this period with the Ministry of Health's decision. It became an example of how to overcome this burden. Our hospital was ready to support the diagnosis and treatment of Covid-19 patients shortly from the beginning of the outbreak in Turkey. For this purpose, all units were restructured in our hospital. Most of the inpatient services in the hospital, and many healthcare personnel started to provide services for COVID-19 positive patients. The routine health services provided, other than emergency health services, was postponed (3). Emergency physicians lead the initial assessment and coordination of COVID-19 cases and continue the treatment and management of other medical emergencies. During the COVID-19 pandemic management, the emergency organization was restructured to manage other patients who would require emergency medical intervention. In our general surgery unit, elective surgeries have been delayed to provide care to patients with COVID-19. However, some interventions continued, such as trauma surgery, acute abdomen, and emergency endoscopies. This study aims to evaluate the necessity of consultations from ED to general surgery during the COVID-19 pandemic.

## MATERIAL AND METHODS

**Study Design and Data Collection:** This retrospective cross-sectional study was conducted by scanning the files of patients consulted to general surgery by ED between 19 March-19 May 2020 (Pandemic period), where there are social incentives and measures to avoid going out of the house unless it is urgent, and between 19 March-19 May 2019 (non-Pandemic period), which is chosen as a period in which normal social life continues.

Age, gender, complaint, additional diseases, socioeconomic levels (SEL) were recorded and analyzed. Emergency surgical treatment requirements

were divided into urgent and non-urgent treatment according to diagnosis. A diagnosis such as an ileus, gastrointestinal system perforations, acute appendicitis, active gastrointestinal system bleedings, ischemia and infarcts due to intraabdominal vascular occlusions, parenchymal organ injuries, perianal abscess, retroperitoneal abscess, acute thrombosed hemorrhoids, cholecystitis, biliary pancreatitis were categorized as general surgery emergencies and included in urgent treatment. Other diagnoses such as non-specific abdominal pain, peptic ulcer activation, and gastroenteritis were included in non-urgent treatment. SEL's of the patients were measured using the socioeconomic level scale. 6-14 points were calculated as low SEL, whereas 15-23 points were medium SEL, and 24-32 points were high SEL.

Primary outcome of our study was the number of consultations, and secondary outcome was the number of urgent/non-urgent diagnosis in the pandemic/non-pandemic periods.

**Inclusion/Exclusion Criteria:** Regardless of the rationale, all consultations requested from patients were included in the study. Consultations requested from other branches except for ED in the hospital and patients with the missing data were excluded from the study.

**Statistical Analysis:** IBM SPSS Statistics 22 (SPSS IBM, Turkey) program was used for statistical analysis. Descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum) were used when evaluating the study data. Pearson Chi-Square test and Fisher's Exact test were used to comparing qualitative data. The student's t-test was used to compare two groups of normally distributed quantitative variables. Significance was evaluated at the level of  $p < 0.05$ .

## RESULTS

In the study period, a total of 16517 ED applications and 486 (2.9%) general surgery consultations were detected. While 61.8% ( $n=10209$ ) of the applications were in the non-pandemic period, 38.2% ( $n = 6308$ ) were in the pandemic period. In the non-pandemic period, the rate of requesting was 3.1% ( $n = 316$ ), while it was 2.7% ( $n = 170$ ) in the pandemic period. The ages of the patients ranged between 18 and 90, and the mean was  $51.78 \pm 18.55$  years. The percentage of female patients in the pandemic period was 45.9%, and 48.7% in the non-pandemic period. The percentage of male patients in the pandemic period was 54.1%, and 51.3% in the non-pandemic period. The most common complaint was nausea-abdominal pain-defecation problems, with 68.7% ( $n = 334$ ). There was no additional disease in 60.1% ( $n = 292$ ) of the patients. 85.8% ( $n = 253$ ) of 295 patients whose socioeconomic levels could be measured had low SEL. While 20.8% ( $n = 101$ ) of the patients who required consultation from general surgery were operated, 20.2% ( $n = 98$ ) were treated by hospitalization. The demographic and characteristic features of the patients are summarized in Table 1.

**Table 1.** Demographic and Characteristic Features of Patients

|                             |  | Period        |              |              | P                    |
|-----------------------------|--|---------------|--------------|--------------|----------------------|
|                             |  | Total (n=486) | Pandemic     | Non-Pandemic |                      |
|                             |  |               | (n=170)      | (n=316)      |                      |
|                             |  | n (%)         | n (%)        | n (%)        |                      |
| <b>Gender</b>               | <b>Female</b>  | 232 (47.7)    | 78 (45.9)    | 154 (48.7)   | <sup>a</sup> 0.548   |
|                             | <b>Male</b>  | 254 (52.3)    | 92 (54.1)    | 162 (51.3)   |                      |
| <b>Age in years</b>         | <b>18-29</b>   | 76 (15.6)     | 26 (15.3)    | 50 (15.8)    | <sup>a</sup> 0.259   |
|                             | <b>30-44</b>   | 108 (22.2)    | 33 (19.4)    | 75 (23.7)    |                      |
|                             | <b>45-59</b>   | 111 (22.8)    | 35 (20.6)    | 76 (24.1)    |                      |
|                             | <b>60-74</b>   | 131 (27.0)    | 48 (28.2)    | 83 (26.3)    |                      |
|                             | <b>≥ 75</b>  | 60 (12.3)     | 28 (16.5)    | 32 (10.1)    |                      |
|                             | <i>Min-Max (Median)</i>                              | 18-90 (52)    | 18-89 (55.5) | 18-90 (51)   | <sup>‡</sup> 0.071   |
|                             | <i>Mean±SD</i>                                       | 51.78±18.55   | 53.85±19.51  | 50.66±17.94  |                      |
| <b>•Complaints</b>          |  |               |              |              |                      |
|                             | <i>Nausea-abdominal pain- defecation difficulty</i>  | 334 (68.7)    | 116 (68.2)   | 218 (69.0)   | <sup>a</sup> 0.865   |
|                             | <i>Bloody vomiting-bloody stool</i>                  | 72 (14.8)     | 29 (17.1)    | 43 (13.6)    | <sup>a</sup> 0.307   |
|                             | <i>Trauma</i>  | 22 (4.5)      | 6 (3.5)      | 16 (5.1)     | <sup>a</sup> 0.438   |
|                             | <i>Redness and tenderness on the skin</i>            | 59 (12.1)     | 19 (11.2)    | 40 (12.7)    | <sup>a</sup> 0.633   |
| <b>Additional disease</b>   | <b>No</b>  | 194 (39.9)    | 50 (29.4)    | 144 (45.6)   | <sup>a</sup> 0.001** |
|                             | <b>Yes</b>   | 292 (60.1)    | 120 (70.6)   | 172 (54.4)   |                      |
| <b>Additional Diseases*</b> |  |               |              |              |                      |
|                             | <i>Diabetes</i>                                      | 41 (8.4)      | 23 (13.5)    | 18 (5.7)     | <sup>a</sup> 0.003** |
|                             | <i>Pulmonary diseases (Astm/ COPD)</i>               | 14 (2.9)      | 10 (5.9)     | 4 (1.3)      | <sup>b</sup> 0.008** |
|                             | <i>Cardiac diseases (HT, CAD)</i>                    | 83 (17.1)     | 40 (23.5)    | 43 (13.6)    | <sup>a</sup> 0.006** |
|                             | <i>Stroke+ Other neurological diseases</i>           | 22 (4.5)      | 7 (4.1)      | 15 (4.7)     | <sup>a</sup> 0.750   |
|                             | <i>Organ deficiencies (Renal/liver)</i>              | 31 (6.4)      | 18 (10.6)    | 13 (4.1)     | <sup>a</sup> 0.005** |
|                             | <i>Autoimmune (inflammatory / rheumatological)</i>   | 35 (7.2)      | 12 (7.1)     | 23 (7.3)     | <sup>a</sup> 0.929   |
|                             | <i>Malignancies</i>                                  | 107 (22.0)    | 36 (21.2)    | 71 (22.5)    | <sup>a</sup> 0.743   |
|                             | <i>Psychiatric diseases</i>                          | 7 (1.4)       | 6 (3.5)      | 1 (0.3)      | <sup>b</sup> 0.009** |
|                             | <i>Other (obesity surgery, hypo-hyperthyroidism)</i> | 45 (9.3)      | 18 (10.6)    | 27 (8.5)     | <sup>a</sup> 0.458   |
| <b>Treatment</b>            | <b>Surgery</b>                                       | 101 (20.8)    | 31 (18.2)    | 70 (22.2)    | <sup>a</sup> 0.005** |
|                             | <b>Hospitalization</b>                               | 98 (20.2)     | 48 (28.2)    | 50 (15.8)    |                      |
|                             | <b>Outpatient</b>                                    | 287 (59.1)    | 91 (53.5)    | 196 (62.0)   |                      |
| <b>Urgency</b>              | <b>Urgent</b>  | 199 (40.9)    | 79 (46.5)    | 120 (38.0)   | <sup>a</sup> 0.069   |
|                             | <b>Non urgent</b>                                    | 287 (59.1)    | 91 (53.5)    | 196 (62.0)   |                      |
| <b>SEL (n=295)</b>          | <b>Low</b>   | 253 (85.8)    | 95 (88.0)    | 158 (84.5)   | <sup>a</sup> 0.411   |
|                             | <b>Middle</b>  | 42 (14.2)     | 13 (12.0)    | 29 (15.5)    |                      |
|                             | <b>High</b>  | 0 (0)         | 0 (0)        | 0 (0)        |                      |

SEL, Socioeconomic level; COPD, Chronic obstructive pulmonary disease; HT, Hypertension; CAD, Coronary artery disease  
<sup>a</sup> Pearson Chi-Square Test; <sup>b</sup> Fisher's Exact Test; <sup>‡</sup> Student t Test ; \* Multiple options are marked, \*\*p<0.01

When the emergency treatment requirements of the patients who requested general surgery consultation from the ED were examined, only the emergency treatment requirement of the patients

with an autoimmune disease was found to be statistically significantly higher in the pandemic period (Table 2).

**Table 2.** Analysis of Emergency Treatment Needs According to Patients' Additional Diseases

| Additional Disease    | Urgency    | Pandemic  | Non-Pandemic | p                    |
|-----------------------|------------|-----------|--------------|----------------------|
|                       |            | (n=170)   | (n=316)      |                      |
|                       |            | n (%)     | n (%)        |                      |
| Absent                | Urgent     | 26 (52.0) | 55 (38.2)    | <sup>a</sup> 0.088   |
|                       | Non urgent | 24 (48.0) | 89 (61.8)    |                      |
| Diabetes              | Urgent     | 9 (39.1)  | 10 (55.6)    | <sup>a</sup> 0.295   |
|                       | Non urgent | 14 (60.9) | 8 (44.4)     |                      |
| Pulmonary diseases    | Urgent     | 2 (20.0)  | 1 (25.0)     | <sup>b</sup> 1.000   |
|                       | Non urgent | 8 (80.0)  | 3 (75.0)     |                      |
| Cardiac diseases      | Urgent     | 15 (37.5) | 16 (37.2)    | <sup>a</sup> 0.978   |
|                       | Non urgent | 25 (62.5) | 27 (62.8)    |                      |
| Neurological diseases | Urgent     | 1 (14.3)  | 5 (33.3)     | <sup>b</sup> 0.616   |
|                       | Non urgent | 6 (85.7)  | 10 (66.7)    |                      |
| Organ deficiencies    | Urgent     | 4 (22.2)  | 3 (23.1)     | <sup>b</sup> 1.000   |
|                       | Non urgent | 14 (77.8) | 10 (76.9)    |                      |
| Autoimmune diseases   | Urgent     | 9 (75.0)  | 6 (26.1)     | <sup>a</sup> 0.006** |
|                       | Non urgent | 3 (25.0)  | 17 (73.9)    |                      |
| Malignancies          | Urgent     | 18 (50.0) | 27 (38.0)    | <sup>a</sup> 0.236   |
|                       | Non urgent | 18 (50.0) | 44 (62.0)    |                      |
| Psychiatric diseases  | Urgent     | 3 (50.0)  | 1 (100)      | <sup>b</sup> 1.000   |
|                       | Non urgent | 3 (50.0)  | 0 (0)        |                      |
| Other                 | Urgent     | 10 (55.6) | 12 (44.4)    | <sup>a</sup> 0.465   |
|                       | Non urgent | 8 (44.4)  | 15 (55.6)    |                      |

<sup>a</sup>Pearson Chi-Square Test;

<sup>b</sup>Fisher's Exact Test;

\*\*p<0.01

When the treatment complaints and emergency treatment needs of the patients were examined, the emergency treatment needs of the patients who applied with nausea-abdominal pain and defecation difficulties were found to be significantly higher during the pandemic period (Table 3).

When the age group and SELs of the patients and the urgent treatment requirements were examined, the number of patients who did not require urgent treatment was found to be significantly higher only in the 75-year-old group (Table 4).

**Table 3.** Analysis of Patients' Complaints and Emergency Treatment Needs

| Complaints on admission                   | Urgency    | Pandemic<br>(n=170) | Non-Pandemic<br>(n=316) | p                   |
|---|------------|---------------------|-------------------------|---------------------|
|   |            | n (%)               | n (%)                   |                     |
| Nausea-abdominal<br>defecation difficulty | Urgent     | 61 (52.6)           | 90 (41.3)               | <sup>a</sup> 0.048* |
|   | Non urgent | 55 (47.4)           | 128 (58.7)              |                     |
| Hematemesis-hematochezia                  | Urgent     | 5 (17.2)            | 11 (25.6)               | <sup>a</sup> 0.404  |
|   | Non urgent | 24 (82.8)           | 32 (74.4)               |                     |
| Trauma                                    | Urgent     | 3 (50.0)            | 3 (18.8)                | <sup>b</sup> 0.283  |
|   | Non urgent | 3 (50.0)            | 13 (81.3)               |                     |
| Redness and tenderness on the<br>skin     | Urgent     | 10 (52.6)           | 16 (40.0)               | <sup>a</sup> 0.361  |
|   | Non urgent | 9 (47.4)            | 24 (60.0)               |                     |

<sup>a</sup> Pearson Chi-Square Test; <sup>b</sup> Fisher's Exact Test; \*p<0.05

**Table 4.** Analysis of Patients According to the Age Group, Socioeconomic Level and the Emergency Treatment Needs

| Age group in<br>years | Socioeconomic level | Urgency    | Pandemic<br>(n=170) | Non-Pandemic<br>(n=316) | p                    |
|-----------------------|---------------------|------------|---------------------|-------------------------|----------------------|
|                       |                     |            | n (%)               | n (%)                   |                      |
| 18-29                 | Low                 | Urgent     | 12 (80.0)           | 6 (40.0)                | <sup>a</sup> 0.025*  |
|                       |                     | Non urgent | 3 (20.0)            | 9 (60.0)                |                      |
|                       | Middle              | Urgent     | 1 (50.0)            | 2 (50.0)                | <sup>b</sup> 1.000   |
|                       |                     | Non urgent | 1 (50.0)            | 2 (50.0)                |                      |
| 30-44                 | Low                 | Urgent     | 10 (41.7)           | 10 (25.0)               | <sup>a</sup> 0.164   |
|                       |                     | Non urgent | 14 (58.3)           | 30 (75.0)               |                      |
|                       | Middle              | Urgent     | 1 (33.3)            | 5 (62.5)                | <sup>b</sup> 0.545   |
|                       |                     | Non urgent | 2 (66.7)            | 3 (37.5)                |                      |
| 45-59                 | Low                 | Urgent     | 14 (73.7)           | 19 (44.2)               | <sup>a</sup> 0,032*  |
|                       |                     | Non urgent | 5 (26,3)            | 24 (55,8)               |                      |
|                       | Middle              | Urgent     | 1 (50.0)            | 1 (16.7)                | <sup>b</sup> 0.464   |
|                       |                     | Non urgent | 1 (50.0)            | 5 (83.3)                |                      |
| 60-74                 | Low                 | Urgent     | 14 (58.3)           | 18 (40.9)               | <sup>a</sup> 0.169   |
|                       |                     | Non urgent | 10 (41.7)           | 26 (59.1)               |                      |
|                       | Middle              | Urgent     | 1 (33.3)            | 2 (28.6)                | <sup>b</sup> 1.000   |
|                       |                     | Non urgent | 2 (66.7)            | 5 (71.4)                |                      |
| ≥ 75 yaş              | Low                 | Urgent     | 0 (0)               | 8 (50.0)                | <sup>b</sup> 0.003** |
|                       |                     | Non urgent | 13 (100)            | 8 (50.0)                |                      |
|                       | Middle              | Urgent     | 2 (66.7)            | 3 (75.0)                | <sup>b</sup> 1.000   |
|                       |                     | Non urgent | 1 (33.3)            | 1 (25.0)                |                      |

<sup>a</sup> Pearson Chi-Square Test; <sup>b</sup> Fisher's Exact Test; \*p<0.05; \*\*p<0.01

## DISCUSSION

There is a decrease in the number of individuals consulted from the ED to the general surgery in the pandemic period. While the ones who are urgent are expected to increase in the applications; in both periods, the majority consists of applications that do not require urgent treatment. Also, the presence of autoimmune disease in those who need urgent treatment in the pandemic period is more than a non-pandemic period. In performed studies, daily admission rates during the pandemic period were found lower for acute medical conditions, transient to moderate strokes, acute exacerbation of the chronic obstructive pulmonary disease, trauma, hospitalization for cardiovascular events, and also utilization of EDs was reduced (5-9). The government and public health campaign to discourage "over-burdening the healthcare system", public fear, and neglected treatments of chronic disease during the pandemic period may contribute to the overall decrease in the admissions and consultations.

Application complaints, presence of additional diseases, the status of socioeconomic levels, and the distribution of urgent treatment needs do not differ from the period that reflects normal social conditions compared to the pandemic period. Emergency treatment requirements in general surgical consultations are similar in both periods. The reason for obtaining similar data in both periods can be unnecessary ED applications, which continued as a result of increased stress and anxiety during the pandemic period. In performed studies, most of the patients seen in ED by general surgery physicians were taken non-operative diagnosis in both periods, even if the percentage of operative diagnosis raised in the pandemic period. In a study conducted in France, it was stated that a managerial and systematic approach should be adopted to reduce unnecessary applications to EDs (10).

During the pandemic, disease awareness is felt at different levels in each individual, group, or social class as in social life. Fear of getting COVID-19 disease, uncertainty, and similar evaluations are a source of intense anxiety, and support should be provided in this direction (11-13).

Many psychiatric symptoms can be observed in the context of COVID-19; however, increased anxiety in patients with different psychiatric diagnoses may become an important public health problem in this period (14). Considering the consultations in our study, the number of applicants who did not require urgent treatment in individuals with psychiatric diseases increased during the pandemic period. Sanguino et al. (15) pointed out

an increase in depressive symptoms, anxiety, and posttraumatic stress disorder, more pronounced in the female gender during the pandemic period. While the applications to EDs during the pandemic period are expected to increase in favor of the female gender, no significant difference was observed between the two genders in our study. We think that this is due to the inclusion of only patients who required general surgery consultation in our study and that the psychiatric emergency may show a different result.

Rapid triage is essential in the operation of EDs. Pagliantini et al. reported that patients who had to be hospitalized for more than 4 hours in the ED increased from 75% to 83%. He emphasized the need for new health planning and the use of preventable health care models in acute exacerbations of chronic disease to reduce applications to the ED (16). Pines et al., in a study conducted in the United States, stated that there is an inequality between the black (African-American?) and non-black patient groups in hospital waiting for durations, a transition to service, and transition to intensive care units (17). It was found that the applications made to the ED in both periods are mostly individuals with low SEL. The fact that patients with higher education and socioeconomic level frequently apply to private health institutions has a great effect on this result (18). Emergency medical service use in low urgency cases was found high in rural areas and individuals over 65 years old (19). In our study, most of the individuals requesting consultation are low, and some are in middle SEL, and there is no individual in high SEL.

To compare the non-pandemic and the COVID-19 pandemic periods, consultations performed only for general surgery in the two months of the previous year were evaluated. The most important limitation of our study is to include only two months as the study period and not to include other emergency cases. A missing data of the patients due to retrospective nature of our study was another important limitation.

As a result, EDs are the main building blocks of health services that cannot be neglected, and these units must be used for appropriate urgent reasons, as the name suggests. Although there is a significant decrease in the number of ED admissions and the number of general surgical consultations requested during the pandemic period, the fact that more than half of the patients who are consulted do not require urgent surgical treatment still shows the unnecessary use of EDs. These units that serve a dynamically should be turned into units that provide higher quality service with new, rational approaches.

## REFERENCES

1. Ilhan B, Kunt MM, Damarsoy FF, Demir MC, Aksu NM. NEDOCS: is it really useful for detecting emergency department overcrowding today? *Medicine (Baltimore)*. 2020;99(28):e20478.

2. Atri D, Siddiqi HK, Lang J, Nauffal V, Morrow DA, Bohula EA. COVID-19 for the Cardiologist: A Current Review of the Virology, Clinical Epidemiology, Cardiac and Other Clinical Manifestations and Potential Therapeutic Strategies, ACC Basic Transl Sci. 2020;5(5):518-536.
3. Gagliano A, Villani PG, Co MF, et al. COVID-19 Epidemic in the Middle Province of Northern Italy: Impact, Logistics, and Strategy in the First Line Hospital. Disaster Med Public Health Prep. 2020;24;1-5.
4. Edirne T, Edirne Y, Atmaca B, Keskin S. Yüzüncü Yıl Üniversitesi Tıp Fakültesi Acil Servis Hastalarının Özellikleri. Van Tıp Dergisi. 2008;15(4);107-111.
5. Andrew S Oseran, Dina Nash, Carolyn Kim, Stacey Moisuk, Po-Yu Lai, John Pyhtila, Thomas D Sequist, Jason H Wasfy. Changes in hospital admissions for urgent conditions during COVID-19 pandemic. Am J Manag Care. 2020;26(8):327-328.
6. Stöhr E, Aksoy A, Campbell M, Al Zaidi M, Öztürk C, Vorloeper V, et al. Hospital admissions during Covid-19 lock-down in Germany: Differences in discretionary and unavoidable cardiovascular events. PLoS One. 2020;15(11):e0242653.
7. Diegoli H, Magalhães PSC, Martins SCO, Moro CHC, França PHC, Safanelli J, et al. Decrease in Hospital Admissions for Transient Ischemic Attack, Mild, and Moderate Stroke During the COVID-19 Era. Stroke. 2020;51(8):2315-2321.
8. Chan KPF, Ma TF, Kwok WC, Leung JKC, Chiang KY, Ho JCM, et al. Significant reduction in hospital admissions for acute exacerbation of chronic obstructive pulmonary disease in Hong Kong during coronavirus disease 2019 pandemic. Respir Med. 2020;171:106085.
9. Kamine TH, Rembisz A, Barron RJ, Baldwin C, Kromer M. Decrease in Trauma Admissions with COVID-19 Pandemic. West J Emerg Med. 2020;21(4):819-822.
10. Baubeau B, Deville A, Joubart M. Emergency Department Visits in France From 1990 to 1998, A Growing Need For Non Urgent Visits, Etudes et Resultats. 2000;72:1-8.
11. Spoorthy MS, Pratapa SK, Mahant S. (2020), Mental Health Problems Faced by Healthcare Workers Due to the COVID-19 pandemic-A Review. Asian Journal of Psychiatr. 2020;22:102-119.
12. Kaya B. Effects of Pandemic on Mental Health. J Clin Psy. 2020;23:123-124.
13. Talevi D, Socci V, Carai M, et al. Mental health outcomes of the CoViD-19 pandemic, Rivista di Psichiatria. 2020;55(3):137-144.
14. Hölzle P, Frank A, Förstl H. COVID-19 Crisis: Early Observations on a Pandemic's Psychiatric Problems, Dtsch Med Wochenschr. 2020;145(10):675-681.
15. Sanguinoa CG, Ausina B, Castellanosb M.A, et al. Mental health consequences during the initial stage of the 2020 Coronavirus pandemic in Spain, Brain, Behavior, and Immunity. 2020;87:172-176.
16. Pagliantini S, Nerattini M, Tomassini CR. The Logistics of the Path of the Emergency-Urgency: The Case of Siena Room Discharge, Ital Q Health Care Manag Econ Policy. 2009;70:23-30.
17. Pines JM, Localio AR, Hollander JE. Racial Disparities in Emergency Department Length of Stay for Admitted Patients in the United States Acad Emerg Med. 2009;16(5):403-1.
18. Kabaroğlu K, Eroğlu SE, Onur Ö, Denizbaşı A, Akoğlu, H. Acil Serviste Hasta Memnuniyetini Etkileyen Faktörlerin Araştırılması. Marmara Medical Journal. 2013;26:82-89.
19. Terashima M, Carter AJE. Correlation of age and rurality with low-urgency use of emergency medical services (LUEMS): A geographic analysis. CJEM. 2018;20(6):874-881.