ORİJİNAL ARAŞTIRMA ORIGINAL RESEARCH

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Impact of the COVID-19 Pandemic on Characteristics of Emergency Department Visits in a Tertiary Care Children's Hospital in Türkiye: Descriptive Study

COVID-19 Pandemisinin Türkiye'de Üçüncü Basamak Bir Çocuk Hastanesinde Acil Servis Ziyaret Özelliklerine Etkisi: Tanımlayıcı Çalışma

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ABSTRACT Objective: To reveal how the coronavirus disease-2019 pandemic has affected the characteristics of patient visits by comparing profiles in a pediatric emergency department (ED). **Material and Methods:** The period between March 11, 2020, and June 1, 2020, and the same timeframe in 2019 were retrospectively evaluated. For each day, the total number of ED visits was calculated. Patient gender, age, time of ED visit, triage priority, arrival characteristics, diagnostic codes, and hospital admissions for each day's visits were recorded and the proportion was calculated for each parameter. **Results:** During the study period, ED visits declined by 80.8% in comparison to the previous year. In terms of diagnoses, in 2020, there was a decrease in the mean daily number and proportion of patients diagnosed with infectious diseases ($p<0.05$). In terms of traumatic injuries, there was a decrease in the number of visits in 2020, but the overall rate had increased, being 14.7% in 2019 and 18.4% in 2020. There was a decrease in the rate of visitors with green codes ($p<0.001$), but there was an increase in yellow codes ($p<0.001$) and no difference in red codes ($p= 0.980$). The proportion of hospitalizations also increased while the total number declined ($p<0.05$). **Conclusion:** During the pandemic period, our pediatric ED experienced a significantly decreased volume of visitors presenting with low-acuity conditions. Understanding the frequency and distribution of ED visits can help shape public health preparedness policies such as healthcare planning to ensure the availability of resources.

Keywords: Child; COVID-19; emergency medicine; visit

ÖZET Amaç: Bu çalışmada, koronavirüs hastalığı-2019 pandemisinin çocuk acil servise başvuru özellikleri üzerindeki etkisinin değerlendirilmesi amaçlandı. **Gereç ve Yöntemler:** 11 Mart-1 Haziran 2020 tarihleri ile 2019 yılına ait aynı zaman periyodu incelendi. Her güne ait toplam acil servis başvuru sayısı hesaplandı. Hastaların cinsiyeti, yaşı, başvuru zamanı, triaj kategorisi, hastaneye ulaşım çeşidi, tanı kodları ile hastane yatışlarının sayısı ve toplam sayıya oranı kaydedildi. **Bulgular:** Çalışma süresi boyunca acil servis başvuru sayılarında bir önceki yıla göre %80,8 azalma saptandı. Hastaların tanıları değerlendirildiğinde, 2020 yılında enfeksiyöz hastalıklarda günlük ortalama hasta sayı ve oranlarında anlamlı azalma mevcuttu ($p<0,05$). Travmatik yaralanmalar açısından 2020 yılında başvuru sayısında azalma mevcuttu ancak genel oran artmıştı; 2019 yılında %14,7 olup, 2020 yılında ise %18,4 olarak hesaplandı. Yeşil triaj kodlu çocuk oranında düşüş saptanırken ($p<0,001$), sarı triaj kodlu hasta sayısında artış oldu ($p<0,001$); ancak kırmızı kodlu hasta sayısında fark yoktu ($p= 0,980$). Hastaneye yatırılan hasta sayısında, bir önceki yıla göre azalma saptandı; ancak hastaneye yatış oranlarında artış mevcuttu ($p<0,05$). **Sonuç:** Pandemi sürecinde, 1 yıl önceki döneme göre aciliyeti olmayan vaka ziyaretlerinde azalma saptandı. Acil servis başvurularının sıklığı ve dağılımının anlaşılması, kaynak kullanımı gibi halk sağlığı hizmet politikalarının yönlendirilmesine katkı sağlayabilir.

Anahtar Kelimeler: Çocuk; COVID-19; acil tıp; ziyaret

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The coronavirus disease-2019 (COVID-19) pandemic has caused a global challenge for healthcare systems, representing an enormous threat for emergency departments (EDs).[1-4] Preparedness of the healthcare facility is a crucial component of the management of the COVID-19 pandemic.[5]

Pediatric EDs are on the front lines of this pandemic, serving key functions in determining suspected COVID-19 cases, isolating them early, and ensuring appropriate medical care.[5] EDs should be well prepared for this emerging pandemic in terms of appropriate space, personnel, supplies, and flexibility.[5]

After the first COVID-19 polymerase chain reaction (PCR)-positive subject was declared in Türkiye on March 11, 2020, numerous measures were applied according to the recommendations of the World Health Organization which included the termination of international flights, isolation during 14 days and monitoring of symptoms of those who arrived from abroad, school closures, the closure of gathering places of public, and for certain age groups, curfews. In addition, healthcare system measures were also implemented, such as the selection of special COVID-19 pandemic hospitals and postponement of non-urgent health procedures.[6,7]

As previously described, EDs are generally exposed to a redundantly large number of non-urgent visit, which was calculated between 24-40% of all ED visits.[8] However, a reduction in the use of EDs has been documented since the onset of the COVID-19 pandemic for both pediatric and adult populations.[1] Although postponed care may result in detrimental or even fatal outcomes, decline in non-urgent visits may serve a crucial opportunity to redirect sources to urgent subjects.[6-9] But, there is little information about the composition of decrease in ED visits.[6] Understanding the trends in pediatric ED visit characteristics may clarify public health priorities such as healthcare planning to ensure the availability of resources needed for the management of the COVID-19 pandemic.[8]

In the present study, it was aimed to reveal how the COVID-19 pandemic has affected the characteristics of patient visits by comparing visit profiles in the initiation of the COVID-19 pandemic and the same timeframe of the previous year in an ED of a tertiary care children's hospital.

MATERIAL AND METHODS

This single-center retrospective study was carried out in the ED of a tertiary care children's hospital which has nearly 120,000 visits per year. Dokuz Eylül University Non-Interventional Research Ethics Committee approved the study (date: August 31, 2020, no: 2020/20-06). The study protocol was carried out according to the principles of the Helsinki declaration.

Subjects who presented to the pediatric ED was evaluated by a registered paramedic. The complaint of the case, a brief medical history, vital signs, and the category of the triage according to the Turkish Republic Ministry of Health triage rules were recorded by the paramedic.[7] Levels of the triage category are described according to colors with red designating immediate priority, yellow delayed, and green minor. During the study period, 5 pediatric residents were present for each shift, with 1 pediatric emergency fellow and 1 pediatric emergency physician during day shifts. Vital signs were monitored by a nurse and patients were evaluated by a pediatric resident and a pediatric emergency fellow together when the latter was present. Physical examination findings, laboratory results and radiologic investigations (if necessary), the diagnosis and follow-up (if necessary) of each case were recorded in the hospital data registration system by a pediatric resident. To identify patients, International Classification of Diseases codes was used. The information was obtained from the computer database system of the hospital. All data about the study were performed by a pediatric resident and a pediatric emergency fellow together. We evaluated the period between March 11, 2020, when the first COVID-19 PCR-positive case was detected in Türkiye, to June 1, 2020, the time when implementations were first relaxed. We also evaluated the same timeframe in the previous year, 2019, and then compared these 2 periods.

The study population included all children aged 0 to 18 years who presented to the pediatric ED. For each day, the total number of ED visits was calcu-

lated and patient gender, age, time of ED visit, triage priority, and arrival type (by ambulance or not) were recorded. Patients were divided into 5 age groups as 0 to 30 days, 1 month to 1 year, 1-6 years, 6-10 years, and >10 years. The time of ED visit was divided into 3 groups as between 08.01 and 16.00, 16.01 and 24.00, and 00.01-08.00.

Total number of patients were calculated according to diagnostic codes for each day and cases were categorized as follows: upper respiratory tract infection (URTI), lower respiratory tract infection (LRTI), asthmatic attack/reactive airway disease, acute gastroenteritis, endocrine disorders, neurological disorders, hematologic/oncologic disorders, sepsis/septic shock, psychiatric complaints (suicide attempts were also evaluated as a specific subgroup), accidental drug intake, foreign body ingestion/inhalation, acute abdomen, trauma, and cardiopulmonary arrest. Trauma cases were categorized as two groups as having high-energy or low-energy trauma. In addition, trauma mechanisms were divided into 4 groups as falling, hitting of the head, traffic accidents, and any other mechanism. The total number of recorded forensic reports was also calculated for each day. Finally, subjects were categorized as 2 groups regarding the final decision that was made. Group 1 comprised patients discharged from the ED while Group 2 comprised patients admitted to the hospital [ward/pediatric intensive care unit (PICU)]. Total daily numbers and proportions of patients who were transferred to other hospitals were also calculated.

The SPSS 22.0 for Windows (IBM Corp., Armonk, NY, USA) was used to perform statistical analysis. Categorical and continuous data were reported as frequencies and percentiles, means with standard deviations (SDs) or medians with interquartile ranges. To compare non-parametric data, Mann-Whitney U test was performed and for parametric data, Student's t-test was used. A value of p lower than 0.05 was considered to be statistically significant.

RESULTS

During the study period, the total number of ED visits was 25,189 in 2019 and 4,819 in 2020 (Table 1). Thus, in 2020, ED visits had declined by 80.8% in comparison to the previous year. The reduction was 78.3% between 08.01 and 16.00, 82.5% between 16.01 and 24.00, and 76.8% between 00.01 and 08.00. The most common time of day for ED visits was between 16.01 and 24.00 in both years, accounting for 55.1% of visits in 2019 and 49.3% in 2020.

TABLE 1: Epidemiologic data and arrival characteristics of pediatric ED visitors in 2019 and 2020.

Variable	2019	2020
Total number of ED visits, n	25,189	4,819
Female gender, %	45.3	58.2
Age groups, n (%)		
0-30 days	456 (2.0)	239 (4.8)
1 month-1 year	3,001 (12.2)	732 (14.9)
1-6 years	9,694 (39.7)	1,706 (34.8)
6-10 years	7,455 (29.6)	1,057 (22.3)
>10 years	4,583 (16.3)	1,085 (22.9)
Arrival time, n (%)		
08.01-16.00	8,130 (32.2)	1,707 (35.7)
16.01-24.00	13,884 (55.1)	2,377 (49.3)
00.01-08.00	3,175 (12.6)	735 (14.9)
Arrival, n (%)		
By ambulance	323 (1.2)	104 (2.1)
Self-transport	24,866 (98.8)	4,715 (97.9)
Forensic reports, n (%)	352 (1.3)	151 (3.6)

ED: Emergency department.

Among all visitors in 2020, 58.2% were female, while this was 45.3% in 2019; there was a significant increase in female predominance during the pandemic period (p= 0.028). The most common age group of visitors was 1-6 years in both years, representing 39.7% of visitors in 2019 and 34.8% in 2020. There was an increase in the rate of patients aged <1 month, 1 month-1 year, and >10 years in 2020 compared to 2019; however, a decline was seen in the rate of those aged 1-6 years and 6-10 years (Table 1).

In terms of diagnoses, in 2020, a decline was found in the daily number of patients diagnosed with URTI and LRTI, asthma/reactive airway disease, acute gastroenteritis, acute abdomen, foreign body in the respiratory/digestive tract, accidental drug intake, neurological disorders, psychiatric disorders, and trauma. The daily number of patients diagnosed with endocrine disorders, hematologic/oncologic disorders, sepsis/septic shock, and cardiopulmonary arrest

were statistically unchanged. Although there was no difference in the overall number of visitors with psychiatric disorders, among them, the number of daily cases of suicide attempts decreased in 2020 (p= 0.014) (Table 2). Evaluating rates of diagnoses, the rate of visitors with URTIs decreased from 36.5% to 20.7% while the rate of visitors with LRTIs decreased from 4.8% to 2.3% in 2020 (p<0.001). Likewise, there was a decrease in the percentage of acute gastroenteritis cases; the rate was 7.9% in 2019 and 5.0% in 2020 (p<0.001). There was an increase in the rate of neurological and hematologic/oncologic disorders (p<0.05). There were also slight increases in the rates of visitors with endocrine disorders, sepsis/septic shock, cardiopulmonary arrest, acute abdomen, foreign body inhalation/ingestion, accidental drug intake, and psychiatric disorders, but these changes were not statistically significant. Although there was no apparent change in psychiatric disorders between the two years, the rate of suicide attempts increased in 2020 (p= 0.016), in contrast to the aforementioned decrease in the daily number of such cases (Table 3). For both 2019 and 2020, the most common diagnosis was URTI (36.5% versus 20.7%), followed by trauma (14.7% versus 18.5%), respectively.

In terms of traumatic injuries, the daily number of cases in 2020 was found to be lower than in 2019 (p<0.001) (Table 2). However, the overall rate of such cases increased, being 14.7% in 2019 and 18.4% in 2020 (p<0.001). The daily rate of high-energy trauma patients increased (p<0.001), but while there was also an increase in the rate of low-energy trauma

TABLE 2: Comparison of the number of daily diagnoses, triage codes, and final decisions for pediatric ED visitors between 2019 and 2020.

Daily diagnoses, n, median (IQR)	2019	2020	p value
Upper respiratory tract infection	106.0 (88.5-147.0)	13.0 (9.0-17.0)	**<0.001**
Lower respiratory tract infection	15. 0 (11.5-19.0)	1.0 (0.0-3.0)	**<0.001**
Acute gastroenteritis	24.0 (18.5-30.0)	3.0 (2.0-5.0)	**<0.001**
Asthma/reactive airway disease	2.0 (1.0-3.0)	0.0 (0.0-1.0)	**<0.001**
Neurological disorders	2.0 (1.0-3.0)	1.0 (0.0-2.0)	**<0.001**
Hematologic/oncologic disorders	1.0 (0.0-2.0)	1.0 (0.0-1.0)	0.937
Psychiatric complaints	0.0 (0.0-1.0)	0.0 (0.0-1.0)	0.285
Suicide attempt	0.0 (0.0-1.0)	0.0 (0.0-0.0)	**0.041**
Trauma	44.0 (38.0-47.0)	12.0 (10.0-15.0)	**<0.001**
High-energy	7.0 (4.5-10.0)	3.0 (2.0-5.0)	**<0.001**
Low-energy	35.0 (32.0-40.0)	9.0 (6.0-11.0)	**<0.001**
Trauma mechanism			
Falling	18.0 (16.0-21.0)	6.0 (4.0-8.0)	**<0.001**
Hitting of the head	4.0 (2.0-6.0)	1.0 (1.0-2.0)	**<0.001**
Traffic accident	1.0 (0.0-2.0)	0.0 (0.0-0.0)	**<0.001**
Other mechanism	20.0 (16.0-23.0)	5.0 (3.0-6.0)	**<0.001**
Triage code			
Green	132.0 (110.0-168.0)	23.0 (18.0-32.0)	**<0.001**
Yellow	163.0 (149.0-181.0)	39.0 (32.0-50.0)	**<0.001**
Red	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.980
Final decision			
Discharged from the ED	289.0 (255.0-339.0)	57.0 (48.0-73.0)	**<0.001**
Admitted to the hospital	10.0 (7.0-12.0)	5.0 (3.0-7.0)	**<0.001**
Ward	9.0 (7.0-11.0)	5.0 (3.0-7.0)	**<0.001**
PICU	0.0 (0.0-1.0)	0.0 (0.0-1.0)	0.746

ED: Emergency department; IQR: Interquartile range; PICU: Pediatric intensive care unit.

TABLE 3: Comparison of the rate of daily diagnoses, triage codes, and final decisions for pediatric ED visitors between 2019 and 2020.

Rate of daily diagnoses, %, median (IQR)	2019	2020	p value
Upper respiratory tract infection	36.5 (33.1-43.0)	20.7 (14.8-30.1)	**<0.001**
Lower respiratory tract infection	4.8 (3.7-6.2)	2.3 (0.0-5.7)	**<0.001**
Acute gastroenteritis	7.9 (6.9-9.4)	5.0 (2.9-7.1)	**<0.001**
Asthma/reactive airway disease	0.7 (0.3-1.0)	0.0 (0.0-1.2)	**0.001**
Neurological disorders	0.6 (0.3-1.0)	1.7 (0.2-3.2)	**<0.001**
Hematologic/oncologic disorders	0.2 (0.0-0.6)	1.2 (0.0-2.0)	**0.001**
Psychiatric complaints	0.3 (0.0-3.5)	0.0 (0.0-1.0)	0.115
Suicide attempt	0.0 (0.0-0.2)	0.0 (0.0-2.0)	**0.016**
Trauma	14.7 (11.9-16.8)	18.4 (14.0-22.6)	**<0.001**
High-energy	2.4 (1.6-3.5)	5.1 (3.2-7.2)	**<0.001**
Low-energy	12.1 (9.6-13.8)	12.5 (9.8-16.6)	0.096
Trauma mechanism			
Falling	6.0 (4.9-7.4)	8.6 (5.1-11.3)	**<0.001**
Hitting of the head	1.2 (0.7-1.8)	2.0 (0.8-3.5)	**<0.001**
Traffic accident	0.3 (0.0-0.6)	0.0 (0.0-0.0)	**<0.001**
Other mechanism	7.5 (5.1-7.7)	6.5 (5.2-8.7)	0.053
Triage code			
Green	44.0 (41.5-49.3)	37.0 (32.1-43.5)	**<0.001**
Yellow	56.0 (50.6-58.5)	63.2 (56.5-67.8)	**<0.001**
Red	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.566
Final decision			
Discharged from the ED	96.7 (95.9-97.4)	91.9 (88.9-94.8)	**<0.001**
Admitted to the hospital	3.0 (2.2-3.6)	7.6 (4.3-9.5)	**<0.001**
Ward	2.9 (7.0-11.0)	5.0 (3.0-7.0)	**<0.001**
PICU	0.0 (0.0-0.0)	0.0 (0.0-1.3)	0.189

ED: Emergency department; IQR: Interquartile range; PICU: Pediatric intensive care unit.

cases, the latter was not statistically significant (p= 0.096) (Table 3). Evaluating the trauma mechanism groups, a decline was found in the total number of daily cases of all groups in 2020. However, the rates of patients presenting with trauma mechanisms of falling and hitting of the head (p<0.01) increased in comparison to a decrease in the rate of traffic accident cases (p<0.05), while no difference was observed for other mechanisms (p= 0.053) (Table 3). Falling was the most common trauma mechanism in both 2019 and 2020.

Comparing the study period in 2019 and in 2020, there was a decrease in the number of patients with green and yellow codes in 2020 (p<0.001), although there was no change in the number of those with red codes (Table 2). Comparing the rates of the triage codes, there was a decrease in the rate of visitors with green codes while an increase was observed in the rate of those with yellow codes (p<0.001). The rate of children with red codes did not differ between the years. The rate of visitors who arrived at the ED by ambulance increased; it was 1.2% in 2019 but 3.6% in 2020. There was also an increase in the rate of children for whom forensic reports were written, being 1.3% in 2019 and 3.1% in 2020 (Table 3).

A significant reduction in the number of hospital admissions was observed in 2020 compared to the previous year (p<0.001), although the number of admissions to the PICU did not change (p= 0.746) (Table 2). Meanwhile, the mean (±SD) daily proportion of children admitted to the ward increased from 3.0±0.9 in 2019 to 8.0±3.6 in 2020 (p<0.001), but there was still no difference in the rate of those admitted to the PICU (p= 0.189) (Table 3). Finally, the

total number (p= 0.708) and the rate (p= 0.323) of patients who were transferred to another health facility did not change between the years.

DISCUSSION

The COVID-19 pandemic has had catastrophic effects for global health worldwide.[10] Understanding the characteristics of pediatric ED visits would allow the healthcare system to focus its resources and may improve outcomes for children during such a pandemic.[11] The reduction of non-urgent ED visits may offer a policy opportunity for improving the quality of care and reducing healthcare costs.[12]

In 2020, the total number of ED visits was just 20% of that of the same timeframe of 2019 in our study. Decreases in numbers of ED visits were similarly reported in adult and pediatric studies in many other parts of the world.[7,13-16] Possible explanations for this decrease include the reduction in other seasonal infections due to social isolation and the fear of patients and parents about being exposed to COVID-19 in the ED.[7-17] It was reported that patients were more likely to call the hospital help line or their primary care providers or before deciding to visit EDs during the pandemic.[9] The adoption of national restrictive measures may have an effect but there is pediatric study addressing that point.[15] In the pandemic period, the predominance of female gender was pronounced in our study. This could be related to increased anxiety in favor of female gender during the pandemic period. In contrast, the reduction was more prominent for females in some other studies, indicating gender-specific differential effects.[18]

The current study has shown a decline in the rate of "green" ED admissions during the COVID-19 pandemic, although it was observed that there was an increase in visitors with yellow codes. In addition, the rate of hospitalizations had raised despite the significant decrease in pediatric ED visits. These findings could be based on families having avoided visiting EDs for their children's non-urgent complaints during the pandemic; by this way, there was a decline in unnecessary patient burden in this process.[7] There was no difference in the rate of pediatric red codes during the pandemic in the current study. Likewise, Liguoro et al. did not find any difference in the incidence of children with red codes.[15] However, these data may contrast with the report of 12 pediatric cases who underwent delayed health-care seeking; there was a PICU admission in half of them and 4 cases resulted in death.[19] In this report, parents were reported to have delayed coming to the hospital due to the fear from contracting COVID-19 but it was not possible to confirm if there was a systematic delay in arriving at the hospital for patients who were severely ill.[19] In addition, it was not possible to compare these data with the data of the previous year.[19]

In 2020, compared with the previous year, the incidence of acute infectious disorders such as upper or lower respiratory system infections and gastroenteritis significantly decreased in our study. Declines in infectious diseases were also reported in previous studies.[15,20] In general, URTI, LRTI and other communicable diseases are known to be the most common resaons of ED visits. These data suggest that restrictive measures such as social distancing, stay-at-home orders, and school closures had affected the transmission of infectious diseases, especially viral and viral-induced diseases.[5]

Although there seems to be no change in the number of visitors with psychiatric disorders between 2019 and 2020 in our study, the proportion of suicide attempts increased in 2020. In the report of Nia et al., a significant increase was found in ED admissions due to attempted suicide. These data highlight that the impact of the COVID-19 pandemic on mental health may be more profound than anticipated.[21,22]

We observed a decrease in the number of trauma cases in 2020 compared with the previous year, but the proportion of such cases increased. The rate of high-energy trauma patients increased although no statistically significant increase was observed in the rate of visitors with low-energy trauma. Moreover, the rates of those who presented with trauma mechanisms of falling and hitting of the head also increased, while there was a decrease in the rate of those injured in traffic accidents. Although we could not evaluate detailed characteristics of high-energy trauma mechanisms, considering the increased proportion of falling, we hypothesize that there seems to have been

a significant percentage of cases of falls from heights that caused high-energy trauma. In a study conducted in Korea, trauma cases were reported to have increased by 20.5%.[23] Nia et al. compared admissions to a trauma center including adults and children during the pandemic with data from the previous year and reported that, throughout the lockdown, there were significant decreases in workplace and traffic accidents, sports injuries, hospitalizations, and total visits to the trauma ED, but the number of major traumas remained similar.[22] In addition, there was an increase in the frequency of injuries at home. It was also reported that higher trauma rates were seen in the pediatric population than in other age groups.[24] Stay-at-home orders and school closures have contributed to a decrease in motor vehicle travel, together with playground closures and the cancellation of sporting events; accordingly, the place of injury has significantly shifted from outdoors to home. External activities declined because of the pandemic, thereby increasing the time spent at home, where safety accidents now occur more frequently.[24] These data could be related to the hypothesis that, after stay-at-home orders, there was a shift in the environments of children which leaded them to encounter novel risks.[15] This area is an important concern for public health education and during the COVID-19 pandemic.[15]

Concerns have also been raised regarding the probability of intrafamilial abuse during the pandemic. Although we did not evaluate the characteristics in detail, there was a nearly 2.5-fold increase in the rate of children for whom forensic reports were written in our study. A number of related conclusions are being declared from different countries which have shown an increase in subjects who were exposed to abusive head trauma.[15,21]

We acknowledge the limitations of our study. First, this was a single-center analysis, so it could be limited to generalize our findings among comparable healthcare facilities. Second, we could not analyze the possible role of factors which influenced parents' comprehensions and utilizations of pediatric EDs during the pandemic.

CONCLUSION

In conclusion, during the pandemic period, our pediatric ED experienced significantly decreased number of visitors who presented with low-acuity conditions. Understanding the frequency and distribution of ED visits can help shape public health preparedness policies such as healthcare planning to ensure the availability of resources.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Nihan Şık, Murat Duman;* ***Design:*** *Zeynep Ölmez, Durgül Yılmaz;* ***Control/Supervision:*** *Murat Duman;* ***Data Collection and/or Processing:*** *Zeynep Ölmez;* ***Analysis and/or Interpretation:*** *Durgül Yılmaz;* ***Literature Review:*** *Nihan Şık;* ***Writing the Article:*** *Nihan Şık;* ***Critical Review:*** *Murat Duman;* ***References and Fundings:*** *Nihan Şık, Zeynep Ölmez.*

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