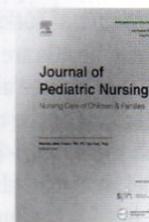




ELSEVIER

Contents lists available at ScienceDirect

Journal of Pediatric Nursing

journal homepage: www.pediatricnursing.org

An evaluation of pediatric emergency cases in the first year of the COVID-19 pandemic: A single-centre experience

Aslı Yılmaz, RN, PhD, Assistant Professor^{a,*}, Figen Işık Esenay, RN, PhD, Associate Professor^b

^a Amasya University, Faculty of Health Sciences, Child Health and Disease Nursing Department, Türkiye

^b Ankara University, Faculty of Nursing, Child Health and Disease Nursing Department, Türkiye



ARTICLE INFO

Article history:

Received 7 August 2023

Revised 8 November 2023

Accepted 8 November 2023

Keywords:

COVID-19

Emergencies

Pediatrics

Pediatric nursing

ABSTRACT

Aim: Nurses responsible for the care of children in the emergency department must be aware of the case profile of the pandemic era, better prepare for developing crises, and identify preventive services. The study aims to determine the pediatric emergency cases admitted during the pandemic and compare them to those during the pre-pandemic period.

Methods: The current study was designed as a single-center, retrospective, cross-sectional, and descriptive research. All patients aged between 0 and 18 who presented to the pediatric emergency department and had electronic patient records were included in the research population. The data were gathered over two periods: the pre-pandemic period from 2019 to 2020 and the pandemic period from 2020 to 2021. A total of 145,591 patient records were analyzed.

Results: The number of admissions declined by 51.6% during the pandemic, and a noticeable difference in the reasons for emergency department visits ($p = 0.001$) was detected. The pandemic saw a decrease in the cases of respiratory, gastrointestinal diseases, and ear, nose, and throat problems. In contrast, there was an increase in the cases of musculoskeletal system diseases, infections, falls, traumas, and neonatal problems.

Conclusion: The number of pediatric emergency cases decreased significantly during the pandemic, and compared to the pre-pandemic period, some changes in these cases were observed.

Practical implications: Particular attention should be given to ensuring that mothers of newborn infants receive adequate nursing care. Nurses working in the emergency department should keep their knowledge up-to-date regarding the changing health issues specific to the pandemic period.

© 2023 Elsevier Inc. All rights reserved.

Introduction

Millions of pediatric patients yearly require immediate care (Brown et al., 2021). The continuity of emergency care services necessitates a team-oriented approach (Yıldız, 2021). As a member of the team, pediatric emergency department nurses possess competencies in various areas, including pediatric triage, pediatric assessments and interventions, pediatric trauma, pain assessment including non-pharmacological pain management, resuscitation, preparation for emergency operations, drug applications, monitoring and detection of unaccompanied children, family-centered care including cultural sensitivity, care transitions/handover, patient and parent education (Balci & Ar, 2016; Remick et al., 2018). Healthcare institutions must have trained

and qualified personnel to assess every child with life-threatening conditions and emergency care needs (Yıldız, 2021). As Çağlar (2021) noted, pediatric emergency nurses are hindered from performing their duties by inadequate emergency service teams, safety problems, and a lack of education. Preventing the inappropriate use of emergency services will also help the patients who apply to the emergency service receive more qualified service in a shorter time (Çağlar, 2021). When determining the pediatric emergency teams and their needs, the characteristics of emergency cases by age group, frequency of occurrence, daily distribution, and seasonal patterns should all be evaluated (Yıldız, 2021). Thus, it is crucial to examine the effects of the COVID-19 pandemic, which impacted the entire world in the last century. On March 11, 2020, when the first COVID-19 case was confirmed in Türkiye, nationwide measures were taken to reduce the spread of the pandemic (Republic of Türkiye Ministry of Health, 2020). These measures, like curfews and suspension of face-to-face education, compelled parents and children to stay home (Republic of Türkiye Ministry of Education, 2020; Republic of Türkiye Ministry of Interior, 2021a;

* Corresponding author at: Amasya University, Faculty of Health Sciences, İpekköy Campus, Helvacı District, Tavsanlı Street on Amasya-Erzurum Road No:1, 05100 Amasya, Türkiye.

E-mail addresses: abellikli@yahoo.com, asli.bellikli@amasya.edu.tr (A. Yılmaz).

Republic of Türkiye Ministry of Interior, 2021b). Besides these restrictions, healthcare delays or avoidant behaviors due to the fear of infection prevented access to health services, which has led to a significant decrease in the number of pediatric emergency visits since the onset of the COVID-19 pandemic worldwide (DeJornaa et al., 2022; DeLaroche et al., 2021; Erlichman et al., 2021; Lozzi et al., 2020; Raman & Madhusudan, 2021). Parallel to the decrease in the overall number of cases, it was revealed that there was a 70% decline in respiratory system diseases, 75% in asthma, 49% in digestive system diseases, and 26% in genitourinary system diseases (DeLaroche et al., 2021; Rethi et al., 2022).

On the other hand, records indicated that traumatic accidents increased among admissions to pediatric emergency departments during the pandemic period (Bressan et al., 2021; Chaiyachati et al., 2020; Liguoro et al., 2021), and burn injuries increased from 0.7% to 1.3% compared to the previous year (Mann et al., 2021), which demonstrates that the pandemic has caused changes in the reasons for pediatric emergency service admissions. The regional evaluation of this shift is highly significant in preparing service delivery to meet the healthcare needs of children. To the authors' knowledge, no existing study examines the case profile of our provincial center's sole pediatric emergency department from the perspective of nursing service. Therefore, the present study aims to determine the pediatric emergency cases admitted during the pandemic and compare them to those during the pre-pandemic period.

Materials and methods

Study design

This study was designed as a single-center, retrospective, cross-sectional, and descriptive research to compare the characteristics of pediatric patients admitted to the pediatric emergency department of a training and research hospital before and during the pandemic. That department is the sole pediatric emergency service serving the city, and more than one hundred thousand pediatric patients were admitted in 2019 before the pandemic. With a total population of 335,331 and 147,380 in the central district, the province (Amasya) where the hospital is located is in the central Black Sea region (Republic of Türkiye Amasya Governorate, 2022). The hospital's patient diagnoses are coded based on the International Classification of Diseases (ICD)-10.

Study sample

The study sample comprised electronic patient records of all patients aged 0–18 years admitted to the pediatric emergency department of Amasya Training and Research Hospital before and during the pandemic. Every emergency department admission was evaluated. The data were recorded and compared over two periods: the pre-pandemic period from March 1, 2019, to March 10, 2020, and the pandemic period from March 11, 2020, to March 11, 2021. Patient records from both of these periods were 145,845 in total. Of them, 145,591 records were subjected to data analysis after excluding the ones with missing data regarding age and gender. Consequently, of the 110,619 patient records from the pre-pandemic period, 110,367 were analyzed after records with missing data were eliminated. On the other hand, of the 35,226 patient records from the pandemic period, 35,224 were analyzed.

Data collection

The data collection form, which the researchers prepared in line with the literature (Karatepe & Akış, 2013; Özdemir et al., 2016), included the child's age, gender, admission date and time, admission type, diagnosis information, and emergency service outcome. The emergency department outcome refers to how a patient's treatment in the

emergency department was completed, such as discharge, hospitalization, or referral. After excluding the records with missing gender and age information, admission months and times (08:00–16:00/16:00–08:00) were determined. Developmental periods were used to group ages. The diagnostic information recorded by the physician was analyzed by grouping.

Data analysis

All statistical analyses were performed using the SPSS version 20.0 package software. The chi-square test was used to analyze categorical data provided as percentages (%) before and during the pandemic. The statistical significance limit was set at $p < 0.05$, with a confidence interval of 95%.

Ethical considerations

For this research, COVID-19-related research notification and approval were obtained from the Türkiye Ministry of Health, and ethical consent was obtained from the Amasya University Non-Interventional Clinical Research Ethics Committee (dated October 07, 2021, decision number E-30640013-050.99-38,521). Implementation consent was granted by the Amasya Provincial Health Directorate (dated 01.09.2021, decision number E68724985-044).

Results

The number of records that emerged before and during the pandemic amounted to 145,591 (N). During the pandemic, there was a decrease of 51.6% (–75,143) in the number of admissions.

In Table 1 show that the number of cases regarding each gender before and during the pandemic did not significantly differ from one another ($p = 0.094$). However, the number of cases with respect to age groups showed a substantial difference ($p = 0.001$). During the pandemic period, there was an increase in emergency department admissions for children under one year and those above 12 years old, while admissions for children aged 3–6 years and 6–12 years decreased. Table 2 show that in both periods, admissions outside working hours were more frequent ($p = 0.001$). Additionally, admissions by ambulance increased during the pandemic ($p = 0.001$).

Emergency department admissions generally decreased during the pandemic. Before the pandemic, the highest number of visits occurred in January, March, and December, while during the pandemic, the highest number occurred in March, July, and August (Fig. 1).

When the reasons for emergency department admissions were compared between the two periods, a significant difference was found ($p = 0.001$). During the pandemic period, a decrease in the cases of respiratory diseases (11.9%), gastrointestinal system diseases (1.8%), ear, nose, and throat diseases (4%), and missing diagnosis codes (1.2%) were detected. However, there was an increase in the cases of musculoskeletal system diseases (3.2%), infectious diseases (6.3%), and falls, striking against or struck by objects, and traumas (2.4%) (Table 3).

Table 1
Data on demographic variables by periods.

	Before pandemic n (%)	During pandemic n (%)	p
Gender			
Female	51,603(46.8)	16,289(46.2)	0.094
Male	58,764(53.2)	18,935(53.8)	
Age groups			
Under 1 year	11,012(10.0)	4824(13.7)	0.001*
1–3 years	27,773(25.2)	8795(25.0)	
3–6 years	22,093(20.0)	5553(15.8)	
6–12 years	28,291(25.6)	8068(22.9)	
12 years and above	21,198(19.2)	7984(22.7)	

* $p < 0.05$.

Table 2
Data on emergency service admissions by periods.

	Before pandemic n (%)	During pandemic n (%)	p
Emergency service admission time			
08:00–16:00	42,433(38.4)	14,207(40.3)	0.001*
16:00–08:00	67,934(61.4)	21,017(59.7)	
Emergency service admission type			
No information	12,771(11.6)	3110(8.8)	0.001*
By a vehicle	95,617(86.6)	30,516(86.6)	
On foot	1131(1.0)	602(1.7)	
Referred to the department from districts by an ambulance	113(0.1)	57(0.2)	
By an ambulance	735(0.7)	939(2.7)	
Emergency service outcome			
No information	49,524(44.9)	11,337(32.2)	0.001*
Discharged as an outpatient	59,281 (53.7)	23,053(65.4)	
Hospitalization to a department	1235(1.1)	601(1.7)	
Referred to another health institution or a higher department	203(0.2)	117(0.3)	
Exitus	2(0.0)	1(0.0)	
Rejected intervention, abandoned hospital	122(0.1)	115(0.3)	

* p < 0.05.

Discussion

The findings of this study, conducted to determine the reasons for pediatric emergency admissions during the COVID-19 pandemic and compare them with the pre-pandemic period, indicate significant differences. During the first year of the pandemic, the total number of emergency department cases decreased by 51.6% compared to the pre-pandemic period. Previous research similarly exhibited 50–78% decline in emergency department admissions (Dejornaa et al., 2022; DeLaroche et al., 2021; Demir et al., 2022; Fidancı et al., 2021; Geçkalan & Özdemir, 2022; Haddadin et al., 2021; Kostopoulou et al., 2022; Lozzi et al., 2020; Pata et al., 2021; Raman & Madhusudan, 2021). Parents may also request emergency services when urgent care is not required. It has also been noted that they avoid bringing their children to the emergency department due to concerns about COVID-19 exposure (Dann et al., 2020; Pata et al., 2021). Additionally, it was reported that the use of masks, effective handwashing, school closures, and social distancing during the pandemic contributed to reducing the number of pediatric cases by reducing the transmission of diseases through droplets (Cheng et al., 2022). The reduced number of admissions resulted

from both the disease-related fear and the restrictions and safety measures put in place.

This study's findings were consistent with the literature in that there was no significant difference between the number of female and male cases before and during the pandemic (Demir et al., 2022). Nevertheless, a comparison of age groups displayed that admission rates increased in those under one year and over 12 years, whereas they decreased for children aged 1–11 years (Table 1). An increase in patient admissions under age one and notable issues related to the neonatal period by age groups were observed (Tables 1 and 2). Similarly, it was indicated in the literature that there was an increase in the neonatal period and under-1-year-old child admissions during the pandemic period (Bothara et al., 2021; DeLaroche et al., 2021; Demir et al., 2022; Paival et al., 2021; Sokoloff et al., 2021). Silvagni et al. (2021) study remarked that the number of admissions increased from 56.4% to 81.4%, particularly for minor neonatal problems related to nutrition during the pandemic period. The reasons for this increase were attributed to early discharge of mothers from healthcare facilities, shorter-than-expected duration spent by mothers and healthcare teams, parental concerns, and the disruption of social support during the pandemic (Bothara et al., 2021; Paival et al., 2021). Our findings showed a significant decline (–4.2%) in the 3–6 age group, consistent with the literature (Chaiyachati et al., 2020; Demir et al., 2022; Paival et al., 2021). It is believed that the transition to remote education in schools, the implementation of curfews, the adoption of flexible working hours in public institutions, a decrease in meetings, and the widespread use of masks during the pandemic may have contributed to the decline in emergency department admissions in the particular age group.

We also examined the timing of emergency department admissions and observed that they tended to peak at the end of working hours in both periods. Bucak et al. (2020) reported that admissions outside of daytime working hours were higher during the pre-pandemic period (60.3%), which implies that admission times are not fixed, and emergency departments are frequently used outside the daytime working hours. It was suggested that factors such as one or both parents working in the daytime hours when outpatient clinics provide service, delays in the appointment system, and immediate treatment may influence emergency department admissions outside of working hours (Çağlar, 2021).

Regarding the mode of admission to the emergency department, it was observed that there was an increase in ambulance arrivals during the pandemic period (Table 1). It was stated that the curfew and

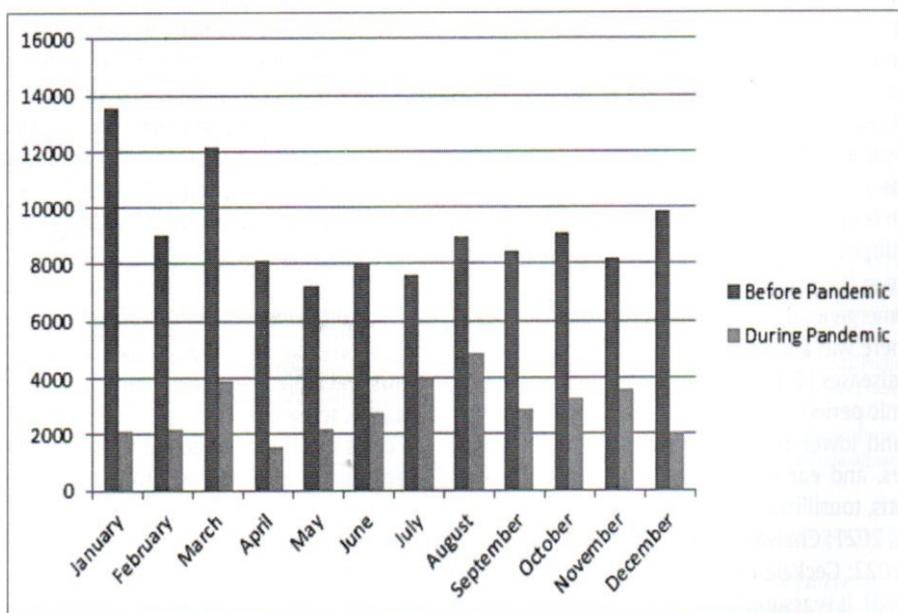


Fig. 1. Distribution of emergency department admissions according to months.

Table 3
Group of diagnoses given to patients admitted to the emergency room by periods.

Diagnose	Before pandemic n (%)	During pandemic n (%)	p
No diagnostic code	1708 (1.5)	119(0.3)	0.001*
Respiratory system diseases	27,984(25.4)	4764(13.5)	
Gastrointestinal system diseases	22,414(20.3)	6511(18.5)	
Ear-nose-throat problems	20,766(18.8)	5215(14.8)	
Musculo-skeletal system diseases	9761(8.8)	4213(12.0)	
Infection diseases	7714(7.0)	4677(13.3)	
Falls, striking against or struck by objects, and trauma	3134(2.8)	1846(5.2)	
Oncological and immunological diseases	2154(2.0)	716(2.0)	
Poisoning, toxic effect (drug, food, chemical)	2071(1.9)	941(2.7)	
Neurological system diseases	1287(1.2)	460(1.3)	
Follow-up, control, care, consultation	3372(3.1)	1424(4)	
Eye diseases	1243(1.1)	445(1.3)	
Pain	1042(0.9)	514(1.5)	
Dermatological problems	1042(0.9)	519(1.5)	
Urinary system diseases	856(0.8)	585(1.7)	
Traffic accidents, pedestrian injuries, gunshot injuries, work accidents, examinations for administrative purposes, examinations after assault and beating	744(0.7)	365(1.0)	
Genitourinary, obstetric problems	561(0.5)	245(0.7)	
Neonatal problems	422(0.4)	382(1.1)	
Oral-dental problems	367(0.3)	158(0.4)	
Haematological, lymphatic system diseases	236(0.2)	193(0.5)	
Foreign body ingestion/ aspiration/ penetration	210(0.2)	161(0.5)	
Injuries	242(0.2)	124(0.4)	
Burns, frostbites	246(0.2)	137(0.4)	
Psychiatric symptoms	76(0.1)	31(0.1)	
Cardiovascular system diseases	124(0.1)	60(0.2)	
Animal bites - immunization	477(0.4)	343(1)	
Avitaminosis, metabolic diseases, fluid electrolyte instabilities	32(0.0)	19(0.1)	
Endocrine system diseases	14(0.0)	6(0.0)	
Congenital, chromosomal abnormalities	1(0.0)	2(0.0)	
Fracture, dislocation, sprain	58(0.1)	45(0.1)	
Side effects (drug, treatment)	9(0.0)	4(0.0)	
Total	110,367(100)	35,224(100)	

* $p < 0.05$.

infected/suspected patients' inability to use alternative means of transportation may have affected the increased use of ambulances (Aydin et al., 2022; Şan et al., 2021). In terms of emergency department finalization, it was found that there was an increase in the rate of discharged patients (+11.7%) compared to the pre-pandemic period. Contrary to our finding, it was revealed that the rate of children discharged during the pandemic period decreased (DeLaroche et al., 2021; Demir et al., 2022), which can be attributed to regional differences, population density, and distinctions in healthcare institutions. Compared to the pre-pandemic period, there was an increase (+0.6%) in emergency department outcomes resulting in hospitalization (Table 2). Similarly, or even at a much higher rate, Kostopoulou et al. (2022) demonstrated an increased hospitalization rate in the pediatric service (24.9%).

When the reasons for emergency department admissions were analyzed, it was found that there was a decline in the respiratory system and ear, nose, and throat diseases (Table 3). Similarly, various studies encompassing the pandemic period showed a decrease in respiratory system diseases, upper and lower respiratory tract infections and acute respiratory diseases, and ear-nose-throat problems such as acute nasopharyngitis, otitis, tonsillitis, pharyngitis, sinusitis (Amidei et al., 2021; Bothara et al., 2021; Chaiyachati et al., 2020; DeLaroche et al., 2021; Demir et al., 2022; Geçkalan & Özdemir, 2022; Haddadin et al., 2021; Lozzi et al., 2020). It is assumed that quarantine measures, school closures, social distancing, and mask usage influenced this situation (Demir et al., 2022).

Due to restrictions, schools and playgrounds were closed, which resulted in more time spent at home. Balci et al. (2020) brought up the possibility that the COVID-19 period would see an increase in home accidents and injuries as a result of the limitations on children's everyday activities. The increase compared to the pre-pandemic period in the cases of falls, striking against or struck by objects, and traumas (+2.4%), injuries (+0.2%), and foreign body ingestion, aspiration, and penetration (+0.3%) confirmed this hypothesis. Similarly, other studies indicated that trauma cases increased during the pandemic period, which was supposed to be due to inadequate supervision of children during the process of working from home (Bressan et al., 2021; Chaiyachati et al., 2020; Cheng et al., 2022; Liguoro et al., 2021; Lozzi et al., 2020).

There has been evidence in the literature that the pandemic-era quarantines exacerbated children's mental health and increased the number of people who sought treatment in emergency rooms for mental health issues (Carison et al., 2022; Cheng et al., 2022; Shankar et al., 2022). It was claimed that social and educational changes may have contributed to this outcome. However, our findings showed no change in the emergency department cases regarding psychiatric symptoms.

Study limitations

Among the study's limitations are its retrospective, single-center design, reliance solely on diagnostic information, absence of detailed patient medical histories and clinical features, and the presence of patients who did not have diagnostic codes entered into the system. Further, since it is a single-centered study, it cannot be generalized to the region, country, or world. It cannot be applied to the entire pandemic period because it only officially covers the year following the discovery of the first case in Türkiye.

Practical implications

Public awareness needs to be increased to stop the emergency departments from being viewed as a setting for receiving outpatient care and unnecessary crowding. Unfortunately, during the pandemic, decreased time spent outside the home during the physically active childhood period increased the cases of falls, striking against or struck by objects, and trauma. Therefore, it is essential to ensure access to playgrounds to safely support children's physical activity. To achieve this goal, pediatric emergency department nurses should present the changing case profile along with the research findings. During the pandemic, stressed hygiene measures such as hand hygiene, mask usage, adherence to social distancing, and regular ventilation of indoor spaces should be reinforced and reminded to pediatric patients and their families as part of nursing care. Protective measures for home accidents should be reminded to families during pandemic periods. Families with newborns, especially first-time parents, should receive adequate nursing support regarding breastfeeding, period-specific baby care, and potential health issues. Primarily through primary healthcare institutions, families should be informed about taking preventive measures regarding the health problems that increased during the pandemic period. Giving the COVID-19 disease all the attention does not guarantee that other health issues will not be observed concurrently. Hence, healthcare institutions should consider peak hours in pediatric emergency departments and employ adequate nurses to prevent increased workload. In addition, nurses should keep their knowledge up-to-date regarding the cases specific to the period, thus contributing to accurate diagnosis, intervention, and follow-up processes.

Conclusion

By encompassing a total of two years and relying on the analysis of a substantial number of patient diagnoses, this robust study concluded a significant decline in the number of pediatric emergency department

cases during the pandemic. It was determined that the pediatric emergency department was more crowded outside regular working hours during both the pandemic and pre-pandemic periods. A change in emergency department cases occurred during the pandemic period compared to the pre-pandemic period. The number of admissions for children under one year increased, while respiratory, ear, nose, and throat disease cases decreased. Furthermore, neonatal period problems, falls, striking against or struck by objects, trauma, and incidents involving foreign body ingestion, aspiration, and penetration increased.

Funding information

The authors received no financial support for this study.

CRedit authorship contribution statement

Ashl Yılmaz: Conceptualization, Methodology, Investigation, Project administration, Resources, Data curation, Formal analysis, Writing – original draft, Writing – review & editing. **Figen Işık Esenay:** Conceptualization, Methodology, Project administration, Data curation, Formal analysis, Writing – review & editing, Supervision.

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Competing Interest

The authors declare no potential conflicts of interest.

The full manuscript of the study is not published elsewhere. Ashl Yılmaz and Figen Işık Esenay reports no financial interests or potential conflicts of interest. The manuscript has been read and approved by all authors and the requirements for authorship have been met. The data that support the findings of this study are available from the corresponding author upon reasonable request. Ethical approval was obtained from the Ethical Committee in Amasya University. The institution's permission was obtained from Amasya Provincial Health Directorate.

References

- Amidei, C. B., Buja, A., Bardin, A., Bonaldi, F., Paganini, M., Manfredi, M., ... Da Dalt, L. (2021). Pediatric emergency department visits during the COVID-19 pandemic: A large retrospective population-based study. *Italian Journal of Pediatrics*, 47, 218. <https://doi.org/10.1186/s13052-021-01168-4>.
- Aydın, H., Beştemir, A., Berikol, G. B., & Doğan, H. (2022). Analysis of patients visit to the emergency department of a pandemic hospital: A retrospective study from Turkey. *Tıbbi Sosyal Hizmet Dergisi*, 19, 76–85. <https://doi.org/10.46218/tshd.1106381>.
- Balcı, A., & Ar, I. (2016). Role and responsibilities of pediatric emergency nurse. *Türkiye Klinikleri J Pediatr Nurs-Special Topics*, 2(3), 15–18.
- Balcı, E., Sezer, L., & Durmuş, H. (2020). Increase of home accidents of children in "corona days". *Turkish Journal of Pediatric Disease*, 14, 458–459.
- Bothara, R. K., Raina, A., Carne, B., Walls, T., McCombie, A., Ardagh, M. W., & Royce, L. R. (2021). Paediatric presentations to Christchurch hospital emergency department during COVID-19 lockdown. *Journal of Paediatrics and Child Health*, 57, 877–882.
- Bressan, S., Gallo, E., Tirelli, F., Gregori, D., & Dalt, L. D. (2021). Lockdown: More domestic accidents than COVID-19 in children. *Archives of Disease in Childhood*, 106, 1–2. <https://doi.org/10.1136/archdischild-2020-319547>.
- Brown, K. M., Ackerman, A. D., Ruttan, T. K., Snow, S. K., & Committee on Pediatric Emergency Medicine; American College of Emergency Physicians, Pediatric Emergency Medicine Committee; Emergency Nurses Association Pediatric Committee (2021). Access to optimal emergency care for children. *Pediatrics*, 147(5) Article e2021050787. <https://doi.org/10.1542/peds.2021-050787>.
- Bucak, I. H., Almış, H., Benli, S., Geyik, M., & Turgut, M. (2020). An evaluation of patients brought to the pediatric emergency department by ambulance. *J Pediatr Emerg Intensive Care Med*, 7, 62–68. <https://doi.org/10.4274/cayd.galenos.2019.28190>.
- Çağlar, S. (2021). Current status of pediatric emergency nursing in our country and suggestions for the future. In S. Kuşoğlu, & D. Sönmez Düzükaya (Eds.), *Pediatric emergency nursing* (pp. 24–25). Ankara Nobel Medical Bookstore.
- Carison, A., Babl, F. E., & O'donnell, S. M. (2022). Increased paediatric emergency mental health and suicidality presentations during COVID-19 stay at home restrictions. *Emergency Medicine Australasia*, 34, 85–91. <https://doi.org/10.1111/1742-6723.13901>.
- Chaiyachati, B. H., Agawu, A., Zorc, J. J., & Balamuth, F. (2020). Trends in pediatric emergency department utilization after Institution of coronavirus Disease – 19 mandatory social distancing. *The Journal of Pediatrics*, 226, 274–277. <https://doi.org/10.1016/j.peds.2020.07.048>.
- Cheng, C. W., Huang, Y. B., Chao, H. Y., Ng, C. J., & Chen, S. Y. (2022). Impact of the COVID-19 pandemic on pediatric emergency medicine: A systematic review. *Medicina*, 58, 1112. <https://doi.org/10.3390/medicina58081112>.
- Dann, L., Fitzsimons, J., Gorman, K. M., Hourihane, J., & Okafor, I. (2020). Disappearing act: COVID-19 and paediatric emergency department attendances. *Archives of Disease in Childhood*, 105(8), 810–811. <https://doi.org/10.1136/archdischild-2020-319654>.
- Dejornaa, C., Libera, M., El Khalifa, S., Neggiaa, G., Martinota, A., & Dubos, F. (2022). Changes in pediatric emergency department visits during a COVID-19 lockdown period: An exhaustive single-center analysis. *Archives de Pédiatrie*, 29, 604–609.
- DeLaroche, A. M., Rodean, J., Aronson, P. L., Fleegler, E. W., Florin, T. A., Goyal, M., ... Neuman, M. I. (2021). Pediatric emergency department visits at us children's hospitals during the COVID-19 pandemic. *Pediatrics*, 147(4) Article 2020039628. <https://doi.org/10.1542/peds.2020-039628>.
- Demir, G., Berksoy, E., Bardak, Ş., Elibal, P., Çiçek, A., Nalbant, T., & Gökalp, G. (2022). The effects of the COVID-19 pandemic on emergency patient profiles: A case study of a Turkish tertiary care pediatric emergency and trauma center. *SCIE*, 33(2), 150–155. <https://doi.org/10.14744/scie.2021.89804>.
- Erlichman, M., Zalut, T., Schwartz, S., & Weiser, G. (2021). The ongoing indirect effect of the COVID-19 pandemic on a pediatric emergency department. *PLoS One*, 16(5) Article e0251003.
- Fidancı, İ., Taşar, M. A., Akıntuğ, B., Fidancı, İ., & Bulut, İ. (2021). The impact of the COVID-19 pandemic on paediatric emergency service. *International Journal of Clinical Practice*, 75 Article e14398. <https://doi.org/10.1111/ijcp.14398>.
- Geçkalan, D., & Özdemir, R. (2022). Did the COVID-19 pandemic affect the emergency service and outpatient clinic applications of pediatric patients? *J Pediatr Emerg Intensive Care Med*, 9, 116–122. <https://doi.org/10.4274/cayd.galenos.2022.44227>.
- Haddadin, Z., Blozinski, A., Fernandez, K., Vittetoe, K., Greeno, A. L., Halasa, N., & Lovvorn, H. N. (2021). Changes in pediatric emergency department visits during the COVID-19 pandemic. *Hospital Pediatrics*, 11(4), e57–e60. <https://doi.org/10.1542/hpeds.2020-005074>.
- Karatepe, T. Y., & Akış, N. (2013). The frequency of having home accident among 0-6 aged children and related factors. *Journal of Uludağ University Medical Faculty*, 39(3), 165–168.
- Kostopoulou, E., Gkentzi, D., Papatirou, M., Fouzas, S., Tagalaki, A., Varvarigou, A., & Dimitriou, G. (2022). The impact of COVID-19 on paediatric emergency department visits. A one-year retrospective study. *Pediatric Research*, 91, 1257–1262. <https://doi.org/10.1038/s41390-021-01815-w>.
- Liguoro, I., Pilotto, C., Vergine, M., Pusioli, A., Vidal, E., & Cogo, P. (2021). The impact of COVID-19 on a tertiary care pediatric emergency department. *European Journal of Pediatrics*, 180, 1497–1504. <https://doi.org/10.1007/s00431-020-03909-9>.
- Lozzi, L., Brambilla, I., Fioadelli, T., Marsiglia, G. L., & Ciprandi, G. (2020). Paediatric emergency department visits fell by more than 70% during the COVID-19 lockdown in northern Italy. *Acta Paediatrica*, 109, 2137–2138. <https://doi.org/10.1111/apa.15458>.
- Mann, J. A., Patel, N., Bragg, J., & Roland, D. (2021). Did children 'stay safe'? Evaluation of burns presentations to a children's emergency department during the period of COVID-19 school closures. *Archives of Disease in Childhood*, 106 Article e018. <https://doi.org/10.1136/archdischild-202-320015>.
- Özdemir, U., Reşitoğlu, S., Tolunay, O., Çelik, T., Celiloğlu, C., Karakılıç, A., ... Çelik, Ü. (2016). Evaluation of home accidents in children admitted to pediatric emergency unit. *J Pediatr Emerg Intensive Care Med*, 3, 146–150. <https://doi.org/10.4274/cayd.48615>.
- Paival, R., Martins, C., Rodrigues, F., & Domingues, M. (2021). Impact of COVID-19 on a paediatric emergency service. *European Journal of Pediatrics*, 180, 2571–2579. <https://doi.org/10.1007/s00431-021-04095-y>.
- Pata, D., Gatto, D., Buonsenso, D., & Chiaretti, A. (2021). A COVID-19 outbreak's lesson: Best use of the paediatric emergency department. *Acta Paediatrica*, 110, 1371. <https://doi.org/10.1111/apa.15433>.
- Raman, R., & Madhusudan, M. (2021). Impact of the COVID 19 pandemic on admissions to the pediatric emergency department in a tertiary care hospital. *The Indian Journal of Pediatrics*, 88, 392. <https://doi.org/10.1007/s12098-020-03562-y>.
- Remick, K., Gausche-Hill, M., Joseph, M. M., & American Academy of Pediatrics Committee on Pediatric Emergency Medicine and Section on Surgery, American College of Emergency Physicians Pediatric Emergency Medicine Committee, Emergency Nurses Association Pediatric Committee (2018). Pediatric readiness in the emergency department. *Pediatrics*, 142(5) Article e20182459. <https://doi.org/10.1542/peds.2018-2459>.
- Republic of Türkiye Amasya Governorate (2022). Population information. Retrieved from: <http://www.amasya.gov.tr/nufuserisim> Accessed May 5, 2022.
- Republic of Türkiye Ministry of Education (2020). Measures taken in the field of education against coronavirus. Retrieved from: <https://www.meb.gov.tr/bakan-selcuk-koronaviruse-karsi-egitim-alaninda-alinan-tedbirleri-acikladi/haber/20497/tr> Accessed June 1, 2021.
- Republic of Türkiye Ministry of Health (2020). COVID-19 information platform. Retrieved from: <https://covid19.saglik.gov.tr/TR-66494/pandemi.html> Accessed June 1, 2021.
- Republic of Türkiye Ministry of Interior (2021a). Partial closing circular. Retrieved from: <https://www.icisleri.gov.tr/81-il-valiligine-kismi-kapanma-genelgesi-gonderildi> Accessed June 1, 2021.