

# Knowledge level on the management of pediatric burn patients among physicians working in the emergency department

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## ABSTRACT

**BACKGROUND:** Prognosis of burned child is heavily influenced by how they are treated in the first 24 h. This study aimed to assess the degree of knowledge of emergency department physicians about the pediatric burn patients.

**METHODS:** The study included 229 physicians (80 emergency medicine specialists, 84 pediatricians, and 65 general practitioners). The questions were organized into six categories, each based on the Turkish Ministry of Health's Burn Treatment Algorithm, American Burn Association criteria, and current literature: 1 – Etiology and Degree of Burn, 2 – Emergency Medical Intervention, 3 – Calculation of Burn Area and Fluid-electrolyte Treatment, 4 – Indications for Hospitalization in Burn Treatment Units, 5 – Judicial and Medical Liability, and 6 – Training Sufficiency and Demand for Burn Injury Training. Questionnaire form was sent to the participants through the WhatsApp application. The outcomes were rated as 75-100% good, 50%–75% moderate, and <50% poor.

**RESULTS:** The overall knowledge level of physicians about pediatric burns was moderate, with a score of  $57.65 \pm 10.13$  (emergency medicine specialists: 60.11, pediatricians: 57.56, and general practitioners: 54.75). Emergency medical intervention scores ( $35.02 \pm 22.43$ ) and burn treatment units and hospitalization indications scores ( $38.6 \pm 18.96$ ) were both low. Despite having a statistically significant higher medical intervention score than the pediatricians and general practitioners, the knowledge level of the emergency medicine specialists was poor.

**CONCLUSION:** As result, physicians practicing in the emergency department have a poor knowledge level about pediatric burns. Hence, pediatric burn education should be provided to all emergency department physicians.

**Keywords:** Child burns; emergency room; knowledge level of the physicians.

## INTRODUCTION

Although burn injury-related deaths in children have declined in recent years, it remains a significant cause of trauma-related deaths. Furthermore, it has major repercussions such as burn marks, burn scars, organ loss, and joint burns that impair movement. The care provided in the initial 24 h for burns in pediatric patients is crucial in determining their prognosis.

Management of burn injuries is divided into three stages:

I. The first stage involves providing first aid on the site and

transporting the patient to the hospital.

- The second stage is the early hospital stage, which includes burn examination, quick and suitable intervention, fluid–electrolyte treatment, inhalation injury treatment, and admission to the appropriate treatment unit based on the burn characteristics.
- In the third stage, the burn treatment unit (burn unit/center) provides treatment, surgery, and care.<sup>[1]</sup>

The patient's family and occasionally the emergency aid team provide first aid at the site and transport the patient to the

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hospital in case of pediatric burns. In the first intervention and transport stage at the scene, studies from across the world and in our country demonstrate that incomplete and incorrect practices are used on patients with burn injuries.<sup>[2,3]</sup>

The emergency service section, where these patients are first admitted, is the second stage in the management of burn patients. The physicians working in the emergency rooms evaluate the patient, provide fluid-electrolyte treatment, early medical intervention, hospitalization indications, and determine the right treatment unit for the patient. The physicians' knowledge and experience are critical in the effective management of care for these patients and are significant factors impacting the prognosis. We conducted this study in response to the incomplete and inaccurate practices found in patients sent to our burn center (Umraniye Training and Research Hospital Pediatric Burn Center) from Istanbul and adjacent areas.

This study aimed to assess the level of knowledge and awareness among emergency department physicians in the management of care for burn patients.

## MATERIALS AND METHODS

The study was conducted with the approval of the Ethics Committee of Umraniye Training and Research Hospital (dated May 25, 2021 and numbered 168) between June 01, 2021 and July 15, 2021. The study was carried out with the participation of physicians working in the emergency departments of eight hospitals in Turkey, namely Umraniye Training and Research Hospital Adult Emergency and Pediatric Emergency Services, Sancaktepe Training and Research Hospital, Haydarpaşa Training and Research Hospital, Selçuk University Hospital, Corum Training and Research Hospital, Konya Faruk Sukan Children's Hospital, Kocaeli State Hospital, and Sivas Numune Hospital. The questions were designed to assess the physicians' knowledge of pediatric burns based on the Burn Treatment Algorithm of the Scientific Committee of the Ministry of Health,<sup>[4]</sup> the American Burn Association (ABA) criteria<sup>[5]</sup> and current literature. The questions were divided into six categories: First, etiology and burn degree; second, emergency medical intervention; third, calculation of the burn area and fluid-electrolyte treatment; fourth, burn treatment units and hospitalization indications; fifth, judicial and medical responsibility; and sixth, educational adequacy and determining the training demands for the treatment of burn injuries. The Google Forms web tool was used to construct the questionnaire, which consisted of 25 multiple-choice questions. The physicians received the form through WhatsApp messenger. A total of 229 physicians completed the questionnaire, with 80 of them being emergency medicine specialists, 84 being pediatricians, and 65 being general practitioners. If >75% of the answers were correct, the knowledge level was considered good, moderate if 50–75% was correct, and low if <50% was correct. The responses were assessed based on the subjects and areas of expertise.

## Statistical Analysis

The data were analyzed using the IBM SPSS Statistics 22 (IBM SPSS, Turkey) software. The suitability of the parameters to the normal distribution was evaluated using Kolmogorov–Smirnov and Shapiro–Wilk tests. The results showed that the parameters did not exhibit normal distribution. The data were analyzed using descriptive statistical methods (minimum, maximum, mean, standard deviation, median, and frequency). Furthermore, the Kruskal–Wallis test was used to compare the physicians from various medical branches in terms of knowledge levels, and the Dunn's test was utilized to determine the group with distinct results. The level of significance was evaluated at  $p < 0.05$ .

## RESULTS

In the study, 229 physicians completed the questionnaire in entirety. Distribution according to the branches was as follows: Pediatricians: 84 (36.7%); Emergency Medicine Specialists: 80 (34.9%); and General Practitioners: 65 (28.4%). Table 1 shows the distribution of responses to the questions on determining one's level of knowledge about burns.

The overall knowledge level of the emergency department physicians about child burns was moderate, with a score of  $57.65 \pm 10.13$ . The difference in overall knowledge scores between the branches was statistically significant ( $p = 0.009$ ;  $p < 0.05$ ). Emergency medicine physicians had significantly higher overall knowledge levels than the general practitioners ( $p = 0.006$ ;  $p < 0.05$ ). There was no statistically significant difference between the other branches ( $p > 0.05$ ) (Table 2).

With a score of  $86.03 \pm 17.38$ , the mean level of knowledge about the etiology and degree of burns in children was good. Emergency medicine specialists ( $89 \pm 15.23$ ) scored statistically significantly higher than the pediatricians ( $82.14 \pm 18.63$ ) in terms of etiology and burn degree ( $p = 0.038$ ;  $p < 0.05$ ). However, there was no statistically significant difference between the other branches ( $p > 0.05$ ) (Table 2).

The emergency medical intervention score was  $35.02 \pm 22.43$ , which was low. Emergency medicine specialists ( $43.5 \pm 23.12$ ) had significantly higher emergency medical intervention knowledge levels than the pediatricians ( $34.05 \pm 21.01$ ) and general practitioners ( $25.85 \pm 19.6$ ) ( $p_1 = 0.023$ ;  $p_2 = 0.000$ ;  $p < 0.05$ ). There was no statistically significant difference between the pediatricians and practitioners ( $p > 0.05$ ) (Table 2).

The knowledge level on the percentage of burns and fluid-electrolyte treatment was moderate, with a score of  $62.01 \pm 20.97$ . In this regard, with a rate of 30.1%, the rate of correctly calculating the percentage of burns was low. In terms of knowledge levels on burn area calculation and fluid–electrolyte treatment, there was no statistically significant difference between the branches ( $p = 0.392$ ;  $p > 0.05$ ) ( $p = 0.392$ ;  $p > 0.05$ ) (Table 2).

**Table 1.** Distribution of participant responses to the burns in children questionnaire

		n	%
<b>Etiology and degree of burn</b>			
What is the most common cause of burn injuries in children?	Hot liquids	223	97.4
	Electricity	4	1.7
	Chemicals	2	0.9
When a pediatric patient is exposed to the same thermal agent for the same amount of time as an adult, how does the burn depth differ?	Deeper	210	91.7
	The same depth	6	2.6
	More superficial	12	5.2
	No answer	1	0.4
Which of the following is incorrect for a first-degree burn?	It is distinguished by the presence of unexploded bullae	170	74.2
	It is associated with severe pain	16	7
	The burn area is red	43	18.8
	It generally involves bullae	189	82.5
Second-degree superficial burns are characterized by which of the following?	It takes 3–4 weeks for the wound to heal.	19	8.3
	Heals with a hypertrophic scar	20	8.7
	No answer	1	0.4
	All layers of the epidermis and dermis are burned	193	84.3
Which of the following statements about third-degree burns is correct?	It is extremely painful	21	9.2
	There are only a few viable epithelial cells left	15	6.6
	No answer	1	0.4
<b>Emergency medical intervention</b>			
What would you do if a pediatric patient presented with burns as a result of a thermal injury and you needed to decrease the thermal effect?	I would use running tap water to wash the burned area	49	21.4
	I would use a saline-soaked cloth to cover the burned area	128	55.9
	I would put ice on the burned area	52	22.7
How should the injured area of skin be treated in the event of a chemical burn?	The burned area should be washed with tap water	153	66.8
	The burned area should be treated with ice	6	2.6
	The burned area should be treated using substances that will neutralize the chemical agent	70	30.6
For a child with thermal injury to benefit from cold application, how soon should it be performed?	Within the first 3 hours	8	3.5
	Within the first hour	74	32.3
	In the first half-an-hour	146	63.8
	No answer	1	0.4
What should be done if there is hoarseness, stridor, and wheezing in the voice of the child rescued from the fire?	The patient should be instantly intubated	106	46.3
	Bronchodilators and nebulizers should be administered	111	48.5
	Tracheostomy should be opened	12	5.2
Which of the following is contraindicated in a child with 30% total surface burns, including the genital area?	Dressing using Anestol and Silverdin	85	37.1
	Inserting a nasogastric catheter	15	6.6
	Inserting a urinary catheter	127	55.5
	No answer	2	0.9
<b>Calculation of burn area, fluid–electrolyte treatment</b>			
When determining fluid needs in pediatric burn patients, which one of the following parameters is not used?	Age	188	82.1
	Body surface area	14	6.1
	Weight	26	11.4
	No answer	1	0.4
What is the burn area (%) of an 8-month-old baby whose right arm (including the hand) and half of the head have been burned?	19%	69	30.1
	16%	86	37.6
	13%	66	28.
	No answer	8	3.5

**Table 1.** Distribution of participant responses to the burns in children questionnaire (*continue*)

		n	%
<b>Calculation of burn area, fluid–electrolyte treatment</b>			
In the first 8 hours, how much of the fluid calculated for the first 24 hours should be given to the pediatric burn patient?	1/2 of it	195	85.2
	1/3 of it	18	7.9
	2/3 of it	14	6.1
	No answer	2	0.9
What is the most prevalent metabolic disorder in children with a significant burn surface?	Hyponatremia, metabolic acidosis	171	74.7
	Hypocalcemia, respiratory alkalosis	17	7.4
	Hypoglycemia, metabolic alkalosis	33	14.4
	No answer	8	3.5
<b>Burn treatment Units and hospitalization indications</b>			
Which of the following does not define burn treatment units in our country?	Burn service	17	7.4
	Burn room	206	90
	Burn center	6	2.6
How should a pediatric patient with a first-degree 5% + a second-degree 5% burn be treated?	Outpatient treatment with emollient cream dressing and an oral analgesic	81	35.4
	Outpatient treatment with Anestol cream dressing and oral antibiotics	101	44.1
	Inpatient treatment at the burn unit/center	43	18.8
	No answer	4	1.7
Which one of the following type of second-degree burns is an indication for hospitalization?	Hand and foot burns	176	76.9
	Body anterior surface burns	28	12.2
	Hip and thigh burns	22	9.6
	No answer	3	1.3
What percentage of second-degree burns in children should be regarded as an indication for hospitalization at a burn center?	20%	57	24.9
	15%	58	25.3
	10%	112	48.9
	No answer	2	0.9
What percentage of third-degree burns in children should be regarded as an indication for hospitalization at a burn unit?	2%	111	48.5
	5%	94	41
	10%	22	9.6
	No answer	2	0.9
<b>Judicial and medical liability</b>			
In the case of burn injuries in children, a forensic report is required for which of the following?	All burns in children	186	81.2
	Burns suspected of abuse	37	16.2
	Third-degree burns with a burn area of >2% and second-degree burns with a burn area of >10%	6	2.6
Under what circumstances should tetanus prophylaxis be administered in children with burns induced by hot water?	If the child's tetanus vaccines are up to date, this is not essential	181	79
	The tetanus vaccination should be administered regardless of whether the child has been immunized or not	39	17
	Tetanus vaccine and serum must be administered	7	3.1
	No answer	2	0.9
	Total	229	100

The level of knowledge on burn treatment units and hospitalization indication was low, with  $38.6 \pm 18.96$  points. There was no statistically significant difference between the branches in terms of knowledge scores of burn treatment units and hospitalization indications ( $p=0.376$ ;  $p>0.05$ ) (Table 2).

With 79–81.2%, the rate of correct answers on judicial and medical liability was good. There was no statistically significant difference between the branches in terms of knowledge of judicial and medical liability scores ( $p=0.712$ ;  $p>0.05$ ) (Table 2).

**Table 2.** Scores for burn-related knowledge levels based on specialization areas

	Total knowledge level	Pediatricians	Emergency medicine specialists	General practitioners	p
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	
Etiology and degree of burn	86.03±17.38	82.14±18.63	89±15.23	87.38±17.52	0.030*
Emergency medical response	35.02±22.43	34.05±21.01	43.5±23.12	25.85±19.6	0.000*
Burn area, fluid–electrolyte treatment	62.01±20.97	64.05±19.83	62.75±21.29	58.46±21.88	0.392
Burn treatment unit and indication for hospitalization	38.6±18.96	40.48±18.88	38.25±19.41	36.62±18.56	0.376
Judicial and medical liability	80.13±27.87	81.55±27.75	77.5±30.71	81.54±24.32	0.712
Total scores	57.65±10.13	57.56±9.68	60.11±10.83	54.75±9.13	0.009*

Kruskal–Wallis Test \*p<0.05. SD: Standard deviation.

**Table 3.** Evaluation of training sufficiency and demand for burn injury training

		n	%
Do you consider yourself competent in diagnosing and treating burns in children?	Yes	19	8.3
	No	92	40.2
	Partially	118	51.5
Do you believe the training you received during your education on burn injuries was adequate?	Sufficient	35	15.3
	Insufficient	160	69.9
	Received no such training	34	14.8
Would you attend in-service training on burn injuries in children if one was offered?	Yes, I would	182	79.5
	Maybe I would	40	17.4
	No, I would not	7	3.1
	Total	229	100

Table 3 shows whether the topic of child burns is appropriately covered during the physician training process as well as the training expectations.

Only 8.3% (n=19) of the 229 emergency department physicians consider themselves competent in diagnosing and treating burns in children, while 40.2% (n=92) consider themselves incompetent and 51.5% (n=18) somewhat sufficient (Table 3). While 15.3% (n=35) of the physicians said that they had obtained sufficient training, 14.8% said that they had had no training on the subject and 69.9% said that the training they had received was unsatisfactory (Table 3).

If in-service training on child burns was offered, 96.9% of the physicians (yes: 79.5%, maybe: 17.4%) said that they would attend, with only 3.1% saying that they would not (Table 3).

## DISCUSSION

The findings of this study revealed that physicians working in the emergency department had a moderate degree of knowledge on the management of pediatric patients with burn in-

juries, with a total score of 57.65±10.13 out of 100 points. The following are the levels of knowledge in each of the six categories: Good knowledge level on etiology and burn degree, with 86.03±17.38 points. Moderate knowledge level on burn percentage and fluid-electrolyte treatment, with 62.01±20.97 points (the rate of calculating the burn percentage was low at 30.1%). Poor knowledge level on emergency medical intervention, with 35.02±22.43 points, and burn treatment units and hospitalization indication, with 38.6±18.96 points. Good knowledge level on judicial and medical liability, with 79–81.2 points. Emergency medicine specialists had a statistically significantly higher overall knowledge level than the general practitioners. On the other hand, the knowledge level was modest in all three groups. Despite the fact that the emergency medicine specialists' knowledge of emergency, medical intervention was statistically significantly higher than that of pediatricians' and general practitioners', all three groups had low levels of knowledge. The rate of those who thought that the burn training received by them was adequate was 15.3%, and the rate of those who wished to participate if in-service training was available was 96.9%.

The implications of burn trauma set it apart from other types of trauma. Despite the fact that the burn injury is local, its impacts are both local and systemic. Local disruption of skin integrity leads to loss of liquid electrolyte and heat, severe pain, or loss of feeling in the early stages and exposes the skin to contamination. On a systemic level, the release of numerous vasoactive mediators, catecholamines, and inflammatory markers increases the vascular permeability and initiates hypermetabolism and catabolism. Depending on the size of the burn, life-threatening hypovolemia, hyponatremia, hyperglycemia, and metabolic acidosis emerge. In these patients, proper fluid-electrolyte treatment is critical. Incorrect fluid administration may lead to a further decline in the impaired metabolic state.<sup>[6,7]</sup> Therefore, dextrose-free ringer lactate is recommended as it is a balanced and buffered liquid with sodium, chloride, and lactate content.<sup>[8,9]</sup> However, only 38% of the physicians in our study indicated that dextrose-free ringer lactate was their first choice for burns.

Calculation of the burn percentage is necessary to determine the fluid-electrolyte requirement and which burn treatment unit will be treated.<sup>[4,5]</sup> Furthermore, the percentage of burns is one of the most important factors determining mortality and morbidity.<sup>[10,11]</sup> An incorrect estimation of the burn percentage will lead to a number of problems in treatment.

Burns in children differ from those in adults in several ways. Since body proportions alter with age, the rule of nine, which is used to assess the percentage of burns in adult burn patients, is not employed in children.<sup>[12]</sup> The Lund and Browder chart is the most widely used tool to calculate the percentage of burns in children.<sup>[13]</sup> (We use this chart in our burn center as well.) Only 30.1% of the physicians in our study responded correctly when asked about the percentage of burns. In non-burn centers around the world, the percentage of burns is calculated inaccurately at similar rates.<sup>[3,6]</sup> An incorrect estimation of the burn percentage will result in a sequence of problems in the treatment.

The most common causes of death in inhalation burns are airway injury and obstruction.<sup>[14]</sup> Because of the small diameter of children's airways, edema caused by burns affects them more severely than adults. Inhalation burns cause hoarseness in the voice, stridor, and wheezing. Patients who exhibit these symptoms should be intubated immediately. Otherwise, the increased edema may induce airway obstruction, making intubation impossible and resulting in death.<sup>[15]</sup> Only 46.3% of the physicians agreed that a pediatric patient rescued from a fire should be intubated immediately if there is hoarseness in voice, stridor, and wheezing.

In burn patients, several analgesics (paracetamol, morphine, fentanyl, etc.) are utilized. The use of lidocaine creams for analgesia in burn injuries in children is a typical error. In children, lidocaine can induce fatal methemoglobinemia.<sup>[16]</sup> Therefore, it should not be used. However, only 37.1% of

the physicians in our study indicated that lidocaine cream (Anestol pomad® Sandoz, Turkey) is contraindicated in a pediatric patient with a 30% second-degree burn encompassing the genital area. Demir et al.<sup>[17]</sup> similar results were found in his study. In their study, it was found that 63.3% of the physicians covered the burn wound with lidocaine cream.

In our country, the criteria for children to be treated in burn treatment units are comparable to the ABA criteria. Accordingly, minor burns (<10% second-degree burns and <2% third-degree burns) should be treated in the burn room or outpatient clinic. Moderate burns (10–20% second-degree and 2–10% third-degree burns) should be treated in the burn unit, and major burns (>20% second-degree, >10% third-degree burns, inhalation burns, face, eye, ear, genital area and large joint burns, chemical burns, electrical burns, and patients with comorbidities) should be treated in the burn center. In our study, the knowledge level on hospitalization indications in burn treatment units for pediatric patients was low, with  $38.6 \pm 18.96$  points. This inadequacy in the knowledge level could lead to severe errors in determining and referring patients to the appropriate treatment unit for advanced life support as well as treatment delays.

Burn assessment is performed after basic life support (respiratory, circulatory, and neurological) has been provided in the management of patients with burn trauma. In basic medical training, the topic of basic life support is covered both theoretically and practically. Trauma and resuscitation courses for emergency medicine specialists are also available, as are courses on basic life support in pediatric patients for pediatricians. Therefore, the study did not examine the topic of basic life support. However, studies show that knowledge and skills decrease when a long time passes after the courses. It is recommended that these courses be given periodically.<sup>[18]</sup>

Child burns, which are an emergency and a dramatic patient group, cause negative emotional effects on physicians.<sup>[19]</sup> For this reason, the burn has not been taken care of enough. In recent years, there has been a considerable increase in the number of well-equipped treatment units for burn injuries (burn unit/centers) in our country and globally, which constitutes the third stage in managing burn patients. The knowledge and experience of the teams operating in these centers (doctors, nurses, and patient care providers), early surgical applications, utilized wound dressings, and excellent patient care contributed to the considerable reduction in mortality and morbidity of burn patients.<sup>[20–22]</sup> By providing early and correct intervention in the first 24 h, also known as the golden hour of burn trauma, it is feasible to reduce burn mortality and morbidity, shorten hospital stays, and lower treatment costs. Non-burn physicians practicing in emergency services, on the other hand, have been shown to have insufficient knowledge on burn injuries, particularly in case of pediatric burns.<sup>[17,23]</sup>

The topic of burns is included in our country's national core curriculum program for undergraduate medical schools.<sup>[24]</sup> This training, however, is typically delivered in a theoretical format. As part of the basic curriculum of specialist education created by the Board of Specialization in Medicine, burn training is included in pediatrics and emergency medicine residency training.<sup>[25]</sup> These training programs are commonly delivered as a theoretical seminar in pediatric residency training and as a seminar and bedside training in emergency medicine resident training. The fact that emergency medicine specialists scored higher than the general practitioners and pediatricians in our study could be due to their bedside training. However, it is clear that the training of emergency medicine specialists is still insufficient. Worldwide, referrals from non-burn centers to burn centers are observed to be incomplete and incorrect.<sup>[3,4,17]</sup> This challenge could be solved using several approaches. According to Johnson et al.,<sup>[26]</sup> more telephone consultation and telemedicine should be used to avoid unnecessary referrals to burn centers and to support major burns in the United States. Burn centers in our country offer non-burn physicians telephone support in the referral of patients with burn trauma. Some countries, such as Australia, New Zealand, and England, offer a 1-day burn trauma patient management course for physicians and nurses working in the emergency department.<sup>[27]</sup> Working in collaboration with Nepal, Bangladesh, Afghanistan, Ghana, Ethiopia, Gaza and the West Bank, and Sierra Leone, the Interburns International Network for Training, Education, and Research in Burns (Interburns) offers free online basic burn training in least developed countries.<sup>[28]</sup>

It has been observed that non-burn doctors working in emergency departments in our nation and around the world has insufficient burn training, particularly in pediatric burns. Hence, for such doctors, there is a need for a standardized and practical burn training program.

### Limitations of the Study

The limitations of our study are these the knowledge level and practices of physicians on a wide range of issues were assessed using a brief questionnaire and since there is no similar study, a one-to-one comparison could not be made.

### Conclusion

There is a considerable paucity of knowledge about pediatric burns among the emergency physicians, pediatricians, and general practitioners practicing in the emergency department. Hence, basic medical education and specialist training for adult and child burns should include both theoretical and practical training. Furthermore, it should be ensured that physicians working in the emergency department undergo theoretical and practical burn training through a program developed by burn injury associations.

**Ethics Committee Approval:** This study was approved by the Ümraniye Training and Research Hospital Clinical Re-

search Ethics Committee (Date: 27.05.2021, Decision No: 168).

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## ORIJİNAL ÇALIŞMA - ÖZ

### Acil serviste çalışan doktorların yanık travmalı çocuk hasta yönetimi bilgi düzeyi

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**AMAÇ:** Çocuklarda yanık travması mortalite ve morbiditesi yüksek acil bir sorundur. Bu hastaların ilk 24 saat içindeki yönetimi prognozu önemli oranda etkiler. Amacımız acil serviste çalışan doktorların çocuk yanık travmalı hasta yönetimi bilgi düzeyini değerlendirmektir.

**GEREÇ VE YÖNTEM:** Çalışma acil serviste çalışan 229 doktor (acil tıp uzmanı=80, pediatrist=84 ve pratisyen=65) ile yapıldı. Sorular Türkiye Sağlık Bakanlığı Yanık Algoritma Rehberi, Amerikan Yanık Derneği kriterleri ve güncel literatür esas alınarak altı başlıkta hazırlandı; 1- Etiyoloji ve yanık derecesi, 2- acil tıbbi müdahale, 3- yanık alanını hesaplama ve sıvı-elektrolit tedavisi, 4- yanık tedavi birimleri yatış endikasyonları, 5- adli ve tıbbi sorumluluk, 6- eğitim yeterliliği ve talebi. Çoktan seçmeli 25 soru Whatsapp uygulaması ile katılımcılara iletildi. Sonuçlar 100 puan üzerinden >%75 iyi, %50–75 orta, <%50 düşük şeklinde değerlendirildi.

**BULGULAR:** Acil serviste çalışan doktorların çocuk yanıkları toplam bilgi düzeyi  $57.65 \pm 10.13$  (Acil Tıp:  $60.11$ , Pediatrist:  $57.56$ , Pratisyen:  $54.75$ ) puan ile orta idi. Acil tıbbi müdahale puanı ( $35.02 \pm 22.43$ ) ve yanık tedavi birimleri ve yatış endikasyonları puanı ( $38.6 \pm 18.96$ ) düşüktü. Acil tıp uzmanlarının tıbbi müdahale puanı pediatrist ve pratisyenlerden istatistiksel olarak anlamlı derecede yüksek olmakla birlikte bu grupta da düşüktü. Yanık eğitimi yeterli bulanların oranı: %15.3, düzenlenecek eğitime katılmak isteyenlerin oranı ise %96.9 idi.

**TARTIŞMA:** Acil serviste çalışan doktorların çocuk yanıkları bilgi düzeyi düşüktür. Acil serviste çalışan doktorlara uygulamalı erişkin ve çocuk yanık eğitimi verilmelidir.

Anahtar sözcükler: Acil servis; çocuk yanıkları; doktor bilgi düzeyi.

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