

Research Article / Araştırma Makalesi

The Frequency of Infantile Dermatologic Diseases and Treatments: An Analysis in Private Hospital and Clinics

İnfantil Dermatolojik Hastalık ve Tedavilerin Sıklığı: Özel Hastane ve Özel Klinik Analizi

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**Abstract:** The aim of this study was to determine the prevalence and distribution of dermatologic diseases and treatments in pediatric patients between the ages of 0-2 and the relation between skin diseases and age, gender and application year in private healthcare providers. The study was retrospectively analysed and conducted at dermatology department in a private hospital and private dermatology clinics. A total of 482 patients aged 0-2 years of outpatient admissions from January 1, 2015, to December 1, 2022 were included in the study. The most common diseases group were eczemas (53.6%), nevus and benign skin tumors (8.3%), viral diseases (6%), pigmentation disorders (5.7%), and parasitic infections (4%). The dermatitis group was statistically significantly higher in 0-1 age group than 1-2 age. Atopic dermatitis was the most common diagnosis. The viral infections, parasitic infections, nail diseases, and dermatoses due to physical factors were higher in 1-2 age group ( $p<0.05$ ). Benign skin tumors were commonly observed in girls and 0-1 age group ( $p<0.05$ ). The topical treatment were usually prescribed to the patients. Systemic treatment was commonly prescribed in 1-2 age ( $p=0.007$ ) and follow-up decision was usually given to girls than boys ( $p=0.001$ ). Viral and bacterial infections were observed in higher rates after coronavirus disease 2019 pandemic ( $p<0.05$ ). New studies in specific pediatric age groups will help to better understand the frequency of dermatological diseases and treatments and also studies conducted at different levels of health care may contribute better to develop health care policies, designing preventive health services and education programmes.

**Keywords:** Epidemiology, Skin diseases, Dermatologic treatment, Infantile dermatoses, Pediatric dermatology

**Özet:** Çalışmanın amacı, özel sağlık kuruluşlarına başvuran, 0-2 yaş arası pediatrik hastalarda dermatolojik hastalık ve tedavi prevalansını saptamak ve bu dağılımların yaş, cinsiyet ve başvuru yılı ile ilişkisini belirlemektir. 1 Ocak 2015-1 Aralık 2022 tarihleri arasında özel hastane ve özel dermatoloji kliniklerine başvuran olgular retrospektif olarak değerlendirildi. Yaşları 0-2 arası olan toplam 482 hasta çalışmaya dahil edildi. En sık görülen hastalık grupları sırasıyla egzemalar (%53,6), nevüs ve iyi huylu deri tümörleri (%8,3), viral hastalıklar (%6), pigmentasyon bozuklukları (%5,7) ve paraziter enfeksiyonlar (%4) idi. Dermatit grubu 0-1 yaş grubunda, 1-2 yaşa göre istatistiksel olarak anlamlı derecede yüksekti. En sık izlenen tanı atopik dermatitti. Fiziksel etkenlere bağlı viral enfeksiyonlar, paraziter enfeksiyonlar, tırnak hastalıkları ve dermatozlar 1-2 yaş grubunda daha fazlaydı ( $p<0.05$ ). Benign deri tümörleri kızlarda ve 0-1 yaş grubunda daha sık görüldü ( $p<0.05$ ). En sık uygulanan tedavi topikal tedaviydi. Sistemik tedavi en sık 1-2 yaş grubuna verilirken ( $p=0,007$ ), takip kararı daha çok kız hastalarda tercih edilmişti ( $p=0,001$ ). Koronavirüs hastalığı 2019 pandemisi sonrası viral ve bakteriyel enfeksiyonlar daha yüksek oranlarda gözlemlendi ( $p<0,05$ ). Çocuklarda deri hastalıkları sık görülmekte ve çocukluk dönemlerine göre farklı seyretmektedir. Spesifik pediatrik yaş gruplarında yapılacak yeni çalışmalar, dermatolojik hastalıkların ve tedavilerin sıklığının daha iyi anlaşılmasına yardımcı olabilir. Sağlık hizmetlerinin farklı basamaklarından elde edilen veriler, sağlık politikalarının geliştirilmesine, koruyucu sağlık hizmetlerinin ve eğitimlerin tasarlanmasına katkı sağlayabilir.

**Anahtar Kelimeler:** Epidemiyoloji, Deri hastalıkları, Dermatolojik tedaviler, İnfantil dermatozlar, Pediatrik dermatoloji

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Received 15.06.2023

Accepted 04.09.2023

Online published 06.09.2023

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## 1. Introduction

Childhood is a different stage from adulthood physiologically and psychosocially. Even during childhood, the periods differ from each other and have characteristic findings. The physiologic functions of the skin and skin diseases in children are also different from adults and show differences depending on age (1-5). Infancy is a period in which children's growth and development are the fastest. The skin of infants is usually smoother and softer than adults. In infants, the stratum corneum is thinner, lipid production and skin hydration are at lesser rates, and infants have a more permeable skin barrier. The skin in infants may be more sensitive to irritation and inflammation because of these developmental differences (6). For the correct diagnosis and treatment of these diseases, it is essential to understand the age-specific clinical features and treatment principles of skin diseases. Therefore, it is important to acquire basic information about common dermatoses and their differential diagnoses.

Pediatric dermatology has been gaining importance and showing various advances all over the world in recent years (7-10). The field of pediatric dermatology, which is not yet an official sub-branch of dermatology in our country, is one of the areas of interest for many dermatologists. Although the prevalence studies of childhood skin diseases in our country are not sufficient, they have been conducted mostly in public and university hospitals. No prevalence studies were found in private hospitals and clinics. Epidemiologic studies conducted with large time intervals and large series in centers at different levels in the provision of health services are important in terms of knowing the frequency of pediatric dermatologic diseases and taking preventive measures.

This study aimed to determine the prevalence and distribution of skin diseases and dermatologic treatments in patients aged 0-2 years and to compare skin diseases in terms of age, sex, and presentation year in private healthcare providers.

## 2. Materials and Methods

The study was conducted at the one private hospital and two private dermatology clinics. The data of patients aged 0-2 years from outpatient admissions from January 1st, 2015, to December 1st, 2022, were analyzed, retrospectively.

Although the infancy period includes the 0-1 years age group, the 0-2 years period was used in order to compare the data used in epidemiologic studies in the field of pediatric dermatology. The data of 3863 pediatric patients (age, sex, dermatologic diagnosis, treatments, and presentation year) were researched retrospectively for the study and 482 patients aged 0-2 years were included. A total of 47 dermatologic diseases were diagnosed and they were categorized into 20 groups according to their related main topic to simplify the data (11). The treatments given were grouped as topical, systemic, consultation (referring to another clinic), dermatologic intervention (extirpation), and follow-up. The prevalence of skin diseases and treatment choices and their distribution by age, sex, and presentation year were investigated.

Evaluations were made on the total number of diagnoses and treatments to avoid data loss because some patients had more than one diagnosis and treatment; 12.6% of the patients had a dual or triple diagnosis and 8.3% also had multiple treatments. All dermatologic diagnoses were recorded and follow-up visits for the same condition were not included.

Diagnoses were made based on clinical findings, disease-specific diagnostic criteria, Wood's light examination, dermatoscopic examination if any, microscopic findings for fungal and parasitic infections, and by performing skin biopsy when necessary.

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) for Windows version 20.0 statistics package. Descriptive statistics are presented as numbers and percentages for categorical variables, and as mean  $\pm$  standard deviation and minimum-maximum values for numerical variables. The analyses of categorical variables were performed using the Chi-

square test. The resulting p-values less than 0.05 were considered statistically significant.

### 3. Results

A total of 482 patients were included in the study, 257 (53.3%) were girls and 225 (46.7%) were boys. The mean age was 12.42 ± 7.16 (minimum 0.03- maximum 24) months. Two hundred sixty (53.9%) patients were in the 0-1 years age group and 222 (46.1%) were 1-2 years age group. The most common disease groups were eczemas (53.6%), nevus and benign skin tumors (8.3%), viral diseases (6%), pigmentation disorders (5.7%), and parasitic infections (4%). The classification of all diagnoses is shown in Table 1.

According to the dermatologic treatments, 522 treatments were applied to the 482 patients. The most common treatment types were topical treatments (77.8%), follow-up (14.6%), systemic treatments (6.3%), consultation (1%), and extirpation (0.4%), respectively (Table 2).

Topical treatment was usually prescribed to the patients. The most common diagnoses and

**Table 1.** Dermatologic diseases and frequencies (some patients had more than one diagnosis during the same admission).

Dermatologic diseases	n	%		n	%
<b>Dermatitis</b>	<b>293</b>	<b>53.8</b>	<b>Bacterial infections</b>	<b>15</b>	<b>2.8</b>
Atopic dermatitis	192	35.2	Pyoderma	8	1.5
Diaper dermatitis	49	9.0	Impetigo	7	1.3
Seborrheic dermatitis	23	4.2	<b>Acne and related disease</b>	<b>14</b>	<b>2.6</b>
Other dermatitis	19	3.5	Acne	7	1.3
Irritant contact dermatitis	7	1.3	Perioral dermatitis	7	1.3
Allergic contact dermatitis	3	0.6	<b>Keratin disorders</b>	<b>11</b>	<b>2.1</b>
<b>Benign skin tumors</b>	<b>45</b>	<b>8.3</b>	Keratosis pilaris	9	1.7
Nevus	27	5.0	Ichthyosis vulgaris	2	0.4
Hemangioma	9	1.7	<b>Sweat gland diseases</b>	<b>11</b>	<b>2.0</b>
Xanthogranuloma	4	0.7	Miliaria	11	2.0
Others	5	0.9	<b>Mastocytosis</b>	<b>8</b>	<b>1.5</b>
<b>Viral infections</b>	<b>32</b>	<b>6.0</b>	<b>Dermatoses due to physical factors</b>	<b>8</b>	<b>1.5</b>
Molluscum contagiosum	20	3.7	Burns	4	0.7
Herpes infections	6	1.1	Scar	4	0.7
Hand-foot-mouth disease	2	0.4	<b>Neonatal skin disorders</b>	<b>4</b>	<b>0.8</b>
Viral eruption	2	0.4	Cephalic pustulosis	3	0.6
Verruca vulgaris	1	0.2	Erythema toxicum	1	0.2
Varicella	1	0.2	<b>Oral mucosa disorders</b>	<b>3</b>	<b>0.6</b>
<b>Pigmentation disorders</b>	<b>31</b>	<b>5.7</b>	<b>Urticaria</b>	<b>3</b>	<b>0.6</b>
Hypopigmentation	25	4.6	<b>Fungal infections</b>	<b>2</b>	<b>0.4</b>
Hyperpigmentation	6	1.1	Tinea corporis	1	0.2
<b>Parasitic infections</b>	<b>22</b>	<b>4.0</b>	Tinea capitis	1	0.2
Insect bite	16	2.9	<b>Inflammatory dermatosis</b>	<b>2</b>	<b>0.4</b>
Scabies	4	0.7	Psoriasis vulgaris	1	0.2
Pediculosis capitis	2	0.4	Lichen striatus	1	0.2
<b>Nail Diseases</b>	<b>21</b>	<b>3.9</b>	<b>Hair diseases</b>	<b>1</b>	<b>0.2</b>
Nail dystrophia	18	3.3	Alopecia areata	1	0.2

treatment types according to age groups are shown in Table 3.

Dermatitis was statistically significantly more frequent in the 0-1 years age group than in the 1-2 years age group (p<0.001). Atopic dermatitis was the most common diagnosis in both the 0-1 and 1-2 years age groups. Viral infections, parasitic infections, nail diseases, and dermatoses due to physical factors were more common in the 1-2 years age group (p<0.05). Benign skin tumors were commonly observed in girls and the 0-1 age group (p<0.05) (Table 4).

Systemic treatment was commonly prescribed in the 1-2 years age group (p=0.007) and the decision for follow-up was more commonly made for girls than boys (p=0.001) (Table 5).

Three-quarters of the patients (75.7%, n=365) were admitted to the clinic before the coronavirus disease 2019 (COVID-19) pandemic (2015-2019) and 24.3% (117) were admitted during/after the pandemic (2020-2022). Viral and bacterial infections were observed at higher rates after the pandemic (p<0.05). (Table 6).

Ingrown toenails	3	0.6	Uncertain diagnosis	1	0.2
Xerosis	18	3.3	Total number	545	100

**Table 2.** Dermatologic treatments and frequencies (more than one treatment type was given in some patients' admissions).

Treatment types	n	%
Topical	406	77.8
Follow-up	76	14.6
Systemic	33	6.3
Consultation	5	1.0
Extirpation	2	0.4
Total number	522	100

**Table 3.** Distribution of common diagnoses and treatments by age groups

Diagnosis	Diagnosis	Diagnosis
	0-1 years age group (n=293)	1-2 years age group (n=252)
1.	Atopic dermatitis (n=124, 42.3%)	Atopic dermatitis (n=68, 26.7%)
2.	Diaper dermatitis (n=25, 8.5%)	Diaper dermatitis (n=24, 9.5%)
3.	Nevus (n=18, 6.1%)	Nail dystrophia (n=17, 6.7%)
4.	Seborrheic dermatitis (n=17, 5.8%)	Molluscum contagiosum (n=16, 6.3%)
5.	Hypopigmentation disorders (n=15, 5.1%)	Insect bite (n=13, 5.2%)
Treatment	Treatment types	Treatment types
	0-1 years age group (n=277)	1-2 years age group (n=245)
1.	Topical (n=217, 78.3%)	Topical (n=189, 77.1%)
2.	Follow-up (n=45, 16.2%)	Follow-up (n=31, 12.7%)
3.	Systemic (n=10, 3.6%)	Systemic (n=23, 9.4%)
4.	Consultation (n=3, 1.1%)	Consultation (n=2, 0.8%)
5.	Extirpation (n=2, 0.7%)	Extirpation (n=0, 0%)

**Table 4.** Distribution of disease groups by age and sex

	Diagnosis 0-1 years age group	Diagnosis 1-2 years age group	P-value	Girls	Boys	P- value
Acne and related diseases	4 (1.4)	10 (4.0)	0.055	5 (1.7)	9 (3.5)	0.189
Dermatitis	181 (61.8)	112 (44.4)	<b>&lt;0.001</b>	150 (51.9)	143 (55.9)	0.355
Viral infections	8 (2.7)	24 (9.5)	<b>0.001</b>	19 (6.6)	13 (5.1)	0.458
Inflammatory dermatoses	0 (0)	2 (0.8)	0.213	2 (0.7)	0 (0)	0.501
Hair diseases	1 (0.3)	0 (0)	0.999	1 (0.3)	0 (0)	0.999
Oral mucosa disorders	1 (0.3)	2 (0.8)	0.598	0 (0)	3 (1.2)	0.103
Benign skin tumors	32 (10.9)	13 (5.2)	<b>0.015</b>	31 (10.7)	14 (5.5)	<b>0.026</b>
Dermatoses due to physical factors	1 (0.3)	7 (2.8)	<b>0.027</b>	4 (1.4)	4 (1.6)	0.999
Mastocytosis	5 (1.7)	3 (1.2)	0.731	4 (1.4)	4 (1.6)	0.999
Fungal infections	0 (0)	2 (0.8)	0.213	1 (0.3)	1 (0.4)	0.999
Bacterial infections	9 (3.1)	6 (2.4)	0.623	7 (2.4)	8 (3.1)	0.617
Parasitic infections	5 (1.7)	17 (6.7)	<b>0.003</b>	13 (4.5)	9 (3.5)	0.561
Keratin disorders	5 (1.7)	6 (2.4)	0.577	7 (2.4)	4 (1.6)	0.476
Sweat gland diseases	6 (2.0)	5 (2.0)	0.958	6 (2.1)	5 (2.0)	0.919
Pigmentation disorders	18 (6.1)	13 (5.2)	0.621	18 (6.2)	13 (5.1)	0.563
Nail diseases	2 (0.7)	19 (7.5)	<b>&lt;0.001</b>	11 (3.8)	10 (3.9)	0.952
Xerosis	9 (3.1)	9 (3.6)	0.745	6 (2.1)	12 (4.7)	0.089
Urticaria	1 (0.3)	2 (0.8)	0.598	1 (0.3)	2 (0.8)	0.603
Neonatal skin disorders	4 (1.4)	0 (0)	0.128	2 (0.7)	2 (0.8)	0.999
Uncertain diagnosis	1 (0.3)	0 (0)	0.999	1 (0.3)	0 (0)	0.999
<b>Total number</b>	<b>293 (100)</b>	<b>252 (100)</b>		<b>289 (100)</b>	<b>256 (100)</b>	

Table 5. The distribution of treatment types according to age and sex

	0-1 years n (%)	1-2 years n (%)	P-value	Girls n (%)	Boys n (%)	P-value
Topical	217 (78.3)	189 (77.1)	0.743	205 (74.8)	201 (81.0)	0.087
Systemic	10 (3.6)	23 (9.4)	<b>0.007</b>	12 (4.4)	21 (8.5)	0.055
Follow-up	45 (16.2)	31 (12.7)	0.245	53 (19.3)	23 (9.3)	<b>0.001</b>
Consultation	3 (1.1)	2 (0.8)	0.999	3 (1.1)	2 (0.8)	0.999
Extirpation	2 (0.7)	0 (0)	0.501	1 (0.4)	1 (0.4)	0.999
<b>Total number</b>	<b>277 (100)</b>	<b>245 (100)</b>		<b>274 (100)</b>	<b>248 (100)</b>	

Table 6. The comparison of disease groups before and after the pandemic

	Before the Pandemic (n=413)	After the Pandemic (n=132)	P value
Acne and related disorders	12 (2.9%)	2 (1.5%)	0.535
Dermatitis	229 (55.4%)	64 (48.5%)	0.162
Viral infections	17 (4.1%)	15 (11.4%)	<b>0.002</b>
Inflammatory dermatoses	2 (0.5%)	0 (0%)	0.999
Hair diseases	1 (0.2%)	0 (0%)	0.999
Oral mucosa disorders	3 (0.7%)	0 (0%)	0.999
Benign skin tumors	39 (9.4%)	6 (4.5%)	0.075
Dermatoses due to physical factors	5 (1.2%)	3 (2.3%)	0.408

<b>Mastocytosis</b>	5 (1.2%)	3 (2.3%)	0.408
<b>Fungal infections</b>	0 (0%)	2 (1.5%)	0.058
<b>Bacterial infections</b>	7 (1.7%)	8 (6.1%)	<b>0.013</b>
<b>Parasitic infections</b>	15 (3.6%)	7 (5.3%)	0.396
<b>Keratin disorders</b>	9 (2.2%)	2 (1.5%)	0.999
<b>Sweat gland diseases</b>	11 (2.7%)	0 (0%)	0.074
<b>Pigmentation disorders</b>	22 (5.3%)	9 (6.8%)	0.520
<b>Nail diseases</b>	19 (4.6%)	2 (1.5%)	0.109
<b>Xerosis</b>	11 (2.7%)	7 (5.3%)	0.161
<b>Urticaria</b>	2 (0.5%)	1 (0.8%)	0.566
<b>Neonatal skin disorders</b>	3 (0.7%)	1 (0.8%)	0.999
<b>Uncertain diagnosis</b>	1 (0.2%)	0 (0%)	0.999

#### 4. Discussion

Worldwide epidemiologic studies in the field of pediatric dermatology are limited. Geographic, environmental, and socioeconomic factors may alter the frequencies of diseases in the pediatric population (10). In many Western studies, atopic dermatitis was found to be the most common dermatosis, whereas infectious diseases were usually demonstrated in studies from developing countries as the most common diseases.

The frequency of dermatologic diseases was reviewed in infants and children aged 0-2 years in this study. Our study showed that dermatitis/eczema was the most common disease group in infants. This result is consistent with other epidemiologic studies (1,2,4,7,12,13). Dermatitis was statistically significantly more frequent in the 0-1 years age group than in the 1-2 years age group in this study. Among the dermatitis disease group, atopic dermatitis (AD) was the most common diagnosis in other studies (1,4,5,7,8). The onset of AD most commonly occurs between 3 and 6 months of age. Nearly 60% of children with AD present symptoms in the first 12 months (14). The severity and morbidity of the disease showed variance with age, sex, socioeconomic characteristics, geographic location, and ethnicity. Skin barrier impairments due to filaggrin mutation, changes in the environment, air pollution, food allergies, and diet are risk factors that cause and induce AD (15).

The prevalence of AD in children would have a higher prevalence as compared with adolescents and adults. The rate of AD in

infants (age 0-2 years) was 35.2% in the present study. AD was found as 42.3% in the 0-1 years age group, and 26.7% in the 1-2 years age group. From the point of view of the 0-2 years age group, the AD rate was found as 4.5% by Saçar et al., 50.7% by Tamer et al., and in the 0-1 years age group, 20.1% by Özçelik et al., 42.2% by Afsar et al., 50% by Nanda et al., 33.5% by Wenk and Itin, and 24.9% by Marrone et al. (2,4,5,9,16-18). According to studies from Türkiye including all age periods in childhood, the prevalence of AD was found as 4-18.5% (1-3,5,7,10,16,19). AD's prevalence decreased with increasing age (2). The prevalence of AD varies worldwide affecting 0.2% to 36% of the pediatric population (age <18 years) (14).

The frequency of AD has variable results even in studies from the same country. One of the reasons is the lack of methodologic standardization in terms of country, city, hospital, study time, and age of the study group. In addition, AD was categorized into different disease groups such as allergic diseases or eczemas/dermatitis groups. This may lead to different results in AD prevalence.

The other common dermatoses were diaper dermatitis and seborrheic dermatitis, similar to other findings (1,2,5,8,16,20). We found diaper dermatitis at a rate of 9% in the 0-2 years age group and 8.5% in the 0-1 years age group. A study showed that the most common disorder among infants (age 0-1 years) was diaper dermatitis at a rate of 31.3% (8). Diaper (napkin) dermatitis is an acute inflammatory irritant contact dermatitis of the



diaper region. It is one of the most common dermatologic diseases in infants. It is seen usually between 9-12 months. The prevalence of this disorder has been estimated to be between 7% and 35%. Ammonia, wetness, friction, inappropriate skin care, microorganisms, antibiotics, and nutritional defects play a role in diaper dermatitis. In the irritant type of the disease, it usually starts at the 3rd to 12th weeks and skin folds are not typically affected (21). Diaper dermatitis was the second most common disease among both the 0-1 and 1-2 years age groups in the present study. Seborrheic dermatitis was one of the predominant disease of infants. We found the seborrheic dermatitis fourth most common diagnosis in 0-1 years age group. It was seen in 4.2% of 0-2 aged patients. Akbaş et al. found it with a rate of 6.9%, and Nanda et al. found 9% in 0-2 age group (1,17). It seems to tend to decrease with age (1).

Benign skin tumors including nevus, hemangioma, xanthogranuloma, and others (8.3%) were the second most common disease in the 0-2 years age group. Nevus and hamartomas were seen at a higher rate in the infantile group than in the other groups in Can et al.'s study (7). By contrast, in Özçelik et al.'s study, melanocytic nevi were observed most commonly in the 12-16 years age group (2). In a study of children aged 6-14 years, congenital pigmented nevus was the most frequently observed skin condition (22). Benign skin tumors in our study were more commonly observed in girls and the 0-1 years age group than in boys and those aged 1-2 years.

In this study, atopic dermatitis, diaper dermatitis, nevus, seborrheic dermatitis, and hypopigmentation disorders were most frequently observed in the 0-1 years age group compared with the 1-2 years age group. In a study examining 1918 patients aged under 1 year, the five most common diseases were impetigo, atopic dermatitis, scabies, contact dermatitis, and tinea capitis, respectively (9).

Molluscum contagiosum constituting 62.5% of viral infections, insect bites constituting 72.7% of parasitic infections, and nail dystrophy constituting 85.7% of nail diseases

were the most common diseases between the ages of 1-2 years after atopic dermatitis and diaper dermatitis. These main disease groups and additionally dermatoses due to physical factors including burns and scars were more common in the 1-2 years age group than in the 0-1 years age group. These results may be an indication of how the infantile period changes as the child grows.

According to sex, only benign skin tumors were commonly found in girls. Sex made no difference in terms of other diagnoses. Akbaş et al. found that AD was more common in boys and impetigo was seen more frequently in girls aged 0-16 years (1). Infections were significantly more common in boys than in girls aged 0-16 years (12). Allergic diseases were detected more in girls and bacterial diseases more in boys aged 0-16 years (20). Pigmented nevi and eczema were more common in boys (18).

The most common treatment type was topical both in general and within the age groups. Out of 522 treatments, the rate of topical treatment was 77.8%. Follow-up was 14.6% among all treatment modalities in our study, and the rate of systemic treatment was 6.3%. In a study of patients aged 0-18 years conducted in a pediatric dermatology clinic in a children's hospital in Türkiye, local treatment (56%) was the mainstay in the treatment of skin diseases in children. Systemic treatment was 6.2% and local treatment + systemic treatment was 26.4%. Medical advice only was given to 8.9% of the patients (16). Kaçar et al. found that among the treatment modalities, topical treatments were given to 49.29% of patients, and systemic treatment to 32.41%. In 93 (4.69%) patients, no treatment was required (10). In the study by Wenk and Itin, children aged 0-16 years most often received either local (66%), systemic (18.6%), or no therapy (27.6%) (18).

In the present study, only extirpation (0.4%) was used as a treatment modality for dermatologic intervention. The rate of dermatologic interventions such as percutaneous abscess drainage, curettage, and medical dressings was reported as 2.9% in Afsar et al.'s study (16). In another study, less

frequent therapies included curettage (2%), cryotherapy (1.4%), surgery (1.2%), ultraviolet therapy (1.1%), and electrotherapy (0.3%) (18). Topical treatment may have been preferred more and interventional treatment less in our study because the age of patients was younger. Systemic treatment was commonly prescribed in the 1-2 years age group. Systemic treatments may have been avoided, especially for the 0-1 years age group. The decision for follow-up was mostly made for girls. This may be because benign skin tumors, the majority of which are nevi, are common in girls, and benign skin tumors generally require follow-up.

The COVID-19 pandemic affected hospital admissions in all countries as a result of the restrictions. The number and percentage of pediatric dermatologic admissions also decreased in clinic practice (23,24). In the present study, dermatitis was the most common disease group (48.5%), and viral and bacterial infections were observed at higher rates after the pandemic ( $p<0.05$ ). Erdoğan et al. found that similar to pre-pandemic data, the most common diagnoses were eczema diseases for the 0-2 years age group (25). In a private university hospital's dermatology outpatient clinic in Istanbul, the most commonly diagnosed new-onset diseases in the pediatric age group (age 0-17 years) were acne, scabies, atopic dermatitis, other eczematous eruptions, and diaper dermatitis (23).

Contrast to our result, in studies including children and adults, cutaneous contagious viral infections were reduced significantly

during the COVID-19 era, specifically molluscum contagiosum and condyloma acuminata. Other forms of infections including bacterial and parasitic infections were also reduced (26). Kutlu-Metin reported at the beginning of the COVID-19 pandemic, the percentages of diseases such as dermatophytosis, warts, and molluscum contagiosum significantly decreased, whereas scabies increased logarithmically in the days following the COVID-19 pandemic (27). The frequency of parasitic infections did not change according to the pandemic in the current study but studies found that scabies increased compared with the same period of the previous year (27,28). During the COVID-19 pandemic, the possible preference of private hospitals and private practice for dermatologic examinations and avoiding crowded hospitals may have changed the prevalence of viral and bacterial infections before and after the pandemic.

In conclusion, this study evaluated the distribution and characteristics of skin diseases and treatments, with a focus on the 0-2 years age group, especially because this is a period of rapid growth and development. It reflects the epidemiology of infant skin diseases in private clinics and hospitals. To reduce the prevalence of skin diseases in children, more epidemiologic studies should be conducted in the field of pediatric dermatology, and educational programs and preventive measures should be planned. We think that our study will contribute to future broader-based epidemiologic studies throughout the country in both state, university, and private health institutions.

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#### Ethics

**Ethics Committee Approval:** The study was approved by Ankara Medicana International Hospital Ethical Committee. (Decision no; 23/2022, Date: 14.10.2022).

**Informed Consent:** The authors declared that it was not considered necessary to get consent from the patients because the study was a retrospective data analysis.

**Authorship Contributions: Surgical and Medical Practices:** HGD, EDS, EB. **Concept:** HGD, EDS. **Design:** HGD, EDS, EB. **Data Collection or Processing:** HGD, EDS, EB. **Analysis or Interpretation:** HGD, EDS. **Literature Search:** HGD. **Writing:** HGD, EDS, EB.

**Copyright Transfer Form:** Copyright Transfer Form was signed by all authors.

**Peer-review:** Internally peer-reviewed.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study received no financial support.