Original Article

Prevalence of Skin Diseases in Children Admitted to Mersin University School of Medicine, Dermatology Clinic

Pinar Dursun, Guliz Ikizoglu[1]

Department of Dermatology and Venereology, Mersin City Training and Research Hospital, [1]Department of Dermatology and Venereology, School of Medicine, Mersin University, Mersin, Turkey

Abstract

Objective: Skin disorders constitute an important problem in children living in developing countries. The aim of the study was to evaluate the prevalence of skin diseases in children aged 0–16 years. **Materials and Methods:** In the present study, data on a total of 12,206 children aged 0–16 years, admitted to the outpatient clinic of Dermatology Department, Mersin University School of Medicine, between 2001 and 2010 were analyzed. **Results:** Male/female ratio was 1.1/1. 44.2% of the patients were adolescents. The most common diseases were acne (12.4%), warts (10.5%), and atopic dermatitis (9.3%). **Conclusion:** Studies of the pediatric population, which constitutes the cornerstone of the community, can play an important role in determining the policies of protective medicine and public health.

Keywords: Child, prevalence, skin diseases

Introduction

There is growing interest in the social, economic, and psychological impacts of dermatological conditions.[1] Between 6% and 24% of the patients in pediatric clinics present with dermatology-related complaints. The biggest issue with pediatric patients is the paucity of data regarding the neonatal period. The aim of the present study was to evaluate the prevalence of skin diseases in children aged 0–16 years.

Materials and Methods

The study included 12,206 children aged between 0 and 16 years who applied to the dermatology outpatient clinic between 2001 and 2010. The patients were divided into four groups according to age: 0–2 years (infants), 3–5 years (preschool-age), 6–11 years (school-age), and 12–16 years (adolescents). Statistical Package for the Social Sciences, software version 16.0 (SPSS Inc., Chicago, IL, USA) was used to create a database and conduct all statistical analyses.

Submission: 19-07-2019 **Revision:** 02-08-2019
Acceptance: 30-09-2019 **Web Publication:** 29-11-2019

Access this article online

Quick Response Code:

Website: www.tjdonline.org

DOI: 10.4103/TJD.TJD_1_19

Results

Sociodemographic characteristics of the patients

A total of 12,206 pediatric outpatients were included in the study. The female/male ratio was 1.1/1 (52.5% and 47.5%, respectively). The patients' age ranged from 2 days to 16 years. Their mean age was 9.71 ± 4.91 years.

When the patients were grouped by age, adolescents comprised the largest age group (44.2%). The patient population included 37 neonatal patients (0–28 days, 0.003%). When the age groups were evaluated in terms of gender, we observed that boys predominated in the infant and preschool-age groups (53% and 52.3%, respectively), while girls predominated in the school-age and adolescent groups (50.7% and 56.7%, respectively) [Table 1].

Address for correspondence: Dr. Pinar Dursun, Department of Dermatology and Venereology, Mersin City Training and Research Hospital, 33240 Mersin, Turkey.
E-mail: pinartab@hotmail.com

How to cite this article: Dursun P, Ikizoglu G. Prevalence of skin diseases in children admitted to Mersin University School of Medicine, dermatology clinic. Turk J Dermatol 2019;13:123-5.

Patient distribution based on disease percentages

The majority of the patients (n = 11,478, 94.1%) had a single diagnosis, 699 (5.7%) had two diagnoses, and 29 (0.2%) had three diagnoses. Therefore, a total of 12,963 diagnoses were recorded. Statistical analyses related to diseases were based on this number. A total of 205 dermatoses were classified in 28 general disease groups. The most common general disease groups were eczema (25.9%), viral diseases (14.2%), and sebaceous gland diseases (13%). These three groups accounted for 53.1% of all diseases. The most common diagnoses were acne, verrucae, and atopic dermatitis. The first 14 diagnoses with a prevalence over 2% accounted for 62.4% (8081 patients) of the total patient group [Table 2].

Sociodemographic characteristics of patients diagnosed with diseases of ≥2% prevalence

The most common diagnoses by gender were acne among girls (14%) and verrucae in boys (11.3%) [Table 3].

Seborrheic dermatitis (64.5%), acne (59.7%), and psoriasis (56.0%) were more prevalent among the female patients, while molluscum contagiosum (59.7%), pityriasis alba (55.7%), and impetigo (58.6%) were more prevalent in the males ($P < 0.05$).

Evaluation of disease distribution according to the age group showed that atopic dermatitis was the most common disease in the age groups of 0–2 and 3–5 years (20.9% and 19.6%, respectively). The most common conditions in the age groups of 6–11 and 12–16 years were verrucae (14.7%) and acne (26.1%), respectively.

Of the 37 neonatal patients in our study, 23 were female and 14 were male. The diseases seen in this age group are shown in Table 4.

Discussion

The first major study of skin disorders in the pediatric age group was conducted in South Africa in 1974 with 10,000 patients.[2] The female/male ratio of the patients in our study was 1.1/1. This gender distribution was similar to that in other studies conducted in this age group, both in our country and abroad.[3-5] Our study revealed that adolescents comprised the largest age group in our patient population. Similar results were also reported in previous studies.[4-6] There were 37 neonates among our patient population (0.003%). Newborns were found to comprise a small proportion of all pediatric patients in other studies as well (0.97% and 1.2%).[3,7] However, another previous report cited a higher proportion of neonatal patients (3.6%).[6]

A total of 205 dermatoses were recorded in our study. Another study conducted in Turkey reported 125 diagnoses for 6300 patients.[4] In a Kuwaiti study, 162 dermatoses were documented in a series of 10,000 patients.[3] As the patient number increases, it is expected to also see a greater number of dermatological diseases, which comprise a wide range of conditions.

The most common general disease groups were eczema, viral diseases, and sebaceous gland diseases. Other similar studies also reported eczema as the most common disease group.[3,4,8] In studies conducted among this age group in countries such as India, Nigeria, Brazil, and Ethiopia, infections and parasitic diseases were more common than eczemas.[6,9-11] These regional differences may be due to factors such as low socioeconomic levels, crowded living conditions, and poor hygiene. Mersin is one of the developed cities in Turkey and has a high urbanization rate, which may

Table 1: Number and gender characteristics by age groups

	n (%)	Female, *n* (%)	Male, *n* (%)
0-2 years	1348 (11.0)	634 (47.0)	714 (53.0)
3-5 years	1568 (12.8)	748 (47.7)	820 (52.3)
6-11 years	3898 (31.9)	1975 (50.7)	1923 (49.3)
12-16 years	5392 (44.2)	3055 (56.7)	2337 (43.3)

Table 2: Distribution of diseases in ≥2% frequency

Diagnose	*n* (%)
>9%	
Acne	1602 (12.4)
Verrucae	1362 (10.5)
Atopic dermatitis	1201 (9.3)
2-5%	
Contact dermatitis	773 (6.0)
Seborrheic dermatitis	547 (4.2)
Vitiligo	325 (2.5)
Pityriasis alba	309 (2.4)
Molluscum contagiosum	300 (2.3)
Psoriasis	298 (2.3)
Tinea versicolor	296 (2.3)
Alopecia areata	276 (2.1)
Insect bites	274 (2.1)
Melanocytic nevus	262 (2.0)
Impetigo	256 (2.0)

Table 3: Distribution of diseases by gender in ≥2% frequency

Diagnose	Female, *n* (%)	Male, *n* (%)
Acne	956 (14.0)	646 (10.6)
Verrucae	673 (9.8)	689 (11.3)
Atopic dermatitis	592 (8.6)	609 (10.0)
Contact dermatitis	403 (5.9)	370 (6.0)
Seborrheic dermatitis	353 (5.2)	194 (3.2)
Vitiligo	171 (2.5)	154 (2.5)
Pityriasis alba	137 (2.0)	172 (2.8)
Molluscum contagiosum	121 (1.8)	179 (2.9)
Psoriasis	167 (2.4)	131 (2.1)
Tinea versicolor	138 (2.0)	158 (2.6)
Alopecia areata	139 (2.0)	137 (2.2)
Insect bites	138 (2.0)	136 (2.2)
Melanocytic nevus	130 (1.9)	132 (2.2)
Impetigo	106 (1.5)	150 (2.5)

Table 4: Diseases seen in the neonatal patients

	n
Ichthyosis	6
Miliaria	4
Intertrigo	4
Pyoderma	2
Toxic erythema	1
Diaper dermatitis	1
Insect bites	1
Milium	1
Epidermolysis bullosa	5
Seborrheic dermatitis	4
Impetigo	2
Aplasia cutis congenita	2
Drug eruption	1
Acute urticaria	1
Folliculitis	1
Hemangiomas	1

explain the higher prevalence of diseases in the eczema group in our study.

The three most common diseases in our study (acne, verrucae, and atopic dermatitis) were similar to those reported in some other studies.[5,12] Studies from Spain[13] and Egypt[14] reported nevi and pediculosis capitis as the most common conditions, respectively.

Twenty-three (62%) of the neonatal patients were diagnosed with acute and/or transient conditions (miliaria, seborrheic dermatitis, intertrigo, etc.). The remaining 14 patients (38%) had chronic and genetic diseases (ichthyosis, epidermolysis bullosa, aplasia cutis congenita, and hemangioma). As can be seen, neonates predominantly present with acute and transient dermatoses that can usually be treated successfully by pediatricians. Chronic and genetic diseases are generally rare due to their low incidence in the community.

Conclusion

Although pediatric dermatology is a steadily developing subspecialty, it has yet to become established in Turkey or abroad. In the present study, we determined that pediatric patients frequently present to the dermatology outpatient clinic. In particular, we consider our finding that skin infectious and infestations were less common than eczema to be a promising sign for our country. Future studies in this area will improve our understanding of the prevalence of dermatological diseases in the pediatric population, as well as precautions that can be taken to prevent these conditions.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Weber MB, Fontes Neto Pde T, Prati C, Soirefman M, Mazzotti NG, Barzenski B, *et al.* Improvement of pruritus and quality of life of children with atopic dermatitis and their families after joining support groups. J Eur Acad Dermatol Venereol 2008;22:992-7.
2. Hayden GF. Skin diseases encountered in a pediatric clinic. A one-year prospective study. Am J Dis Child 1985;139:36-8.
3. Nanda A, Al-Hasawi F, Alsaleh QA. A prospective survey of pediatric dermatology clinic patients in Kuwait: An analysis of 10,000 cases. Pediatr Dermatol 1999;16:6-11.
4. Tamer E, Ilhan MN, Polat M. Skin diseases of children in Turkey. J Dermatol 2008;35:413-8.
5. Henderson MD, Abboud J, Cogan CM, Poisson LM, Eide MJ, Shwayder TA, *et al.* Skin-of-color epidemiology: A report of the most common skin conditions by race. Pediatr Dermatol 2012;29:584-9.
6. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bhushan P, Koranne RV, *et al.* The spectrum of skin disease among İndian children. Pediatr Dermatol 2009;26:6-13.
7. Del Pozzo-Magaña BR, Lazo-Langner A, Gutiérrez-Castrellón P, Ruiz-Maldonado R. Common dermatoses in children referred to a specialized pediatric dermatology service in Mexico: A comparative study between two decades. ISRN Dermatol 2012;2012:351603.
8. Wenk C, Itin PH. Epidemiology of pediatric dermatology and allergology in the region of Aargau, Switzerland. Pediatr Dermatol 2003;20:482-7.
9. Marrone R, Vignally P, Rosso A, Didero D, Pizzini E, Dassoni F, *et al.* Epidemiology of skin disorders in Ethiopian children and adolescents: An analysis of records from the Italian Dermatological Centre, Mekelle, Tigray, Ethiopia, 2005 to 2009. Pediatr Dermatol 2012;29:442-7.
10. Figueroa JI, Fuller LC, Abraha A, Hay RJ. The prevalence of skin disease among school children in rural Ethiopia – A preliminary assessment of dermatologic needs. Pediatr Dermatol 1996;13:378-81.
11. Karthikeyan K, Thappa DM, Jeevankumar B. Pattern of pediatric dermatoses in a referral center in South İndia. Indian Pediatr 2004;41:373-7.
12. Child FJ, Fuller LC, Higgins EM, Du Vivier AW. A study of the spectrum of skin disease occurring in a black population in South-East London. Br J Dermatol 1999;141:512-7.
13. Casanova JM, Sanmartín V, Soria X, Baradad M, Martí RM, Font A, *et al.* Childhood dermatosis in a dermatology clinic of a general university hospital in Spain. Actas Dermosifiliogr 2008;99:111-8.
14. Yamamah GA, Emam HM, Abdelhamid MF, Elsaie ML, Shehata H, Farid T, *et al.* Epidemiologic study of dermatologic disorders among children in South Sinai, Egypt. Int J Dermatol 2012;51:1180-5.