

Skin Problems in Children under Five Years Old Attending AL-Hussein Teaching Hospital in AL Nassiriah City

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Abstract

Background: The frequency of Skin problems in children under 5years years old attending AL-Hussein teaching Hospital in AL Nassiriah City are generally not well established.

Objective: to estimate the Frequency rate of skin diseases in children under 5years old in AL Nasirirah City.

Patients and Methods: A cross-sectional study was carried out on402 patients of both sexes with different skin diseases aged from birth to 5 years.

Result: the majority of the patients were Preschool children 306(76.12%). Infection was the preponderant dermatoses278 (69.2%). Among them, viral was the most common134(48.2%). Eczematous dermatoses were the second most common type76 (18.9%) then papulosquamous disorders11 (2.71%), followed by pigmentary disorders 7(1.74%). Both hair disorders & genodermatoses constituted 5(1.24%) of cases and urticaria4(0.99%), finally a miscellaneous group of skin disorders were recorded 16(3.98%).

Conclusion: infections and infestations were a major skin problems in children under 5 years old.

Introduction : Many, if not all, dermatologic diseases exhibit different manifestations in infant and children⁽¹⁾. Pediatric dermatology deals with diseases of skin from birth to adolescence .This long time period is further divided into four phase's namely neonatal period, infancy, childhood and adolescence. The neonatal period (from birth to 1 month), infancy (1 month to 2 years), childhood (2 to 12 years), and adolescence (12 to 18 years) .Each phase has its own specific dermatoses and disease manifestations which differ in each phase⁽²⁾.

The aim of this work is to give an overview of the statistical study of different dermatologic diseases in children under 5 years old in AL Nasirirah City according to age, gender, etiology.

Patients and Methods: A cross-sectional study was conducted in AL-Hussein Teaching Hospital over a one year from November \2016 till November \2017.

It was conducted on 402 patients of both sexes with different skin diseases aged from birth to 5 years. A full detailed history was taken from all patients regarding child's name, age, sex, site of lesion, duration, symptoms, past drug history & family history. Skin examination was performed focusing on the site, size, distribution, type of the lesions and regional lymphadenopathy.

Inclusion criteria ; all patients aged from birth to 5 years of age with any skin disease were included in this study .

Exclusion criteria; children who needed frequent visits to our department were only recorded once. Appropriate investigations were done whenever necessary such as direct microscopic examination of skin scrapings and hair plucking with 10% potassium hydroxide for fungi, wood-light examination, complete blood count, erythrocyte sedimentation rate and skin biopsy was needed in one patient. The cases were classified according to age distribution into three groups and then further classified according to etiology.

Statistical Analysis: Data processed using computer program are Microsoft Word & office Excel 2007 for descriptive statistic including means, range and standard deviation were calculated. Chi-square test was used to compare categorical variables. $P < 0.05$ was considered to indicate statistical significance. All statistical calculations were done using computer statistical programs SPSS ver.19 Chicago , IL , USA .

Results : Four hundred and two patients were included in the study, females constituted 217 (54%) of the patients, while males were 185 (46%). The female to male ratio was (1.2:1). The ages of the patients ranged from birth to 5 years with a mean age \pm standard deviation (3.5 \pm 2.6) years, the majority of the patients were preschool children 306 (76.12%), followed by infantile group 87 (21.64%) and neonatal group 9 (2.24%) **table (3-1).**

Table (3-1): Sex and Age Distribution of all Studied Cases.

Age	Total	%	Sex			
			Male		Female	
			No.	%	No.	%
Neonate	9	2.24	5	55.55	4	44.45%
Infant	87	21.64	50	57.5	37	42.5
Preschool Children	306	76.12	130	42.5	176	57.5
Total	402	100	185	46%	217	54%

The commonest problem seen were the infectious dermatoses 278(69.2%) patients. Eczematous dermatomes were the second most common type 76(18.9%)patients. The third common dermatoses were papulosquamous disorders 11(2.71%) patients, followed by pigmentary disorders 7(1.74%) patients. Both hair disorders and genodermatoses constituted 5(1.24%) of patients and urticaria 4(0.99%), finally a miscellaneous group of skin disorders were recorded 16 (3.98%) **figure(3-1)**.

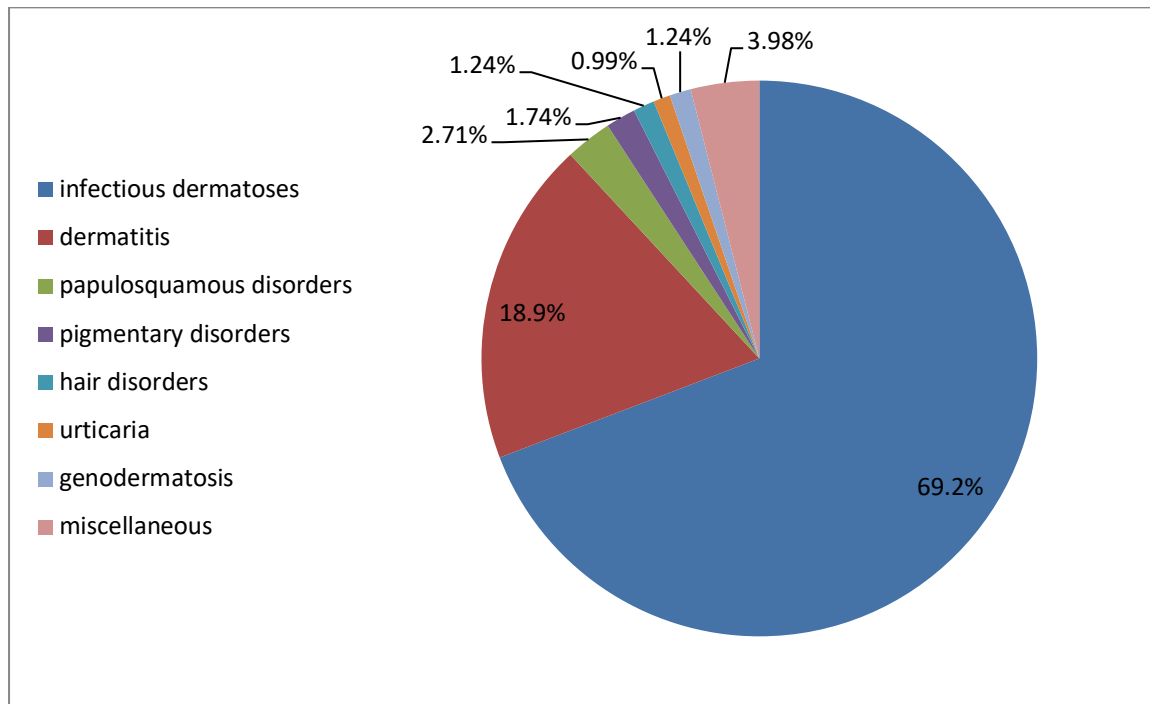


Figure (3-1): Percentage of patients according to etiology

Among Infectious dermatoses, viral were the most common 134(48.2%)patients, followed by parasitic 91(32.7%)patients, bacterial 37(13.3%) patients and fungal 16(5.8%) **figure(3-2).**

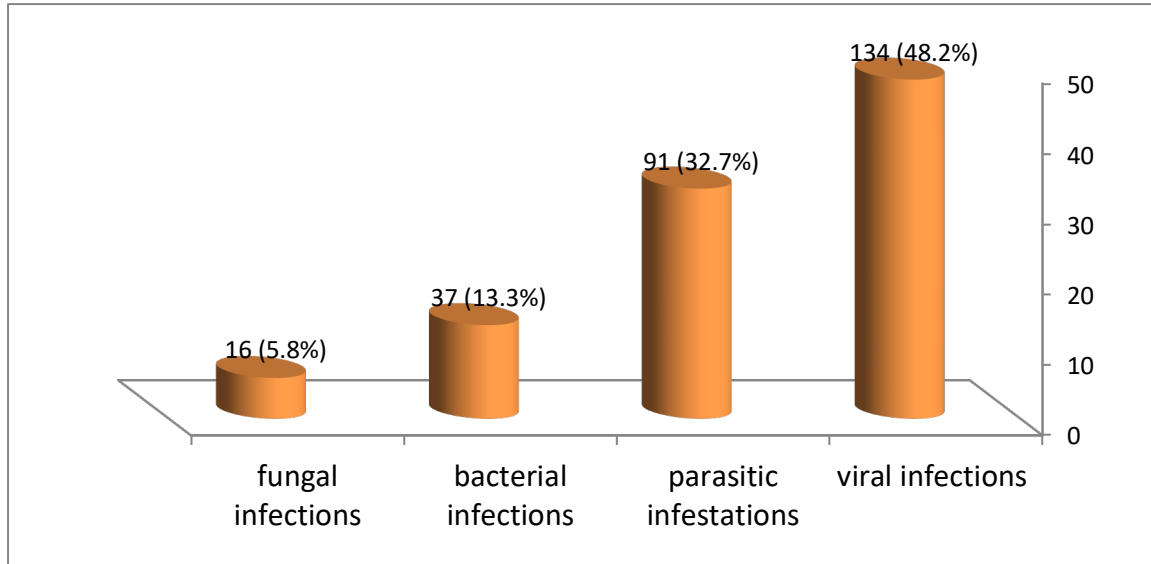


Figure (3-2) : Percentage of infectious dermatoses among patients .

The commonest infection among the viral was molluscum contagiosum which was responsible for 87(60.8%) patients followed by warts 14(10.44%) patients, chicken pox 11(8.2%) patients, viral exanthema, herpes simplex, hand -foot -mouth disease 6 (4.47%)patients, Gianotti crosti syndrome3(2.23%) patients and herpes zoster 1(0.746%) patient **table (3-2).**

Table (3-2):Distribution of viral skin diseases in relation to sex.

Skin Diseases	Cases		Sex		X ²	P		
			Male	Females				
	No	%	No.	%				
Molluscum Contgiosum	87	60.8	32	36.78				
Wart	14	10.44	2	14.28				
Chicken Pox	11	8.20	5	45.45				
Viral Exanthem	6	4.47	23	3.33	343.91	0.00		
Herpes Simplex	6	4.47	1	16.67				
Hand, Foot, Mouth Disease	6	4.47	5	83.33				
Gainotti Crosti Syndrome	3	2.23	3	100				
Herpes Zoster	1	0.746	0	1			100	
Total	134	100	50	37.31				

Parasitic infestations was the next common with 91(32.7%)patients, scabies heading the list with 42(46.15%) patients followed by cutaneous leishmaniasis 29(31.87%) patients and insect bites 20(21.98%)patients **table (3-3)** .

Table (3-3): Distribution of parasitic skin diseases in relation to sex

Skin Diseases	No .Of Cases		Sex				X ²	P
			Male		Female			
	No	%	No	%	No	%		
Scabies	42	46.15	19	45.24	23	54.7	12.89	0.02
Leishamianiasis	29	31.87	16	55.17	13	44.8		
Insect Bites	20	21.98	14	70	6	30		
Total	91	100	49	53.85	42	46.1		

Bacterial infections formed the fourth group with 37(13.3%) patients; the commonest of which was impetigo 28(75.68%)patients, followed by scarlet fever 6 patients & folliculitis in 3 patients all were females **table(3-4)**.

Table(3-4): Distribution of bacterial skin diseases in relation to sex.

Skin Diseases	Cases		Sex				X ²	P
			Male		Female			
	No.	%	No.	%	No.	%		
Impetigo	28	75.68	15	53.57	13	46.42	2.00	0.15
Scarlet Fever	6	16.22	4	66.67	2	33.33		
Folliculitis	3	8.1	0		3	100		
Total	37	100	19	51.35	18	48.65		

Fungal skin infections 16(5.8%) patients, The tinea capitis 8 (50%) patients was commonest fungal infections followed by candidiasis(31.25%) patients and tinea corporis, tinea fascia, onychomycosis was 1(6.25%) patient,**table(3-5)**

Table (3-5): Distribution of fungal skin infections in relation to sex.

Skin Diseases	Cases		Sex				X2	P
	No.	%	Males		Females			
			No	%	No	%		
Tinea Capitis	8	50	3	37.5	5	62.50	382.23	0.00
Tinea Corporis	1	6.25	0		1	100		
Tinea Fascia	1	6.25	1	100	0			
Onycomycosis	1	6.25	0		1	100		
Candidiasis	5	31.25	0		5	100		
Total	16	100	4	25	12	75		

Dermatitis was the second most common group, with 76(18.9%)patients.

The commonest was atopic dermatitis in 33 (43.42 %), followed by out of all cases with eczematous disorders **table (3-6)**.

Table (3-6):Distribution Of Dermatitis In Relation To Sex.

Skin Diseases	Cases		Sex				X ²	P
			Male		Female			
	No.	%	No	%	No	%		
Atopic Dermatitis	33	43.42	16	48.5	17	51.5	117.96	0.00
Pityriasis Alba	2	2.63	0	0	2	100		
Seborrhic Dermatitis	11	14.47	8	72.7	3	27.3		
Contact Dermatitis	8	10.53	3	37.5	5	62.5		
Discoïd Dermatitis	22	28.95	13	59.1	9	40.9		
Total	76	100	42	55.26	34	44.74		

The papulosquamous disorders was the fourth group with 11(2.71%) patients, mainly Pityriasis rosea 6 cases, psoriasis 3 cases and lichen striatus 2cases.Four patients presented with urticaria (0.99%).

Pigmentary disorders were seen in 7(1.74%)patients, the commonest was vitiligo in 4 cases, 2 had nevus anemicus ,&1 with nevus depigmentosus . Alopecia areata was seen in 5(1.24%)cases.

Genodermatoses group included 5(1.24%)cases. Three had ichthyosis, one was Bloom's syndrome and one case was Job syndrome confirmed by elevated IgE level.

A final miscellaneous group included 16(3.98%)patients, 4 cases of hemangioma, 3 cases of mastocytosis (one solitriary mastocytosis,2 generalized), 2 cases milliaria, one case of the following: milia, pyogenic granuloma, stork bite, subcutaneous granuloma annulari, lichen sclerosus et atrophicus, pityriasis lichenoides chronica and pityriasis lichenoides acute et varioliform.

Discussion

Children with skin diseases are attended by pediatricians and dermatologists worldwide⁽³⁾. Dermatological problems constitute at least 30% of all outpatient visits to a pediatrician, and 30% of all visits to a dermatologist involve children⁽⁴⁾.

One study reported that more than 65% of children consult a physician for a skin problem by 5 years of age and various other studies have reported the incidence of cutaneous disorders in children to be 9 to 37%⁽⁵⁾.

In Iraq, the prevalence of pediatric dermatoses has risen from 33.5% in 1987⁽⁶⁾ to 40.9% in 2010⁽⁷⁾.

Many factors determine the results of epidemiological studies on skin diseases, among which genetic background, geographical area, climate, season, socioeconomic status, living conditions and medical resources are the most important⁽⁸⁾.

Female more affected than male in the present study where the female to male ratio was (1.2: 1) this is different from an Indian study in which female to male ratio was (1:1.29)⁽⁹⁾ & is even in contrast to the fact that in our society generally more males are born than females according to reports from the health directorate of births & deaths, this might be attributed to the social habits where boys are more cared for & usually taken to private clinics for consultation rather than being brought to general hospitals.

In present study the majority were preschool children constituting 306 (76.12%). these findings were different from an Indian study⁽⁹⁾ in which infants were the largest group 234 (32.45%), this might be explained by the fact that there is no pediatric department in our hospital with the presence of two major children hospitals in the city where most parents take their infants there.

When the results were evaluated according to etiology, infections and infestations were the most frequent presentation in our study (69.2%).

Similar results was found in a Southern Ethiopia study⁽¹⁰⁾ and a Nigerian study⁽¹¹⁾. This could be due to the higher rural population in our society attending our hospital with low socioeconomic status and poor hygiene.

Many western studies⁽¹²⁾ found atopic dermatitis to be the most common dermatoses in this age group, while studies from developing countries⁽¹³⁾ show similar findings to present study in that infectious diseases are the most common.

Viral infections were the most prevalent infection among the population of our study (48.2%), with Molluscum contagiosum heading the list & constituting 60.8% of viral infections, this is in contrast with other studies in southern Ethiopia⁽¹⁰⁾ showing parasitic infestations (scabies) as the most common infection encountered (13.6%) & others in Nigeria⁽¹¹⁾ where bacterial infection was the commonest.

This might be explained by the higher prevalence of viral infections particularly MC in the Nassiriah, a recent study done in Alkindy hospital in Baghdad showed that MC virus infection represent (8.9%) from all dermatological patients who visit Alkindy Teaching Hospital over the six months study period. Also, (52.5 %) of dermatological infections was MC, it was high percentage in comparison to other dermatological

infectious disease ⁽¹⁴⁾. This rise might be explained by overcrowding and large Iraqi families. Large number of peoples were grouped together during social and religious occasions using same towels and beds, this help in spreading virus by direct skin to skin contact⁽¹⁵⁾.

MC was found to be more prevalent in infants and preschoolers ⁽¹⁶⁾, while the peak age for warts is mainly in the scholar and teenage years, this is probably related to the increase in outdoor and sports activities in this age group⁽¹⁷⁾.

Parasitic skin diseases were second in frequency in our study (32.7%), & among them scabies was the commonest (46.15%), a recent study done in Al Husseiny-Teaching Hospital in Karbala showed that scabies represent 63.8% from all dermatological patients⁽¹⁸⁾. similar results were reported from India ⁽¹⁹⁾, & Southern Ethiopia⁽¹⁰⁾.

This might be related to the overcrowded living conditions in our society, presence of many immigrants outside their home cities due to the military processes & the frequent religious occasions with an increased chance of sharing beds & blankets.

Cutaneous Leishmaniasis (31.87%), and insect bites (21.98%) were recorded in our study, It was located mainly in exposed part (face and legs), A study done in Karbala found CL to constitute (36.8%) of their patients⁽¹⁸⁾.

This might be related to the presence of animal reservoirs such as rodents, dogs, marshes; the use of clay to build some of the houses in the villages and presence of many immigrants outside their home cities due to the military processes.

Furthermore, a study done in Al- Nassiriah district showed that it attracts and harbors many types of insects; therefore, its population are more exposed to insects bites ⁽²⁰⁾.

Bacterial infections came in the third place with (13.3%), among them impetigo was the most prevalent (75.68%) followed by scarlet fever (16.22%) and folliculitis (8.1%), Similar results were reported in South West Rajasthan ⁽²¹⁾. where impetigo was the commonest (59.57%) bacterial infection, this is an expected finding due to the above mentioned overcrowded living conditions & the low socio-economic status of our society in general.

All patients recorded with folliculitis were girls this might be related to usual hair style (traction of hair) of baby girls.

Pediculosis was not recorded in any of our patients, which might be explained by the lower age group of the population in the present study as it is known that it is mainly a disease of school age children.

Fungal infections of the skin were only recorded in 5.8% of all cases,

Tinea capitis was on top of the list with half of the cases, which were diagnosed clinically & confirmed by KOH mount examination. Similar results were reported from E. Sharquie (38%)⁽²²⁾ and Australia (41.7%)⁽²³⁾, On the other hand, a lower frequency of tinea capitis was reported 2.86% in india ⁽¹⁹⁾. There was one patient infected with each tinea faciei and tinea corporis (6.25%) in the present study, this might be related to lower exposure of children at this age to sources of infection due to the limited outdoor activity⁽²¹⁾.

Seasonal variation was similar to the reported literature with prevalence of infection (bacterial impetigo, viral, fungal) followed by infestation and miliaria in summer, and atopic dermatitis followed by seborrheic dermatitis (SD) and infections (viral, bacterial, fungal) during winter.

Eczematous skin diseases were the second most common (18.9%) among population of the study, Our results were similar to studies from Turkey⁽¹¹⁾, Southern Ethiopia⁽¹⁰⁾ and South West Rajasthan⁽²¹⁾.

The commonest was atopic dermatitis that was present in (43.42%) of all cases followed by other types of eczema like discoid eczema (28.95%), Seborrheic dermatitis (cradle cap) accounted for(14.47%)of cases being the second most frequent dermatitis in newborns and infants after atopic dermatitis.

Diaper rash was reported in(0.5%) of cases, similar results were reported in studies from Northern Greece⁽¹⁶⁾ and India (0.76%)⁽¹⁹⁾.

It is plausible to assume that such common skin disorders are frequently treated in the primary care setting or by other specialists, which in turn may result in the underrepresentation of their incidence in our study.

The third in frequency of dermatoses in our study were papulosquamous disorders(2.71%), Nearly similar result was reported in studies from Turkey(2.49%)⁽²⁴⁾ while slightly higher reports came from studies from India (5.02%)⁽¹⁹⁾.of these; Pityriasis rosea was observed in (1.49%) of cases, it was mostly papular type with peak ages 3-5 years. similar result were reported in India(1.64%)⁽¹⁹⁾, this is also in accordance with the literature of the preponderance of the papular type in childhood pityriasis rosea.

Psoriasis has a low frequency of (0.7%)in our patients, they all were of guttate type. This is different from studies in other parts of the world as in the study from India where it consisted of 1.99 %⁽¹⁹⁾.

Urticaria and lichen striatus have a frequency of (0.99%, 0.5%) , Alopecia areata (1.24%)in this study. similar result was reported in India(1.17%)⁽¹⁹⁾.

Pigmentary disorders had a frequency of (1.74%) in this study; mostly vitiligo in 0.99% of studied cases, The frequency of Pigmentary disorders in other parts of the world were different, in a study done in India; it was (6.95%) with Vitiligo recorded in 4.5% of cases⁽¹⁹⁾.

Genetic disorders represented 1.24% of our study population, this is similar to other reports in the literature, Sardana et al⁽³⁾ mentioned that the incidence of consanguineous marriage is high among rural population, which help in propagation of genetic disorders in families, this might apply to our society also where the incidence of consanguinity is incredibly high.

A final miscellaneous group have a frequency of (3.98%)in the present study.

Hemangioma was observed in 4 patients(0.99%)of studied cases, it was located in scalp (3cases) and one case in popliteal fossa, 3 cases of mastocytosis (0.7%) (one solitary mastocytosis,2 generalized) and one case of the following : miliaria(0.25%), milia (0.25%), pyogenic granuloma located in the umbilical(0.25%),stork bite on the neck (0.25%), subcutaneous granuloma annulari on the dorsal foot (0.25%), lichen sclerosus

et atrophicus (0.25%), pityriasis lichenoides chronica(0.25%) and pityriasis lichenoid acute et varioliform (0.25%).

These are similar to reports in the literature.

Conclusions:

This study showed that infections and infestations were a major skin problem in children under 5 years old attending AL-Hussein Teaching Hospital in Nassiriah City and Among them, viral were the most common infections (48.2%), followed by parasitic infestations (32.7%).

We recommend this study to be a basis for epidemiologists to identify risk factors for dermatoses being studied and accordingly to plan for effective preventive measures to improve awareness of parents and the health status of those children and public awareness about Molluscum Contagiosum and Cutaneous Lishamania.

Also we recommend another study to be conducted in different centers, for comparison to see if other factors such as climate or socioeconomic status has any influence on expression of these diseases, a Longer duration and a Larger scale study will be more representative of community and climate fluctuation and other studies of dermatoses among school children and teenager if they have different epidemiology of dermatoses.

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