A study of paediatric dermatoses in tertiary care center, Gandhinagar, Gujarat

Kalpesh M Prajapati[1], Bela Padhiar[2,*]

[1]Resident, [2]Associate Professor and HOD, Dept. of Dermatology, GMERS Medical College, Gandhinagar, Gujarat, India

***Corresponding Author:**
Email: drbelapadhiar@gmail.com

Abstract

Introduction: Pediatric dermatology is an important branch of dermatology that deals with the diagnosis, treatment, and prevention of skin diseases occurring in infancy, childhood, and adolescence.

Aims: The present study was conducted to find out the pattern and prevalence of various dermatosis among the paediatric age group.

Materials and Methods: This is prospective, cross sectional study. A total 2456 patients were recruited in 1-14 year of age, who presented with dermatosis in dermatology clinic of GMERS medical college, Gandhinagar. The study was conducted from March 2016 to February 2017(12 Months), and diagnosis was made based on clinical examination and necessary investigation if required.

Results: Males were outnumbered female in present study with ratio of 1.45:1. The majority of patients were in the age group of >6-14 year (44.09%). Infections and infestations were most common constituting 65.19% followed by eczema and dermatitis group of disorder constituting 12.02% (n=324). Appendageal disorder constitutes 6.42% (n=173) followed by cutaneous vascular response (4.27%), nutritional dermatosis (2.67%), pigmentary disorder (2.15%), keratinization disorder (2.0%) and papulosquamous disorder (1.89%). Least common disorder include nevi, genodermatoses, collagen vascular disorder and vesiculobullous diorde.

Conclusion: This study helps us to know the prevalence of skin diseases in pediatric age group and thus we can take adequate measures for their prevention and treatment in this region.

Keywords: Paediatric, Dermtoses, Infections and Infestations.

Introduction

Paediatric dermatology is an important branch of dermatology that deals with the diagnosis, treatment, and prevention of skin diseases occurring in infancy, childhood, and adolescence.[1] Skin is the largest organ of human body. There are various differences in the child and adult skin. Anatomically, it is thinner less cornified and less hairy while physiologically, sweat and sebaceous secretion are scantier.

Dermatological problems account for about 30% of primary and secondary reasons for pediatric clinic visits and 30% of all visits to dermatologists involve patients of pediatric age group.[2]

The incidence of pediatric dermatoses is showing upward trend gradually and need exists to pay more attention to this problem.[3] The incidence of skin diseases among children in various parts of India has ranged from 8.7% to 38.8% in different studies usually school based surveys.[4]

There are many risk factor involve in prevelance and pattern of various dermatoses in paediatric population such as ecological, geographical, climatic exposure, season, personal hygiene, large family size or overcrowding, poverty, malnutrition, illiteracy, Socioeconomic status. External environment, excess population and over-crowding are important risk factor for development of disease in urban area. They can be transitory or chronic, recurrent and although they are rarely lethal, they may be associated with significant morbidity and psychological impact as well as an implication in their development. Traditional tattoos, customs, habits, lack of health care facilities, lack of sanitation and constant exposure to trauma are responsible for recurrent and chronicity of various dermatoses. Most of cutaneous disease that results from genetic abnormalities have onset in the paediatric age group.

Diagnosis of pediatrics dermatoses require separate view from adult dermatoses because it require special skills, important difference in anatomical structure, physiological difference and difference in clinical presentation, management and prognosis.

Skin diseases in children are encountered frequently and their characterization is essential for the preparation of academic, research and health plans.[5] Studies of pediatric population which constitutes the cornerstone of the community can play an important role in determining the policies of protective medicine and public health.[6] This study also serves as a contribution for future survey.

Materials and Methods

This was a "Prospective, cross-sectional observation" single centre study carried out in dermatology outpatient department of GMERS Medical College, Gandhinagar, Gujarat, a tertiary care teaching hospital in western India. The study protocol was presented and approved by an IEC (22/2015). Patients were explained clearly about the nature and purpose of the study in the language they understood. Written informed consent and photographs were obtained for medical records before enrolling the patients for the

study. Total 2456 cases were enrolled in our study. A detailed general, systemic and cutaneous examination followed by relevant investigations was carried out. The findings were recorded in a proforma for analysis and interpretation of data.

Inclusion Criteria: Age group below 14 (neonate, infant, child), both male and female, Include both indoor and outdoor patients, those who willing for examination of their child was included and also included skin ADR patients.

Exclusion Criteria: Guardian not willing to participate in study group all the eligible cases attending skin & VD OPD, civil Hospital, GMERS Medical College Gandhinagar during the academic time period (2 years) were included for the study with written consent. Detailed history including age at the time of attending clinic, sex, History regarding onset, duration, symptoms, severity and progression of lesions history of atopy was taken. Family history of similar complaints was also taken. Each patient was subjected to detailed history taking and clinical examination (both general and dermatological examination) done. Relevant investigations pertaining to the clinical presentation such as complete blood picture, erythrocyte sedimentation rate, renal function test and liver function test, specific investigation such as smears (microscopic examination of scraping for superficial fungal, wood's light examination and infection tissue smear stained with tzanck for viral infection and immune bullous disorder) and biopsy were carried out as and when required. A final diagnosis was then made based on the clinical features and investigations. All variable (age, gender, skin disease) were expressed in frequency and percentage. $P<0.05$ was considered as statistical significance.

Results

Total 2456 number of patients was enrolled in present study form March 2016 to February 2017 (12 Months). Highest number of patients (n=1083, 44.09%) were in >6-14 years of age group followed by >1-6 years of age group (n=1021, 41.57%). Male preponderance was seen with Male: Female ratio of 1.43:1. Among neonate, infant, preschool child and school child, it was 2:1, 1.3:1, 1.3:1 and 1.6:1 respectively. (Table 1)

Among neonate, the physiological skin disease erythema toxicum neonatorum (n=11) was most common whereas among the pathological skin disease miliria (n=20) was most common followed by candidiasis (n=10). (Table 2)

Among children of >1 month of age group, infectious group of disorder were most prevalent amongst all disorder with total number 1757 (65.19%) followed by eczema and dermatitis group of disorder with total number of 324 (12.02%). Male predominance seen in all group of disorder except for pigmentary disease where female predominance seen where-as nevi and other developmental disorder and keratinizing disorder had equal prevalence. (Table 3)

Bacterial infection were most common (n=791, 29.33%) followed by disease caused by arthropod with total number of 492 (18.25%). There was marginal difference of prevalence between fungal and viral infection. There was male preponderance seen in all age groups and among all infectious diseases. (Table 4) As shown in (Table 4), most common disease was impetigo (n=295, 10.94%) followed by decreasing order were boil/carbuncle/ pyoderma> periporitis> scalp pyoderma> furuncle> cellulitis with all disease had male preponderance. Amongst infant, impetigo was more common in female. Boil/ carbuncle were more common among school child with total number of 112 as compared to impetigo (n=78).

As depicted in (Table 4), most common viral disease was Chicken pox (02.41%) followed by Warts (01.78%), Pityriasis Rosea (01.37%), molluscum contagiosum (01.22%), hand foot mouth disease (01.07%). Herpes simplex and herpes zoster were least common viral disorder. Amongst infant, hand foot mouth disease was more common (n=08). Preschool child were more affected by molluscum contagiosum (n=26) followed by hand foot mouth disease (n=19). Chicken pox (n=41) was more common among the school going child followed by warts (n=30) and pityriasis rosea (n=27). Female predominance was seen in chicken pox amongst school going child and in warts among preschool child.

Most common disease among eczematous group of disorder was atopic disease (n= 81, 03.00%) followed by eczema (discoid, lichenoid, nummular, dishydrotic etc.) (02.82%), pityriasis alba (02.55%), seborrheic dermatitis (02.48%). (Table 5)

Amongst the nevus and other developmental disorder, haemangioma was most common with total number of 13 followed by nevus depigmentosus (n=06), congenital melanocytic nevi (n=05), verrucous epidermal nevus (n=04), nevus of ito/ota (n=3). Vitiligo (n=42) was most common disease amongst pigmentary disorder and among all age group female were more common than male.

Amongst the papulosquamous disorder, lichen planus (n=21) followed by psoriasis (n=12), lichen striatus (n=10) and lichen nitidus (n=08). Lichen planus and psoriasis more common among school child with total number of 14 and 09 respectively. Psoriasis was more common in female (n=7) then male (n=5). Lichen striatus was more common among preschool child (n=08).

Most common disease among the keratinizing disorder was keratoderma (n=37) followed by icthyosis (n=08), keratosis pillaris (n=07) and lichen spinulosa (n=02). Keratosis pilaris was more common amongst school child. Female were more common amongst keratoderma.

Hundred and twenty one (n= 121) were of Miliaria, followed by alopecia aerata (n=20), acne (n=18), milia (n=10) and least common was hyperhidrosis (n=04). Milia were more common in preschool child whereas acne was more common among school child. Alopecia aerata was more common among female (n=11) then male (n=9).

Neurofibromatosis was most common amongst all genodermatoses followed by equal prevalence of wardernburg syndrome, xeroderma pigmentosus, anhdrotic ectodermal dysplasia, tuberous sclerosis complex.

Table 1: Gender distribution according to age group

Age	Male	Female	Total	Percentage
<1 month (neonate)	37	18	55	02.23%
>1month-1 year (infant)	168	129	297	12.09%
>1year-6year(preschool child)	578	443	1021	41.57%
>6year-14year (school child)	671	412	1083	44.09%
Total	1454	1002	2456	100%
Percentage	59.20%	40.80%	100%	

Table 2: Pattern O various disorders in neonate (<1 month)

Category	Disease	No of Neonate	Percentage
Physiological	Vernix caseosa	2	03.33%
	Sebaceous hyperplasia	2	03.33%
	Milia	3	05.00%
	Cutis marmorta	1	01.67%
	Mongolian spot	3	05.00%
	Erythematoxicum neonatorum	11	18.33%
	Cradle cap	2	03.33%
Pathological	Miliria	20	33.33%
	Periporitis	3	05.00%
	Impetigo	3	05.00%
	Candidiasis	10	16.67%
		60	100%

Table 3: Pattern of various disorders in >1 month of age group

Dermatosis	Age distribution									
	1 month-1 year		>1-6 year		>6-14 year		Total		Grand total	Percentage
	M	F	M	F	M	F	M	F		
Infectious disease	115	91	460	321	498	272	1073	684	1757	65.19%
Eczema and dermatitis	30	20	62	64	85	63	177	147	324	12.02%
Nevi and other developmental disoder	06	07	08	06	05	07	19	19	38	01.41%
Pigmentary disoder	03	03	05	08	20	19	28	30	58	02.15%
Nutritional disorder	02	06	19	13	19	13	40	32	72	02.67%
Papulosquamous disoder	00	00	11	12	17	11	28	23	51	01.89%
Keratinization disorder	02	00	09	13	16	14	27	27	54	02.00%
Vesiculo bullous disorder	00	00	00	00	00	01	00	01	01	00.04%
Appendageal disorder	14	07	48	38	31	35	93	80	173	06.42%
Collagen vascular disorder	00	00	00	00	02	03	02	03	05	00.20%
Genodermatosis	00	00	01	03	07	05	08	08	16	00.59%
Cutaneous vascular response	07	04	19	21	40	24	66	49	115	04.27%
Miscellaneous disorder	01	01	04	02	17	06	22	09	31	01.15%
									2695	100%

Table 4: Pattern of infectious disorders in >1 month of age group

Category	Disease	Age group distribution						Total		Grand Total	Percentage
		1 month to 1 year		>1 year to 6 year		>6 year to 14 year					
		M	F	M	F	M	F	M	F		
Bacterial	Impetigo	18	22	106	73	45	31	169	126	295	10.94%
	Periporitis	05	07	59	37	26	15	90	59	149	05.52%
	Furuncle	02	00	06	04	12	03	20	07	27	01.00%
	Scalp pyoderma	10	06	27	16	17	13	54	35	89	03.30%
	Boil/carbuncle	12	06	56	36	79	33	147	75	222	08.23%
	Cellulitis	02	00	01	00	02	04	05	04	09	00.33%
	Total	49	41	255	166	181	99	485	306	791	29.33%
Viral	Molluscum contagiosum	01	00	13	13	03	03	17	16	33	01.22%
	Chickenpox	01	02	13	08	18	23	32	33	65	02.41%
	Herpes zoster	00	00	01	00	03	01	04	01	05	00.18%
	Herpes simplex	00	00	00	00	02	03	02	03	05	00.18%
	Warts	00	00	08	10	14	16	22	26	48	01.78%
	Pityriasis rosea	02	00	05	03	19	08	26	11	37	01.37%
	Handfootmouth disease	05	03	09	10	02	00	16	13	29	01.07%
	HIV	00	00	00	00	08	02	08	02	10	00.37%
	Total	09	05	49	44	69	56	127	105	232	08.60%
Fungal	Tinea capitis	06	01	13	05	11	08	30	14	44	01.63%
	Other tinea	07	06	23	16	50	14	80	36	116	04.30%
	Cutaneous candidiasis	07	07	07	09	07	07	21	23	44	01.63%
	Pityriasis versicolar	05	02	02	05	16	08	23	15	38	01.40%
	Total	25	16	45	35	84	37	154	88	242	08.97%
Parasitic	Scabies	29	19	86	63	145	65	260	147	407	15.09%
	Pediculosis capitis	00	00	02	02	01	07	03	09	12	00.44%
	Papular urticarial	01	05	08	06	02	04	11	15	26	00.96%
	Insect bite	02	05	15	05	16	04	33	14	47	00.15%
	Total	32	29	111	76	164	80	307	185	492	18.25%
										1757	65.19%

Table 5: Pattern of eczema and dermatitis diseases of in >1 month of age group

Disease	Age group distribution						Total		Grand total	Percentage
	1 month-1 year		>1-6 year		>6-14 year					
	M	F	M	F	M	F	M	F		
Atopic dermatitis	12	10	18	19	12	10	42	39	81	03.00%
Seborrheic dermatitis	08	06	11	13	09	20	28	39	67	02.48%
Pityriasis alba	06	04	16	12	23	08	45	24	69	02.55%
Irritant contact dermatitis	00	00	02	04	03	03	05	07	12	00.44%
Perianal dermatitis	01	00	03	01	01	01	05	02	07	00.25%
Diaper dermatitis	01	00	00	00	00	00	01	00	01	00.03%
Pompholyx	00	00	01	00	00	00	00	01	01	00.03%
Paedrus dermatitis	00	00	02	02	03	03	05	05	10	00.37%
Eczema	02	00	09	13	34	18	45	31	76	02.82%
	30	20	62	64	85	63	177	147	324	12.01%

Discussion

The present study was conducted from March 2015 to February 2016 at tertiary care center, Gujarat during which 2456 cases were included. Patients were divided in four category which include neonate (<1 month), infant (>1 month- 1 year), preschool child (>1 year- 6 year) and school child (>6year- 14 year). Amongst all age groups, most common age group was school child (44.09%, n=1083) followed by preschool child

(41.57%, n=1021), infant (12.09%, 297) and least common was neonate (02.23%, n=55) (Table 1).

Out of the 2456 patients, 1454 (59.20%) patients were males and 1002 (40.80%) were females. The male to female ratio in our study was 1.43:1 which was comparable to study done by Jawade et al[6] where M:F ratio was 1.40:1 and lesser reported by Bisht et al[3] (1.30:1).

In our study, maximum cases were in age group was 6-14 years which was 44.09%, whereas in study by Jawade et al,[6] it was 2nd most common age group at 33%. In their study most common age group was 1-6 years (46.32%) which was comparable to our study (41.57%).

Amongst neonatal skin diseases, physiological skin conditions constituted 40% in our study which was comparable to study done by Jawade et al (39.69%),[6] in other studies like Nobbay and Chakrobarthy[7] (69%), Baruah et al[8] (93%), Kulkarni and Singh[9] (72%), and Patel (78%).[10]

In our study, infectious diseases were most common (65.19%) which was comparable to study done by Jawade et al[6] (56.40%). In their study, Hassan et al[11] found only 29.40% disorder of infectious etilogy while Dogra and Kumar[12] found only 11.4%. Different studies across India have found infectious and infestations contributed 35.6% to 85.2% of all paediatric dermatoses.[4,5,13,14]

Eczema and dermatitis group constituted 12.02% in our study which was comparable to Jawade et al[6] (15.61%) and Hassan et al[11] (12.0%). In the study conducted by Dogra & Kumar,[12] incidence of dermatitis was only 5.2%.

Pigmentary disorders were 2.15% in our study which was comparable to study of Thappa[14] (3.16%) and Jawade et al[6] (2.80%) while higher incidence was found in study of Patel et al[10] (11.48%), Hassan et al[11] (14.10%), and Ben Saif & Al Shehab[1] (8.9%).

Nutrional disorders were 2.67% in our study which was supported by study done by Jawade et al[6] (3.80%) while in study done by Hassan et al,[11] it was seen only in 0.4%. In study done by Negi et al,[15] it was 17.5%. Our study was done in urban set up as compared to Negi et[15] al which was done in rural area accounting for difference in incidence.

In our study, Papulosquamous disorder was 1.89% which was comparable to Hassan et al (1.8%). In the study done by Jawade et al,[6] it was 9.10%.

Keratinizing disorder was 2.00% in our study which was supported by study done by Jawade et al[6] (2.58%) and Hassan et al[11] (3.2%)

Vesiculobullous disorder 0.04% in our study was comparable to study by Jawade et al[6] and Hassan et al[11] (0.33% and 0.46% respectively).

Incidence of Nevoid and other development (1.41%) disorders in our study was comparable to the study done by Hassan et al[11] (1.1%).

In our study, amongst infectious diseases, bacterial infections were maximum (29.33%) followed by parasitic infections (18.25%). Viral and fungal infections were 15.09% and 08.60% respectively. In the study done by Jawade et al,[6] parasitic infections were maximum (25.73%). Bacterial, fungal, and viral diseases were 13.94%, 8.65%, and 8.08% respectively. Among bacterial infection, impetigo (10.94%), boil and cabuncle (8.23) and scalp pyoderma (3.30%) were most common. However in study done by Jawade et al,[6] impetigo and pyoderma were 5.96% and 5.62% respectively. The study done by Vikash Bhatia et al[16] found 16.1% cases of pyoderma which was higher than our study and Jawade et al.[6]

Scabies (15.09%) was most common parasitic infestation. In other studies conducted in various places, incidence rate of scabies range from 5.1% to 24.49%.[4-6,12-14,17,16] In our study, incidence of pediculosis capitis was 0.44% which was similar to study by Jawade et al[6] (0.45%) and Rao et al (0.5%).[17]

In our study, most common viral infection was chickenpox (2.41%) followed by warts (1.78%) and molluscum contagiosum (1.22%). In study done by Jawade et al,[6] molluscum contagiosum (5.39%) was most common followed by viral warts (1.35%). In study done by Patel et al[10] highest incidence were warts (1.53%).

Among fungal infections, in our study tinea corporis was 4.30% and tinea capitis was 1.63%. However in study done by Jawade et al,[6] tinea capitis and tinea corporis were 4.49% and 1.46% respectively. The incidence of pityriasis versicolar and cutaneous candidiasis in our study were similar to the study of Jawade et al.[6]

The incidence of atopic dermatitis in our study was 3.37% which was similar to study by Jawade et al [6] (4.27%). Studies conducted all over word found incidence rate of atopic dermatitis ranges from 3% to 28%.[18-21] Pityriasis alba (2.87%) in our study, whereas study done by Jawade et al,[6] it was 4.16%. Incidence of seborrheic dermatitis was 2.79% in our study. Similar incidence were found in Ben Saif & Al Shehab (3.4%),[1] Jawade et al[6] (3.60%) and Patel et al[10] (1.82%).

Incidence of pityriasis rosea in our study was 1.37% which was comparable to study by Ben Saif & Al Shehab[1] (2.1%) and Jawade et al[6] (3.15%). Pityriasis Rosea accounts for 2% outpatient visits in dermatology.[22]

Incidence of lichen planus in our study was 0.87%. Higher incidence was found in study by Samman (2%),[23] Handa & Sahoo (2%),[24] Jawade et al (2.58%),[6] Kumar & Collegue et al (11.2%)[25] and Luis Montoya (10.2%).[26] Incidence of lichen nitidus (0.33%), lichen spinulous (0.08%), lichen striatus (0.41%) were comparable to Jawade et al[6] (1.12%, 0.67%, and 0.11% respectively).

Incidence of psoriasis was 0.49% in our study. Similar observation reported by Jawade et al,[6] Rao et al[17] and Sardana K[5] in their studies.

Incidence of icthyosis (0.33%) and keratoderma (1.54%) was comparable to study done by Jawade et al,[6] Ghosh et al[27] and Porter et al.[28]

Bullous disorder (0.04%) in our study was comparable to study done by Jawade et al[6] (0.33%).

Urticarial was found in 3.29% of cases in our study which was comparable to study done by Jawade et al[6] (1.35%) and other study. In our study, haemangioma was found in 0.54% of cases which was similar to study done by Jawade et al[6] (0.79%).

Miliria (5.03%) was found in our study which was higher than study done by Jawade et al[6] (1.12%) whereas other appendageal disorder such as alopecia aerate (0.83%), milia (0.41%) and acne(0.74%) in our study was comparable to study done by Jawade et al[6] (0.79%, 0.79% and 0.45% respectively).

References

1. Saif GA, Al Shehab SA. Pattern of childhood dermatoses at a teaching hospital of Saudi Arabia. *International Journal of Health Sciences*. 2008;2(2):63.
2. Schachner LA, Hansen RG. Preface. In: Schachner LA, Hansen RG, editors. Pediatric dermatology. 2nd ed. New York: Churchill Livingstone; 1995. p. 9.
3. Bisht JS, Rana SK, Kumari N, Aggarwal B, Mehta A, Singh R. Pattern of dermatoses in preschool children in a teaching hospital in Uttarakhand, India. *Indian Journal of Paediatric Dermatology.* 2015;16(4):198.
4. Sharma NK, Garg BK, Goel M. Pattern of Skin Diseases in Urban School Children. *Indian Journal of Dermatology, Venereology and Leprology*. 1986;52(6):330.
5. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bhushan P, Koranne RV, Garg VK. The spectrum of skin disease among Indian children. *Pediatric Dermatology*. 2009;26(1):6-13.
6. Jawade SA, Chugh VS, Gohil SK, Mistry AS, Umrigar DD. A clinico-etiological study of dermatoses in pediatric age group in tertiary health care center in South Gujarat region. *Indian Journal of Dermatology*. 2015;60(6):635.
7. Nobbay B, Chakrabarty N. Cutaneous manifestation in the new-born. *Indian Journal of Dermatology, Venereology, and Leprology.* 1992;58:69-72.
8. Baruah CM, Bhat V, Bhargava R, Garg RB. Prevalence of dermatoses in the neonates in Pondichery. *Indian Journal of Dermatology, Venereology, and Leprology*. 1991;57(1):25.
9. Kulkarni ML, Singh R. Normal variants of skin in neonates. *Indian Journal of Dermatology, Venereology, and Leprology.* 1996;62(2):83.
10. Patel JK, Vyas AP, Berman B, Vierra M. Incidence of childhood dermatosis in India. *Skinmed*. 2009;8(3):136-42.
11. Hassan I, Anwar P, Bilquis S, Nabi S, Rasool F, Munshi I. Comparison of dermatoses seen in community health camps and a tertiary care centre in Kashmir. *Indian Journal of Dermatology, Venereology, and Leprology.* 2014;80(3):214.
12. Dogra S, Kumar B. Epidemiology of skin diseases in school children: a study from northern India. *Pediatric dermatology*. 2003;20(6):470-3.
13. Kraning KK, Odland GF. Prevalence, morbidity, and cost of dermatological diseases. *J Invest Dermatol.* 1979;73(5 Pt 2):395-401.
14. Thappa DM. Common skin problems. *Indian Journal of Pediatrics.* 2002;69(8):701-6.
15. Negi KS, Kandpal SD, Parsad D. Pattern of skin diseases in children in Garhwal region of Uttar Pradesh. *Indian Pediatrics.* 2001;38(1):77-80.
16. Bhatia V. Extent and pattern of paediatric dermatoses in rural areas of central India. *Indian Journal of Dermatology, Venereology, and Leprology*. 1997;63(1):22.
17. Rao SG, Kumar P, Kuruvilla M. Prevalence of various dermatoses in school children. *Indian Journal of Dermatology, Venereology, and Leprology*. 1999;65(3):126.
18. Federman DG, Reid MC, Feldman SR, Greenhoe J, Kirsner RS. The primary care provider and the care of skin disease: the patient's perspective. *Archives of dermatology.* 2001;137(1):25-9.
19. Speare R, Buettner PG. Head lice in pupils of a primary school in Australia and implications for control. *International journal of dermatology.* 1999;38(4):285-90.
20. Bowker NC, Cross KW, Fairburn EA, Wall M. Sociological implications of an epidemiological study of eczema in the city of Birmingham. *British Journal of Dermatology*. 1976;95(2):137-44.
21. Horn R. The pattern of skin diseases in general practice. *Dermatology Practice*. 1986:2:14-9.
22. González LM, Allen R, Janniger CK, Schwartz RA. Pityriasis rosea: an important papulosquamous disorder. *International Journal of Dermatology.* 2005;44(9):757-64.
23. Samman PD. Lichen planus. An analysis of 200 cases. Transactions of the St. John's Hospital Dermatological Society. 1961;46:36.
24. Handa S, Sahoo B. Childhood lichen planus: a study of 87 cases. International journal of dermatology. 2002 Jul 1;41(7):423-7.
25. Kumar V, Garg BR, Baruah MC, Vasireddi SS. Childhood lichen planus (LP). *The Journal of dermatology.* 1991;20(3):175-7.
26. Luis- Montoya P, Domínguez- Soto L, Vega- Memije E. Lichen planus in 24 children with review of the literature. *Pediatric Dermatology*. 2005;22(4):295-8.
27. Ghosh SK, Saha DK, Roy AK. A clinico-aetiological study of dermatoses in paediatric age group. *Indian Journal of Dermatology.* 1995;40(1):29.
28. Porter MJ, Mack RW, Chaudhary MA. Pediatric skin disease in Pakistan: A study of three Punjab villages. *International Journal of Dermatology.* 1984;23(9):613-6.

How to cite this article: Prajapati KM, Padhiar B. A study of paediatric dermatoses in tertiary care center, Gandhinagar, Gujarat. Ind J Clin Exp Dermatol. 2018;4(3):179-184.