

Original Research Article

Clinico-epidemiological profile of dermatology patients: a one-year study at a newly established tertiary care centre in India

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ABSTRACT

Background: Dermatology is predominantly an outpatient specialty focused on the diagnosis and treatment of dermatoses affecting the skin. We conducted a study on the demographic and clinical characteristics of patients attending the outpatient clinic to better understand the clinico-epidemiological profile and to predict morbidity patterns within the specific geographical region.

Methods: A retrospective study was conducted over the past year, encompassing all patients who visited the outpatient dermatology clinic at AIIMS, Raebareli. The study systematically documented a range of dermatoses, including disorders affecting the skin, hair, and nails.

Results: A total of 4,188 patients were included in the study, comprising 2,681 (64%) adults, 978 (23.4%) geriatric patients, and 529 (12.6%) pediatric patients. Among these, 1,311 patients primarily suffered from infections, followed by 752 patients with dermatitis. Of those with infections, 1,024 (78%) were diagnosed with fungal infections, while scabies was observed in 126 patients (9.6%). In the adult group, 756 (28.2%) patients had infections, while 429 (16%) patients were affected by dermatitis. Similar patterns were observed in both the geriatric and pediatric groups, with infections being the most prevalent, affecting 214 and 341 patients, respectively.

Conclusions: Based on the findings of this study, it can be concluded that infections, particularly fungal infections, are the most prevalent dermatological conditions across all age groups in the population studied. Dermatitis also emerged as a significant concern, particularly among adult patients. The high prevalence of infectious dermatoses, especially in geriatric and pediatric patients, highlights the need for targeted public health interventions and preventive measures.

Keywords: Clinic-epidemiological profile, Dermatoses, New centre

INTRODUCTION

To accurately assess disease prevalence within a population, it is essential to thoroughly understand the distribution and severity of skin conditions. Additionally, identifying the prevalence of skin disorders is crucial for delivering effective healthcare to the community.¹ Geographic location and climate significantly influence the pattern of skin morbidity in a given area.² Various skin conditions are also affected by factors such as community

behavior, genetics, nutrition, and socioeconomic status. In the general population, the prevalence of skin diseases ranges from 6.3% to 11.2%.³ Although skin diseases are not typically fatal, they contribute to substantial disability. In India, the non-fatal burden of skin and subcutaneous diseases surpasses that of cardiovascular diseases.⁴ In 2017, the years lived with disability due to cardiovascular diseases in India was 332.96 per 100,000 people, compared to 455.06 per 100,000 for skin and subcutaneous disorders. According to the 2017 Global Burden of

Disease Study, skin diseases ranked 10th in age-standardized years lived with disability, while cardiovascular diseases ranked 12th.⁵ Skin disorders affect all age groups and genders, representing a significant cause of morbidity within the population.

There is limited literature available on the frequency of skin diseases across Uttar Pradesh's 75 districts. This retrospective analysis was conducted to address this gap and examine the pattern of skin disorders among patients attending the dermatology OPD over the course of a year.

METHODS

A retrospective cross-sectional study was conducted utilizing outpatient records of dermatology OPD from November 2022 to October 2023 at AIIMS, Raebareli. Records of patients who attended the dermatology OPD regardless of age, gender and social class were included. Sexually transmitted infection and leprosy case records were excluded. Those patients who had incomplete records were not included. Since the study used completely anonymized and delinked data, ethical approval was not required.

Diagnoses were primarily based on clinical assessments, supported by relevant investigations, and documented in the OPD register. Data from the register were systematically recorded and analyzed. Skin conditions were classified into categories for detailed examination, including vitiligo, lichen planus, psoriasis, leprosy, sexually transmitted infections (STIs), drug reactions, cancers, connective tissue diseases, pityriasis rosea, and other papulosquamous disorders.

Diagnoses were primarily based on clinical assessments, supplemented by relevant investigations, and documented in the OPD register. Data from the register were

systematically recorded on an excel sheet and analyzed. The study categorized dermatological conditions into eighteen distinct groups. These included hair disorders such as androgenetic alopecia and alopecia areata; various types of dermatitis including allergic, contact, acute, subacute, and chronic; and hypopigmentary disorders such as vitiligo, pityriasis versicolor, and pityriasis alba. Hyperpigmentary disorders covered melasma and acquired dyschromia. Other categories included urticaria, scars, keloids, and connective tissue disorders (e.g., systemic lupus erythematosus and dermatomyositis). Additionally, genital conditions (e.g., scrotal dermatitis and candidiasis), nail disorders (e.g., onychomycosis and nail dystrophy), nevi (including congenital and acquired nevi, melanocytic nevi, and Becker's nevus), papulosquamous disorders (such as psoriasis, lichen planus, and pityriasis rosea), and vasculitis were included. A miscellaneous group was designated for conditions that did not fit into the other categories.

Data were categorized by age, gender, and skin disease patterns. Descriptive statistics were used to analyze the clinical and demographic data, with counts and percentages summarizing the findings.

RESULTS

Over the course of the year, a total of 4,188 patients visited the dermatology OPD. Of these, 2,681 were adults (64%), 978 were pediatric patients (23.2%), and 529 were elderly patients (12.6%) (Figure 1). Among the patients, 2,212 (52.8%) were female and 1,976 (47.2%) were male, indicating a higher prevalence of female patients. Infections were the most common dermatological complaints, affecting 1,311 patients (31.3%). These infections were observed in 767 males (18.3%) and 444 females (10.6%). Various dermatoses encountered in the study population have been summarised in Table 1.

Table 1: Distribution of diseases amongst males and females.

Dermatoses	N	Percentage	Males	Percentage	Females	Percentage
Hair disorders	152	3.6	84	2	68	1.62
Dermatitis	752	17.9	347	8.28	255	6.08
Connective tissue disorders	35	0.83	7	0.17	8	0.19
Urticaria	347	8.28	143	3.41	181	4.32
Acne	435	10.3	166	3.96	169	4.03
Scars and keloids	75	1.79	12	0.28	13	0.31
Hyperpigmentary disorders	125	2.98	23	0.55	73	1.74
Hypopigmentary disorders	176	4.20	104	2.48	72	1.71
Genital disorders	14	0.3	13	0.31	1	0.02
Carcinomas	4	0.1	4	0.09	0	0
Nevus	12	0.3	4	0.09	8	0.19
Immunobullous disorders	24	0.6	6	0.14	16	0.38
Generalized pruritis	97	2.31	46	1.09	51	1.21
Infections	1311	32	767	18.3	444	10.6
Nail disorders	52	1.24	2	0.04	0	0
Papulosquamous disorders	414	9.8	224	5.34	190	4.53

Continued.

Dermatoses	N	Percentage	Males	Percentage	Females	Percentage
Vasculitis	2	0.05	1	0.02	1	0.02
Miscellaneous	161	3.8	23	0.54	38	0.90

Infections were categorized as follows: fungal infections accounted for 1,024 cases (78.1%), viral infections for 96 cases (7.32%), bacterial infections for 65 cases (4.96%), and parasitic infestations for 126 cases (9.61%), excluding leprosy and sexually transmitted infections. Infections were most common conditions across all age groups with slightly more prevalence among paediatric and geriatric population. Distribution of various infections noted during the study are given in Table 2.

Table 2: Distribution of various infections in patients (n=1311).

Type of infection	Number of patients	Percentage
Fungal	1024	78.1
Viral	96	7.32
Bacterial	65	4.96
Scabies	126	9.61

Dermatitis was the second most common condition, comprising 17% of cases, followed by acne vulgaris at 10.3% and urticaria at 8.28%. Dermatoses according to age group have been depicted in Table 3 and Figure 2. Dermatitis was found to be a common condition affecting all age groups with maximum prevalence amongst the paediatric population. Hair disorders affected the paediatric population the most and the prevalence was significantly less in geriatric age group. Connective tissue disorders were rare in all age groups with a slight increase

in the geriatric population. Urticaria was most prevalent in adult population and it decreased a little in geriatric population. Acne was predominantly a disease of adult population and was non-existent in geriatric age group as expected. Pigmentary disorders were common in paediatric population. Carcinomas were very rare and limited to only geriatric population. Immunobullous disorders were uncommon and adult population was mainly affected. Patients presenting with pruritis increased significantly with age and was common in older individuals. Nail disorders were relatively uncommon. Papulosquamous disorders were more common in adult population followed by geriatric population. Vasculitis was rare across all age groups.

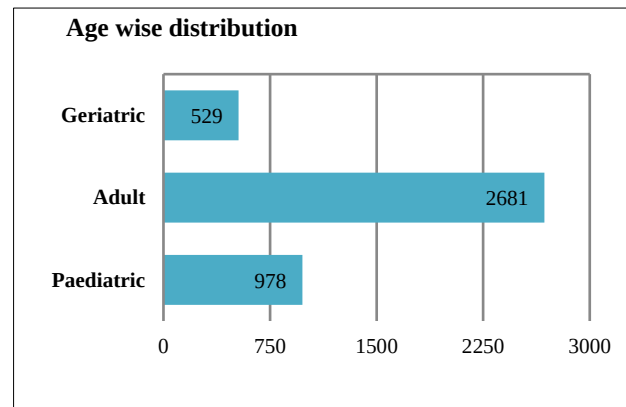


Figure 1: Age wise distribution of patients (n=4188).

Table 3: Dermatoses across various age groups.

Dermatoses	Adult population		Paediatric population		Geriatric population	
	N	Percentage	N	Percentage	N	Percentage
Hair disorders	98	3.65	52	5.31	2	0.3
Dermatitis	429	16	234	23.92	89	16.8
Connective tissue disorders	27	1	2	0.2	6	1.13
Urticaria	278	10.3	25	2.55	44	8.31
Acne	384	14.3	51	5.21	0	0
Scars&keloids	52	1.93	19	1.94	4	0.7
Hyperpigmentary disorders	74	2.76	43	4.39	8	1.5
Hypopigmentary disorders	102	3.80	52	5.31	22	4.15
Genital disorders	14	0.5	0	0	0	0
Carcinomas	1	0.03	0	0	3	0.56
Nevus	3	0.11	9	0.92	0	0
Immunobullous disorders	19	0.70	2	0.2	3	0.56
Generalized pruritis	53	1.97	11	1.12	33	6.23
Infections	756	28.19	341	34.8	214	40.4
Nail disorders	28	1.04	18	1.84	6	1.13
Papulosquamous disorders	294	10.96	72	7.36	48	9.07
Vasculitis	1	0.03	0	0	1	0.18
Miscellaneous	68	2.53	47	4.8	46	8.6

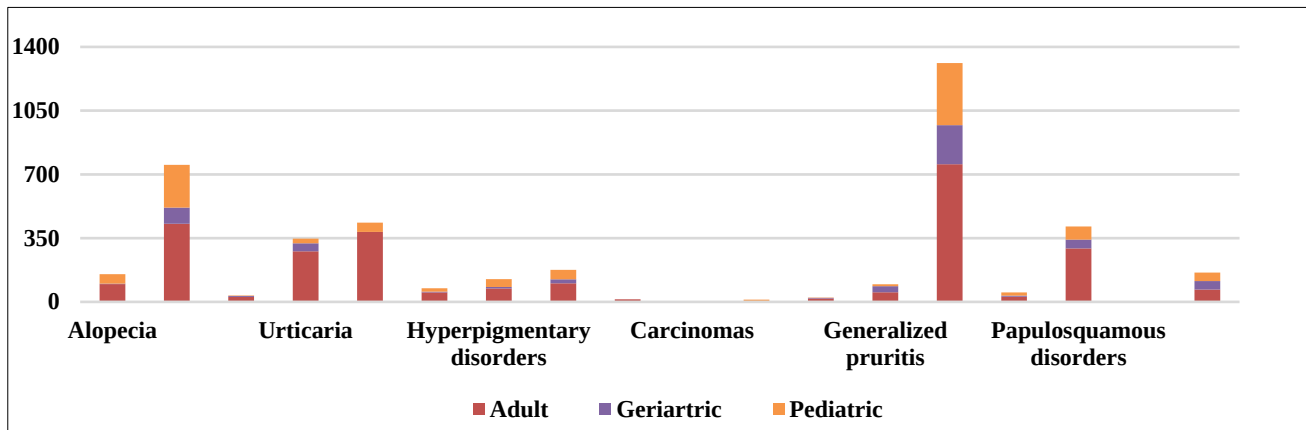


Figure 2: Burden of dermatoses amongst various age groups.

DISCUSSION

A cross-sectional retrospective analysis was conducted over the course of one year, during which demographic and clinical data were analyzed. The study found that the majority of patients were adults (64%), followed by geriatrics (23.2%) and pediatrics (12.6%). The study also noted a higher prevalence of female patients, with females comprising 52.8% of the population compared to 47% males. These findings are consistent with those of a study by Sanker et al, which was conducted in a hospital in North Kerala.⁶

In our study, infections and eczemas were the most commonly diagnosed dermatological conditions. These results align with findings from studies by Asokan et al and Nair et al. A similar retrospective cross-sectional study by Sander et al reported infections in 42.7% of individuals, followed by eczemas in 27.7%.⁶⁻⁸ Fungal infections were prevalent in 78.1% of individuals, with scabies affecting 9.61%. These high rates may be attributed to factors such as poor hygiene, humid conditions, lower socioeconomic status, and limited literacy. In studies by Sander et al, Asokan et al, and Nair et al, fungal infections were reported in 30.1%, 18.74%, and 14.18% of cases, respectively. There has been a noticeable increase in dermatophytic infections across the country.⁹

In our study, fungal infections were most commonly observed in the adult and geriatric populations, a finding consistent with recent studies.^{10,11} Specifically, 28.19% of adults were diagnosed with infections. The increase in tinea infections among this population may be attributed to factors such as low literacy levels, overcrowding, and the use of over-the-counter topical steroidal drugs. In the pediatric population, infections and infestations were prevalent, with eczematous disorders being the next most common. A clinico-epidemiological study by Sharma et al found that 50.6% of pediatric patients had infections, followed by 25% with eczematous conditions.¹² These results align with our findings. Similar trends have been reported in studies from North India.¹³ In our study, the most common infections in the pediatric population were

scabies, followed by bacterial infections like impetigo contagiosa and fungal infections such as tinea capitis.

In the current study, infections and dermatitis were more prevalent among male participants, accounting for 18.3% and 8.28% of cases, respectively, compared to females. Conversely, 10.6% of females and 6.08% of males had infections and eczemas, respectively. One possible interpretation is that men may seek healthcare services more frequently. Given that many individuals in rural Uttar Pradesh are farmers, it is plausible that phytodermatitis and allergic contact dermatitis are more common in this demographic. Additionally, melasma and related hyperpigmentary disorders were more prevalent among females (1.74%) than males (0.55%). This could be due to females being more concerned about their appearance compared to males. These findings are consistent with those reported by Sanker et al.⁶

The current study highlights the pattern of skin diseases in a typical rural population and helps us to analyse the demographical and skin ailments the population. Based on the findings of this study, it can be concluded that infections, particularly fungal infections, are the most prevalent dermatological conditions across all age groups in the population studied. Dermatitis also emerged as a significant concern, particularly among adult patients. The high prevalence of infectious dermatoses, especially in geriatric and pediatric patients, highlights the need for targeted public health interventions and preventive measures. These infections and infestations could be prevented by raising awareness for hygiene. These results underscore the importance of continued surveillance and tailored treatment strategies to manage and mitigate the burden of skin diseases in the region. Peripheral institutions must be strengthened with personnel and the necessary dermatological expertise in order to do this.

Limitations

There is a possibility of information bias as the information retrieved is based upon records. As this is a retrospective study, the selection of patients is dependent on the

availability of records which may not represent the entire patient population. The one-year time frame may not be sufficient to observe certain rare conditions.

CONCLUSION

Infections, particularly fungal infections, are the most prevalent dermatological conditions across all age groups in the population studied. Eczemas or dermatitis were 2nd most prevalent dermatoses. The importance of prevalence data lies in its valuable utility in planning targeted services based upon the regional dermatoses profile.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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