

## Evaluation of Spectrum of Dermatological Morbidity Pattern at Tertiary Care Hospital: A Retrospective Study.

Chandra Prakash Purohit<sup>1</sup>, Harish Chandra Sanadhya<sup>2</sup>, Shivani Bhardwaj<sup>3</sup>

<sup>1</sup>Assistant professor, Department of General Medical, Pacific Medical College & Hospital, Udaipur, Rajasthan, India

<sup>2</sup>Assistant professor, Department of General Medical, Pacific Medical College & Hospital, Udaipur, Rajasthan, India

<sup>3</sup>Assistant professor, Department of Skin & VD, Pacific Medical College & Hospital, Udaipur, Rajasthan, India

---

Received: 22-06-2022 / Revised: 19-08-2022 / Accepted: 04-09-2022

Corresponding author: Dr. Shivani Bhardwaj

Conflict of interest: Nil

---

### Abstract

**Background:** Skin diseases have gained a lot of interest over the past decades because they are potentially preventable, controllable and prevalent worldwide. In 2019, skin diseases reported as the fourth leading disease among non-fatal disease burden globally and also accounts for 18th leading cause of disability-adjusted life years (DALYs) worldwide.

**Material & Methods:** The present retrospective study was conducted at department of general medicine of our tertiary care hospital. Institutional Ethics Committee Clearance was obtained before start of study and written and informed consent for the procedure was obtained from all the patients. Strict confidentiality was maintained with patient identity and data and not revealed, at any point of time.

**Results:** The most common presentation was skin infections present among 416 (23.66%) patients. After skin infections the next common finding was eczema which was present among 256 (16%) patients which was followed by contact dermatitis among 192 (12%) patients, which was followed by urticaria found in 168 (10.5%) patients and which was followed by xerosis present in 144 (9%) patients which followed by acne found in 128 (8%). Hair disorders was present in 120 (7.5%) cases which was followed by atopic dermatitis present in 96 (6%) cases. Post inflammatory changes were seen in 64 (4%), vitiligo was present in 32 (2%) cases followed by P.alba in 24 (1.5%) cases which was followed by psoriasis found in 16 (1%) patients. Oral lesions, nutritional disorders and pemphigus vulgaris were present in 16 (1%) patients respectively, keratosis pilaris and melasma was present in 8 (0.5%) patients, keloid was found in 4 (0.25%) patients and hypertrophic scar was present in 2 (0.125%) cases.

**Conclusion:** We concluded from the present study that the most common presentation was skin infections present among study patients. Fungal diseases were the most common infection and eczema and contact dermatitis were seen more commonly and scabies was the most common infestation. The climate, occupation, socio-economic status, gender and age of the patient were associated in the occurrence of skin diseases.

**Keywords:** Skin diseases, Fungal infections, Eczema.

---

This is an Open Access article that uses a fund-ing model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided

## Introduction

Skin diseases have gained a lot of interest over the past decades because they are potentially preventable, controllable and prevalent worldwide. In 2019, skin diseases reported as the fourth leading disease among non-fatal disease burden globally and also accounts for 18th leading cause of disability-adjusted life years (DALYs) worldwide [1]. Skin disease are considered very upsetting, especially in younger age groups. The burden and type of any disease in particular geographical area depends on the genetic constitution of the individuals, their social background and nutritional and hygiene status. The prevalence of disease is depending upon environmental conditions and the quality of medical care provided to them [2].

Since the spectrum of skin diseases is very wide the overall magnitude of disease burden depends upon age, gender, their regional distribution, prevalence and underlying factors which are essential for the prevention programs [3]. The incidence and pattern of skin disorders varies from country to country and even in geographical regions within the country due to ecological factors, social customs, genetics and hygienic standards. In developed countries, eczematous skin diseases are more prevalent and in developing countries infections and infestations are more prevent [4].

However, skin diseases have low mortality rates therefore they were given less attention and research time than other serious diseases. In the terms of morbidity, skin diseases possess a significant diseases burden to the community and imposing strain on health care services [5]. Hence, we conducted present study to estimate the burden and pattern and spectrum of skin diseases at our tertiary care hospital.

## Materials & Methods

The present retrospective study was conducted at department of general medicine of our tertiary care hospital. The study was an observational study conducted during a period of six months. The study done at 95% confidence interval at 5% of maximum allowable error. In this epidemiological study patients of age of both the genders were enrolled for the study. Patients were enrolled from outdoor department and from ward by simple random sampling. Institutional Ethics Committee Clearance was obtained before start of study and written and informed consent for the procedure was obtained from all the patients. Strict confidentiality was maintained with patient identity and data and not revealed, at any point of time.

Detailed clinical history with general physical examination was done and recorded in the proforma prepared for this study. The presenting complaints were noted in the chronological order. All patients who were thoroughly examined, their disease plotted, recorded and classified into specific group as per their disease criteria. No exclusion criteria was selected because it was only an epidemiological study. On follow up visit same data were recorded and compared. All the data was recorded on Microsoft excel spread sheet and data analysis was done at 10% alpha and 90% confidence interval using SPSS v22 software. Test of significance were applied on collected and organized data and p value less than 0.05 was considered as statistically significant association between study variables.

## Results

In present study, we enrolled 1600 patients who were visiting outpatient department and gave consent for the study. Out of the 1600

patients, 864 (54%) were females and 736 (46%) were males. Among total study participants, fungal infection was the most common presentation and present in 304 (19%) patients which was followed by bacterial infection which was found in 96 (6%) patients followed by viral infection which was found in 32 (2%) patients and infestations was found in 64 (4%) patients in the present study. Among fungal infections tinea cruris was most common fungal infection and present in 79 patients which was followed by tinea corporis. Among bacterial infections impetigo was most common finding and present in 41 patients which was followed by furuncle in 30 patients. Among viral infections warts were most common presentation and present in 19 patients which was followed by herpes zoster in 8 patients. Scabies was the most common manifestation which was present in 56 patients. (Table 1)

In present study, the most common presentation was skin infections present

among 416 (23.66%) patients. After skin infections the next common finding was eczema which was present among 256 (16%) patients which was followed by contact dermatitis among 192 (12%) patients, which was followed by urticaria found in 168 (10.5%) patients and which was followed by xerosis present in 144 (9%) patients which followed by acne found in 128 (8%). Hair disorders was present in 120 (7.5%) cases which was followed by atopic dermatitis present in 96 (6%) cases. Post inflammatory changes were seen in 64 (4%), vitiligo was present in 32 (2%) cases followed by P. alba in 24 (1.5%) cases which was followed by psoriasis found in 16 (1%) patients. Oral lesions, nutritional disorders and pemphigus vulgaris were present in 16 (1%) patients respectively, keratosis pilaris and melasma was present in 8 (0.5%) patients, keloid was found in 4 (0.25%) patients and hypertrophic scar was present in 2 (0.125%) cases. (Table 2)

**Table 1: Distribution of study participants according to dermatological infections.**

Infection	No. of patients	
Fungal 304 (19%)	Tinea cruris	79
	Tinea corporis	58
	Tinea faciei	35
	Tinea pedis and mannum	26
	Onychomycosis	25
	Pityriasis versicolor	20
	Seborrheic dermatitis	61
Bacterial 96 (6%)	Impetigo	41
	Furuncle	30
	Folliculitis	25
Viral 32 (2%)	Herpes zoster	8
	Herpes simplex	2
	Molluscum contagiosum	3
	Wart	19
Infestation 64 (4%)	Scabies	56
	Pthirus capitis	6
	Pthirus pubis	2

**Table 2: Distribution study participants according to presenting complaints.**

Presenting complaints	Number of cases (%)
Eczema	256 (16)
Contact dermatitis	192 (12)
Urticaria	168 (10.5)
Xerosis	144 (9)
Acne	128 (8)
Hair disorder	120 (7.5)
Atopic dermatitis	96 (6)
Post inflammatory changes	64 (4)
Vitiligo	32 (2)
P.alba	24 (1.5)
Psoriasis	16 (1)
Oral lesion	16 (1)
Nutritional disorder	16 (1)
Pemphigus vulgaris	16 (1)
Keratosis pilaris	8 (0.5)
Melasma	8(0.5)
Keloid	4 (0.25)
Hypertrophic scar	2 (0.125)

## Discussion

In present study, we enrolled 1600 patients who were visiting outpatient department and gave consent for the study. Out of the 1600 patients, 864 (54%) were females and 736 (46%) were males. In a study conducted by Grover et al among rural population of Allahabad found that the prevalence of skin disorders was seen more among females and prevalence was found more among 20-40 years of age group which was similar to the results of present study in which majority of population belongs to 20-40 years of age group [6].

Among total study participants, fungal infection was the most common presentation and present in 304 (19%) patients which was followed by bacterial infection which was found in 96 (6%) patients followed by viral infection which was found in 32 (2%) patients and infestations was found in 64 (4%) patients in the present study. In a study conducted by Jain et al showed similar findings to the present study and found that fungal diseases was the most common

infection (13%), which was followed by bacterial and viral infections and infestations [7].

Among fungal infections tinea cruris was most common fungal infection and present in 79 patients which was followed by tinea corporis. Among bacterial infections impetigo was most common finding and present in 41 patients which was followed by furuncle in 30 patients. Among viral infections warts were most common presentation and present in 19 patients which was followed by herpes zoster in 8 patients. Scabies was the most common manifestation which was present in 56 patients. Similar results were also found in a study conducted by Rao et al, found that fungal diseases was the most common infection (22%), which was followed by bacterial and viral infections and infestations [8].

In present study, the most common presentation was skin infections present among 416 (23.66%) patients. After skin infections the next common finding was

eczema which was present among 256 (16%) patients which was followed by contact dermatitis among 192 (12%) patients, which was followed by urticaria found in 168 (10.5%) patients and which was followed by xerosis present in 144 (9%) patients which followed by acne found in 128 (8%). A study conducted by Verma S et al reported that worsening of the presenting symptoms was reported among few study participants due to self-medication and use of oral or topical steroid for prolonged time. Recurrence was also reported among few cases due to non-adherence of treatment. They reported that occupational history and climatic conditions were significantly associated with skin diseases [9]. Similar results were found in a study conducted by Bhatia R et al on a study of skin diseases from occupational exposure [10].

In the present study, Hair disorders was present in 120 (7.5%) cases which was followed by atopic dermatitis present in 96 (6%) cases. Post inflammatory changes were seen in 64 (4%), vitiligo was present in 32 (2%) cases followed by P.alba in 24 (1.5%) cases which was followed by psoriasis found in 16 (1%) patients. Oral lesions, nutritional disorders and pemphigus vulgaris were present in 16 (1%) patients respectively, keratosis pilaris and melasma was present in 8 (0.5%) patients, keloid was found in 4 (0.25%) patients and hypertrophic scar was present in 2 (0.125%) cases. Similar results were found in a study conducted by Sharma R et al on a study of skin diseases and epidemiological assessment of acne vulgaris [11]. Another study conducted by Kar et al concluded that skin disease associated with socioeconomic status, occupation, age and gender of the patients [12].

### Conclusion

We concluded from the present study that the most common presentation was skin infections present among study patients. Fungal diseases were the most common

infection and eczema and contact dermatitis were seen more commonly and scabies was the most common infestation. The climate, occupation, socio-economic status, gender and age of the patient were associated in the occurrence of skin diseases.

### References

1. Kelbore AG, Owiti P, Reid AJ, Bogino EA, Wondewosen L, Dessu BK. Pattern of skin diseases in children attending a dermatology clinic in a referral hospital in Wolaita Sodo, southern Ethiopia. *BMC Dermatol* [Internet]. 2019 Dec 8;19(1):5.
2. Abd El Aal NH, Mostafa LA, Farag AS, Hassan SH. Epidemiological study of infectious skin diseases among Egyptian school children in urban and rural areas. *J Egypt Women's Dermatologic Soc* [Internet]. 2013 Jan;10(1):42–6.
3. Vakirlis E, Theodosiou G, Apalla Z, Arabatzis M, Lazaridou E, Sotiriou E, et al. A retrospective epidemiological study of skin diseases among pediatric population attending a tertiary dermatology referral center in Northern Greece. *Clin Cosmet Investig Dermatol* [Internet]. 2017 Apr; Volume 10:99–104.
4. Hay R, Bendeck SE, Chen S, Estrada R, Haddix A, McLeod T, et al. Skin Diseases [Internet]. *Disease Control Priorities in Developing Countries. The International Bank for Reconstruction and Development / The World Bank*; 2006.
5. Gaulding J V, Gutierrez D, Bhatia BK, Han X, Krajenta R, Neslund-Dudas C, et al. Epidemiology of Skin Diseases in a Diverse Patient Population. *J Drugs Dermatol* [Internet]. 2018 Oct 1;17(10):1032–6.
6. Grover S, Ranyal RK, Bedi MK. A cross section of skin diseases in rural Allahabad. *Indian J Dermatol* [Internet]. 2008;53(4):179–81.
7. Jain S, Barambhe M, Jain J, Jajoo U, Pandey N. Prevalence of skin diseases in

- rural Central India: A community-based, cross-sectional, observational study. *J Mahatma Gandhi Inst Med Sci* [Internet]. 2016;21(2):111.
8. Rao GS, Kumar SS, Sandhya. Pattern of skin diseases in an Indian village. *Indian J Med Sci* [Internet]. 2003 Mar;57(3):108–10.
  9. Verma S, Madhu R. The Great Indian Epidemic of Superficial Dermatophytosis: An Appraisal. *Indian J Dermatol* [Internet]. 2017;62(3):227–36.
  10. Bhatia R, Sharma V. Occupational dermatoses: An Asian perspective. *Indian J Dermatology, Venereol Leprol* [Internet]. 2017;83(5):525.
  11. Sharma R, Dogra S, Singh A, Kanwar A. Epidemiological patterns of acne vulgaris among adolescents in North India: A cross-sectional study and brief review of literature. *Indian J Paediatr Dermatology* [Internet]. 2017;18(3):196.
  12. Kar C, Das S, Roy AK. Pattern of skin diseases in a tertiary institution in kolkata. *Indian J Dermatol* [Internet]. 2014 Mar;59(2):209.