

# Trends in Inpatient Dermatology and The Impact of the COVID-19 Pandemic at A Tertiary Care Facility in Western India

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DOI: 10.55489/njcm.150720243911

## ABSTRACT

**Background:** Little is known regarding the effect of the coronavirus pandemic on the characteristics of dermatology admissions, particularly in the Indian context. **Objectives:** To conduct a retrospective analysis of the discharge records of all patients admitted to a tertiary care centre in Western India from 1 January 2019 to 31 December 2022.

**Methods:** Patient records were reviewed and compiled. Diagnoses were grouped to achieve consistency with international studies. Finally, the effect of COVID on admissions was determined. Data samples were assessed using descriptive statistics. Continuous variables were expressed as median or mean. The student's t-test and chi-square test were utilised to investigate wherever appropriate.

**Results:** Inpatient care was required for 1,817 patients. Males (1000, 55.04%) were significantly more likely to be admitted than females (817, 44.96%). The leading causes of hospitalisation were bacterial infections (26.42%), vesiculobullous disorders (17.45%), and psoriasiform disorders (11.34%). The greatest number of admissions occurred in 2019, followed by a substantial decline in 2020. Admission rates for vesiculobullous disorders, psoriasiform disorders, and malignancies were significantly higher during the pandemic period.

**Conclusions:** Our study offers an analysis of the impact of the coronavirus pandemic on the patient profiles of patients admitted to a dermatology ward.

**Keywords:** Inpatient dermatology, Covid-19, Epidemiological trends

## ARTICLE INFO

**Financial Support:** None declared

**Conflict of Interest:** None declared

**Received:** 11-03-2024, **Accepted:** 22-05-2024, **Published:** 01-07-2024

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**How to cite this article:** Manoj R, Ghosh A, Puttur N, Garg P, Singh S, Jakhar A, Bhosale K, Roy D, Gupta A. Trends in Inpatient Dermatology and The Impact of the COVID-19 Pandemic at A Tertiary Care Facility in Western India. Natl J Community Med 2024;15(7):585-590. DOI: 10.55489/njcm.150720243911

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www.njcmindia.com | pISSN: 0976-3325 | eISSN: 2229-6816 | Published by Medsci Publications

## INTRODUCTION

Dermatology is primarily an outpatient speciality. Nevertheless, several severe, complicated, and/or chronic dermatological conditions require hospitalisation for clinical monitoring, parenteral therapy, or advanced nursing care.<sup>1</sup> Despite its importance, little is known about the characteristics of dermatology admissions, particularly in the Indian context.<sup>2,6</sup> Furthermore, most previous studies have focused on admissions for a few specific skin diseases, such as psoriasis, hidradenitis suppurativa, and/or bullous pemphigoid.<sup>7</sup>

## METHODOLOGY

We therefore performed a retrospective analysis of the discharge records of all patients admitted to a tertiary care centre in Western India between 1st January, 2019 and 31st December, 2022, after obtaining institutional ethical approval (Ref. No.: I.E.S.C./214/2023). The records of each patient were accessed and reviewed to compile information on age, gender, length of stay, diagnosis, and mortality. Diagnoses were grouped to achieve consistency with international studies.<sup>5</sup> Multiple hospitalizations of the same patient were considered separate cases. Additionally, the effect of COVID-19 on admissions was determined. Patients were divided into two groups based on admission dates: (a) pre/post-pandemic period (1st January 2019 - 31st January 2020 and 1st March 2021 - 31st December 2022) and (b) pandemic period (1st February 2020 - 28th February 2021). Data pre-processing was done using Python and the Pandas library. The characteristics of the data sample were assessed using descriptive statistics. Continuous variables were expressed as median (along with 25 to 75 percentiles) or mean (along with standard deviation). The student's t-test was used with 95% confidence to compare and investigate potential differences in treatment duration among age groups. The relationship between gender and disease was evaluated using the chi-squared test. Values with  $p < 0.05$  were deemed statistically significant.

## RESULTS

There were 228,275 outpatient visits to the dermatology department (71,224 in 2019, 33,877 in 2020, 57,325 in 2021, and 65,849 in 2022) during the study period. Of these, 1,817 (0.8%) needed inpatient care. Males (1,000, 55.04%) were significantly more likely to be admitted than females (817, 44.96%), relative to the city's demographics ( $p = 0.005$ ). However, significantly more females were admitted for vesiculobullous, connective tissue, and photosensitive disorders ( $p = 0.001$ ). The mean age of the patients at admission was  $38.54 \pm 16.45$  (range: 3 to 94) years, with almost no variability across genders (males:  $39.15 \pm 16.57$ , females  $37.84 \pm 16.33$  years) or dis-

eases. Table 1 provides a detailed demographic breakdown of the study population. There was a total of five deaths (two adverse drug reactions, one pemphigus vulgaris, one pyoderma gangrenosum, and one leprosy reaction).

The most common reasons for hospitalisation were bacterial infections (26.42%) (primarily leprosy), vesiculobullous disorders (17.45%), and psoriasisiform disorders (11.34%).

The mean length of admission was  $9.6 \pm 10.2$  (median: 6; range: 1 to 81) days (Figure 1). Among diseases with more than 10 patients, mycetoma was associated with the longest median hospital stay (11 days), followed by leprosy (10 days). In contrast, patients with angioedema (4 patients, median hospital stay 1 day) and syphilis (87 patients, median hospital stay 2 days) had the shortest median hospital stays. The median length of stay for paediatric patients was four days, while adults and elderly patients were admitted for six and nine days, respectively. The highest number of admissions occurred in 2019, followed by a significant decline in 2020 and a gradual increase in subsequent years (747 (1.05%) in 2019, 207 (0.61%) in 2020, 406 (0.71%) in 2021, and 457 (0.7%) in 2022). This decline was most likely attributable to the coronavirus pandemic. Further analysis of the pandemic's effect on disease-specific admission patterns revealed that admission rates for vesiculobullous disorders, psoriasisiform disorders, and malignancies were significantly higher during the pandemic period ( $p$  values of 0.04, 0.02, and 0.03, respectively; Table 2). In contrast, admission rates for bacterial infections and dermatitis were significantly lower ( $p$  values of 0.01 and 0.05, respectively) (Figure 2).

## DISCUSSION

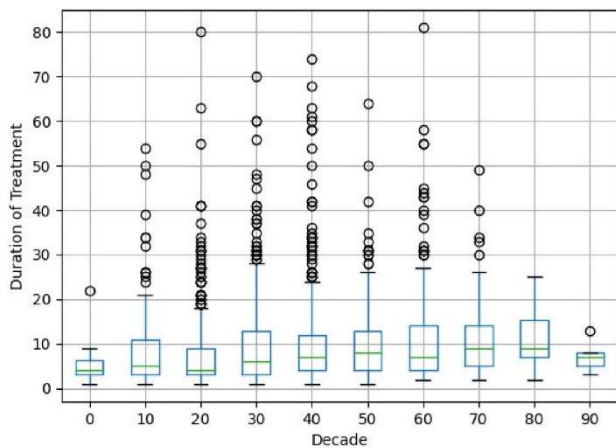
This study provides detailed information regarding the admissions profile of a dermatology ward at a tertiary care facility in Western India. In comparison to the gender ratio of the city (984 females per 1000 males), significantly more males were admitted during our study (55.04%). The mean age of our patients (38.54) was comparable to studies from Nepal and South Africa but lower than studies from India and the United Kingdom.<sup>2</sup> The pattern of diagnoses among our inpatients differed significantly from that observed in the West, where dermatitis, psoriasis, chronic wounds, and skin neoplasms are prevalent.<sup>8-10</sup> Dermatitis, which has been reported as the most common admission diagnosis (16–44%) in Western studies,<sup>8-10</sup> accounted for 6.8% of our admissions compared to 2.9% and 5% in the other Indian studies, as a result of the decreased severity of atopic dermatitis in the skin of colour.<sup>2,11</sup> Similarly, malignancies comprised only 0.83% of our admissions, which is comparable to the North Indian study's 1.8% but significantly less than 6–36% of Western admissions.<sup>8-11</sup>

**Table 1: Total number of admissions for each diagnosis**

| <b>Diagnosis</b>  | <b>Count (% of Total)</b> | <b>Females-Males</b> | <b>Median duration of stay (q1-q3)</b> |
|---|---------------------------|----------------------|--|
| <b>Bacterial infections</b>                               | 480(26.42)                | 176-304              | 8.0(4.0-15.0)                          |
| Leprosy   | 412(22.67)                | 153-259              | 10.0(5.0-17.0)                         |
| Cellulitis  | 38(2.09)                  | 16-22                | 5.5(4.0-8.0)                           |
| Carbuncle   | 16(0.88)                  | 5-11                 | 3.0(2.0-5.25)                          |
| Furuncle  | 14(0.77)                  | 2-12                 | 3.0(2.0-4.0)                           |
| <b>Vesicobullous disorders</b>                            | 317(17.45)                | 194-123              | 6.0(4.0-13.0)                          |
| Pemphigus vulgaris  | 230(12.66)                | 148-82               | 5.0(3.0-12.0)                          |
| Bullous pemphigoid  | 39(2.15)                  | 15-24                | 9.0(5.0-15.0)                          |
| Pemphigus foliaceus                                       | 29(1.6)                   | 17-12                | 5.0(3.0-11.0)                          |
| Dermatitis herpetiformis                                  | 19(1.05)                  | 14-5                 | 6.0(3.0-9.0)                           |
| <b>Psoriasisiform disorders</b>                           | 206(11.34)                | 84-122               | 6.0(3.0-12.0)                          |
| Psoriasis   | 188(10.35)                | 75-113               | 7.0(3.0-13.25)                         |
| Pleva   | 11(0.61)                  | 7-4                  | 5.0(2.5-5.0)                           |
| Pityriasis rubra pilaris                                  | 6(0.33)                   | 1-5                  | 6.5(5.0-9.5)                           |
| Pityriasis rosea  | 1(0.06)                   | 1-0                  | 7.0(7.0-7.0)                           |
| <b>Dermatitis</b>   | 124(6.82)                 | 43-81                | 6.0(3.0-10.0)                          |
| Allergic contact dermatitis                               | 81(4.46)                  | 30-51                | 7.0(4.0-12.0)                          |
| Irritant contact dermatitis                               | 21(1.16)                  | 9-12                 | 6.0(4.0-8.0)                           |
| Stasis dermatitis   | 13(0.72)                  | 1-12                 | 6.0(4.0-10.0)                          |
| Nummular allergic contact dermatitis                      | 8(0.44)                   | 3-5                  | 2.0(2.0-5.0)                           |
| Lichen simplex chronicus                                  | 1(0.06)                   | 0-1                  | 10.0(10.0-10.0)                        |
| <b>Connective tissue disorders</b>                        | 121(6.66)                 | 72-49                | 6.0(4.0-10.0)                          |
| Systemic lupus erythematosus                              | 60(3.3)                   | 34-26                | 5.0(3.0-9.0)                           |
| Systemic sclerosis  | 22(1.21)                  | 16-6                 | 8.5(4.0-13.75)                         |
| Dermatomyositis   | 11(0.61)                  | 6-5                  | 8.0(5.0-12.5)                          |
| Morphea   | 10(0.55)                  | 5-5                  | 5.0(2.5-6.75)                          |
| Scleroderma   | 9(0.5)                    | 6-3                  | 9.0(4.0-11.0)                          |
| Mctd  | 7(0.39)                   | 5-2                  | 5.0(3.5-12.5)                          |
| Sarcoidosis   | 2(0.11)                   | 0-2                  | 3.5(3.25-3.75)                         |
| <b>Sexually transmitted infections</b>                    | 117(6.44)                 | 26-91                | 3.0(1.0-7.0)                           |
| Syphilis  | 87(4.79)                  | 17-70                | 2.0(1.0-6.0)                           |
| Chancroid   | 17(0.94)                  | 7-10                 | 5.0(3.0-7.0)                           |
| Reactive arthritis  | 6(0.33)                   | 0-6                  | 4.0(4.0-7.75)                          |
| Genital herpes  | 5(0.28)                   | 1-4                  | 6.0(3.0-9.0)                           |
| Giant molluscum contagiosum                               | 2(0.11)                   | 1-1                  | 26.0(16.5-35.5)                        |
| <b>Reactive erythema</b>                                  | 80(4.4)                   | 35-45                | 5.0(2.75-7.25)                         |
| Adverse drug reactions                                    | 63(3.47)                  | 28-35                | 4.0(2.0-6.0)                           |
| Toxic epidermal necrolysis                                | 6(0.33)                   | 1-5                  | 13.0(4.75-19.75)                       |
| Steven johnson syndrome                                   | 6(0.33)                   | 3-3                  | 5.5(5.0-6.0)                           |
| Erythema multiforme                                       | 4(0.22)                   | 3-1                  | 6.0(2.75-11.5)                         |
| Dress syndrome  | 1(0.06)                   | 0-1                  | 10.0(10.0-10.0)                        |
| <b>Neutrophilic, eosinophilic and mast cell disorders</b> | 77(4.24)                  | 45-32                | 4.0(2.0-9.0)                           |
| Urticaria   | 45(2.48)                  | 23-22                | 3.0(2.0-5.0)                           |
| Pyoderma gangrenosum                                      | 21(1.16)                  | 14-7                 | 9.0(7.0-13.0)                          |
| Sweets syndrome   | 7(0.39)                   | 5-2                  | 6.0(3.0-10.0)                          |
| Angioedema  | 4(0.22)                   | 3-1                  | 1.0(1.0-1.5)                           |
| <b>Miscellaneous</b>                                      | 65(3.58)                  | 36-29                | 5.0(3.0-8.0)                           |
| Burns   | 30(1.65)                  | 18-12                | 5.5(3.0-8.75)                          |
| Photodermatitis   | 20(1.1)                   | 14-6                 | 3.5(3.0-6.0)                           |
| Pellagra  | 8(0.44)                   | 1-7                  | 5.0(4.25-6.0)                          |
| Actinic reticuloid  | 5(0.28)                   | 1-4                  | 7.0(4.0-8.0)                           |
| Hidradenitis suppurativa                                  | 2(0.11)                   | 2-0                  | 9.0(7.0-11.0)                          |
| <b>Erythroderma</b>                                       | 58(3.19)                  | 29-29                | 10.0(5.0-17.0)                         |
| Erythroderma  | 58(3.19)                  | 29-29                | 10.0(5.0-17.0)                         |
| <b>Lichenoid and granulomatous disorders</b>              | 40(2.2)                   | 19-21                | 4.0(3.0-6.0)                           |
| Lichen planus   | 40(2.2)                   | 19-21                | 4.0(3.0-6.0)                           |
| <b>Viral infections</b>                                   | 36(1.98)                  | 14-22                | 5.0(3.0-8.25)                          |
| Herpes zoster   | 36(1.98)                  | 14-22                | 5.0(3.0-8.25)                          |
| <b>Fungal infections</b>                                  | 25(1.38)                  | 17-8                 | 7.0(6.0-15.0)                          |
| Mycetoma  | 16(0.88)                  | 12-4                 | 11.0(5.5-22.0)                         |
| Candidal balanoposthitis                                  | 8(0.44)                   | 4-4                  | 7.0(6.75-7.0)                          |
| Kerion  | 1(0.06)                   | 1-0                  | 5.0(5.0-5.0)                           |
| <b>Infestation, bites, and stings</b>                     | 22(1.21)                  | 9-13                 | 4.0(3.0-5.0)                           |
| Scabies   | 17(0.94)                  | 6-11                 | 3.0(2.0-5.0)                           |
| Filariasis  | 5(0.28)                   | 3-2                  | 6.0(5.0-9.0)                           |
| <b>Vascular disorders</b>                                 | 19(1.05)                  | 8-11                 | 8.0(4.0-12.0)                          |
| Vasculitis  | 16(0.88)                  | 6-10                 | 8.0(4.0-12.75)                         |
| Henoch-shonlein purpura                                   | 3(0.17)                   | 2-1                  | 11.0(7.0-11.5)                         |
| <b>Neoplasia</b>  | 15(0.83)                  | 8-7                  | 8.0(3.0-10.5)                          |
| Basal cell carcinoma                                      | 11(0.61)                  | 5-6                  | 10.0(4.5-10.5)                         |
| Mycosis fungoides   | 3(0.17)                   | 2-1                  | 3.0(2.5-3.0)                           |
| Squamous cell carcinoma                                   | 1(0.06)                   | 1-0                  | 17.0(17.0-17.0)                        |
| <b>Disorders of cornification</b>                         | 8(0.44)                   | 1-7                  | 5.5(3.75-10.5)                         |
| Darier diseases   | 5(0.28)                   | 1-4                  | 4.0(3.0-5.0)                           |
| Porokeratosis   | 3(0.17)                   | 0-3                  | 12.0(11.0-13.0)                        |
| <b>Genodermatoses</b>                                     | 7(0.39)                   | 1-6                  | 4.0(3.5-6.5)                           |
| Neurofibromatosis   | 7(0.39)                   | 1-6                  | 4.0(3.5-6.5)                           |

**Table 2: Number of admissions during the pandemic, versus the pre/post-pandemic period**

| <b>Diagnosis</b>  | <b>Pandemic (%)</b> | <b>Pre/post pandemic (%)</b> | <b>P value</b> |
|---|---------------------|------------------------------|----------------|
| <b>Bacterial infections</b>                               | 51(20.08)           | 429(27.45)                   | 0.01           |
| Leprosy   | 46(18.11)           | 366(23.42)                   | 0.06           |
| Cellulitis  | 3(1.18)             | 35(2.24)                     | 0.27           |
| Carbuncle   | 2(0.79)             | 14(0.9)                      | 0.86           |
| Furuncle  | 0(0.0)              | 14(0.9)                      | 0.13           |
| <b>Vesicobullous disorders</b>                            | 56(22.05)           | 261(16.7)                    | 0.04           |
| Pemphigus vulgaris  | 41(16.14)           | 189(12.09)                   | 0.07           |
| Bullous pemphigoid  | 6(2.36)             | 33(2.11)                     | 0.8            |
| Pemphigus foliaceus                                       | 6(2.36)             | 23(1.47)                     | 0.29           |
| Dermatitis herpetiformis                                  | 3(1.18)             | 16(1.02)                     | 0.82           |
| <b>Psoriasisiform disorders</b>                           | 40(15.75)           | 166(10.62)                   | 0.02           |
| Psoriasis   | 36(14.17)           | 152(9.72)                    | 0.03           |
| Pityriasis lichenoides et varioliformis                   | 2(0.79)             | 9(0.58)                      | 0.69           |
| Pityriasis rubra pilaris                                  | 2(0.79)             | 4(0.26)                      | 0.17           |
| Pityriasis rosea  | 0(0.0)              | 1(0.06)                      | 0.69           |
| <b>Dermatitis</b>   | 10(3.94)            | 114(7.29)                    | 0.05           |
| Allergic contact dermatitis                               | 6(2.36)             | 75(4.8)                      | 0.08           |
| Irritant contact dermatitis                               | 2(0.79)             | 19(1.22)                     | 0.55           |
| Stasis dermatitis   | 2(0.79)             | 11(0.7)                      | 0.88           |
| Nummular allergic contact dermatitis                      | 0(0.0)              | 8(0.51)                      | 0.25           |
| Lichen simplex chronicus                                  | 0(0.0)              | 1(0.06)                      | 0.69           |
| <b>Connective tissue disorders</b>                        | 18(7.09)            | 103(6.59)                    | 0.77           |
| Systemic lupus erythematosus                              | 6(2.36)             | 54(3.45)                     | 0.37           |
| Systemic sclerosis  | 3(1.18)             | 19(1.22)                     | 0.96           |
| Dermatomyositis   | 1(0.39)             | 10(0.64)                     | 0.64           |
| Morphea   | 3(1.18)             | 7(0.45)                      | 0.14           |
| Scleroderma   | 3(1.18)             | 6(0.38)                      | 0.09           |
| Mixed connective tissue disease                           | 1(0.39)             | 6(0.38)                      | 0.98           |
| Sarcoidosis   | 1(0.39)             | 1(0.06)                      | 0.14           |
| <b>Sexually transmitted infections</b>                    | 13(5.12)            | 104(6.65)                    | 0.36           |
| Syphilis  | 9(3.54)             | 78(4.99)                     | 0.32           |
| Chancroid   | 2(0.79)             | 15(0.96)                     | 0.79           |
| Reactive arthritis  | 2(0.79)             | 4(0.26)                      | 0.17           |
| Genital herpes  | 0(0.0)              | 5(0.32)                      | 0.37           |
| Giant molluscum contagiosum                               | 0(0.0)              | 2(0.13)                      | 0.57           |
| <b>Reactive erythema</b>                                  | 15(5.91)            | 65(4.16)                     | 0.21           |
| Adverse drug reactions                                    | 11(4.33)            | 52(3.33)                     | 0.42           |
| Toxic epidermal necrolysis                                | 2(0.79)             | 4(0.26)                      | 0.17           |
| Stevens johnson syndrome                                  | 1(0.39)             | 5(0.32)                      | 0.85           |
| Erythema multiforme                                       | 1(0.39)             | 3(0.19)                      | 0.52           |
| Drug reaction eosinophilia and systemic symptoms syndrome | 0(0.0)              | 1(0.06)                      | 0.69           |
| <b>Neutrophilic, eosinophilic and mast cell disorders</b> | 12(4.72)            | 65(4.16)                     | 0.68           |
| Urticaria   | 8(3.15)             | 37(2.37)                     | 0.46           |
| Pyoderma gangrenosum                                      | 4(1.57)             | 17(1.09)                     | 0.5            |
| Sweets syndrome   | 0(0.0)              | 7(0.45)                      | 0.29           |
| Angioedema  | 0(0.0)              | 4(0.26)                      | 0.42           |
| <b>Miscellaneous</b>                                      | 8(3.15)             | 57(3.65)                     | 0.69           |
| Burns   | 1(0.39)             | 29(1.86)                     | 0.09           |
| Photodermatitis   | 3(1.18)             | 17(1.09)                     | 0.89           |
| Pellagra  | 4(1.57)             | 4(0.26)                      | 0              |
| Actinic reticuloid  | 0(0.0)              | 5(0.32)                      | 0.37           |
| Hidradenitis suppurativa                                  | 0(0.0)              | 2(0.13)                      | 0.57           |
| <b>Erythroderma</b>                                       | 10(3.94)            | 48(3.07)                     | 0.47           |
| Erythroderma  | 10(3.94)            | 48(3.07)                     | 0.47           |
| <b>Lichenoid and granulomatous disorders</b>              | 3(1.18)             | 37(2.37)                     | 0.23           |
| Lichen planus   | 3(1.18)             | 37(2.37)                     | 0.23           |
| <b>Viral infections</b>                                   | 4(1.57)             | 32(2.05)                     | 0.62           |
| Herpes zoster   | 4(1.57)             | 32(2.05)                     | 0.62           |
| <b>Fungal infections</b>                                  | 1(0.39)             | 24(1.54)                     | 0.15           |
| Mycetoma  | 1(0.39)             | 15(0.96)                     | 0.37           |
| Candidal balanoposthitis                                  | 0(0.0)              | 8(0.51)                      | 0.25           |
| Kerion  | 0(0.0)              | 1(0.06)                      | 0.69           |
| <b>Infestation, bites, and stings</b>                     | 7(2.76)             | 15(0.96)                     | 0.02           |
| Scabies   | 3(1.18)             | 14(0.9)                      | 0.66           |
| Filariasis  | 4(1.57)             | 1(0.06)                      | 0              |
| <b>Vascular disorders</b>                                 | 0(0.0)              | 19(1.22)                     | 0.08           |
| Vasculitis  | 0(0.0)              | 16(1.02)                     | 0.11           |
| Henoch-shonlein purpura                                   | 0(0.0)              | 3(0.19)                      | 0.48           |
| <b>Neoplasia</b>  | 5(1.97)             | 10(0.64)                     | 0.03           |
| Basal cell carcinoma                                      | 5(1.97)             | 6(0.38)                      | 0              |
| Mycosis fungoides   | 0(0.0)              | 3(0.19)                      | 0.48           |
| Squamous cell carcinoma                                   | 0(0.0)              | 1(0.06)                      | 0.69           |
| <b>Disorders of cornification</b>                         | 1(0.39)             | 7(0.45)                      | 0.9            |
| Darier diseases   | 1(0.39)             | 4(0.26)                      | 0.7            |
| Porokeratosis   | 0(0.0)              | 3(0.19)                      | 0.48           |
| <b>Genodermatoses</b>                                     | 0(0.0)              | 7(0.45)                      | 0.29           |
| Neurofibromatosis   | 0(0.0)              | 7(0.45)                      | 0.29           |



**Figure 1:** Boxplot for distribution of duration of admission versus ages rounded off to greatest decade lower than age. Note that there is a slight increase in median treatment time with age.

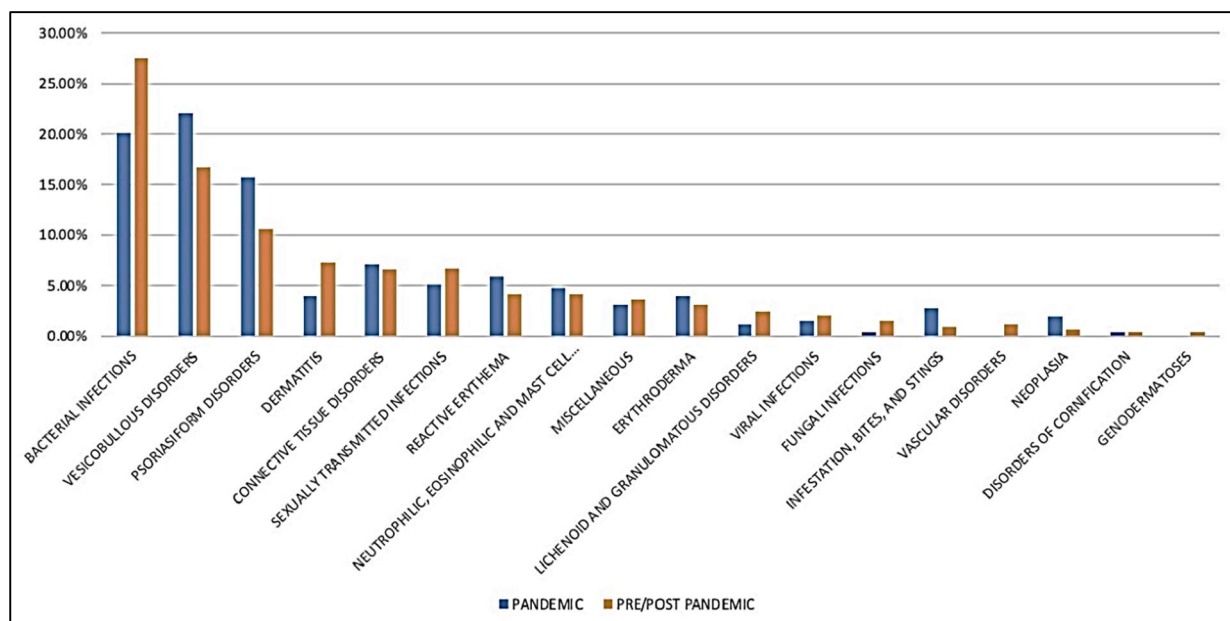
Although information regarding the profile of inpatient dermatology in India is limited, immunobullous disorders have been identified as one of the most prevalent conditions in reports from East and North India, as was the case in our study.<sup>2,11-13</sup> The higher number of leprosy cases in our study could be attributed to the close proximity of a large number of leprosy homes, which frequently refer released-from-treatment patients to our facility for ulcer, reaction, and physical rehabilitation. Furthermore, the dedicated inpatient rheumatology services at our hospital may be the reason for the lower proportion of patients admitted with connective tissue disorders.

The mean hospital stay of 9.6 days in our study was comparable to the average hospital stays of 7, 10, and 11 days found in studies conducted in Spain, Australia, and the United Kingdom.<sup>5,6,9</sup> Studies from

the United States<sup>8</sup> report shorter hospital stays of four days, whereas studies from India,<sup>11</sup> Brazil,<sup>10</sup> and South Africa<sup>10</sup> report longer hospital stays of thirteen, fourteen, and over twenty days.<sup>13</sup> Significant differences in the duration of hospital stays within the same country could be due to different admission protocols and costs. For instance, the other two Indian studies were conducted in government hospitals with minimal healthcare costs.<sup>2,11</sup> Our patients with mycetoma and leprosy had lengthy hospital stays as a result of multiple diagnostic procedures and prolonged treatment. However, patients with immunobullous disorders had relatively brief hospital stays, averaging 6 days, compared to the 11 and 22 days reported in other studies.<sup>2,9,11,13</sup> This may be because the vast majority of immunobullous disorder patients in our centre are admitted solely for rituximab infusions. Similarly, the short duration of admissions for syphilis and angioedema may be attributable to the patients receiving only penicillin and hydrocortisone injections, respectively.

Significantly fewer patients were admitted to hospitals during the pandemic, especially those with dermatitis and bacterial infections. However, vesiculobullous disorders, psoriasis, and neoplasia were significantly more common. These results suggest that patients with relatively treatable complaints or diseases preferred not to leave their homes during the pandemic.<sup>14</sup> In addition, even though the number of admissions has increased with each passing year, it has not yet reached pre-pandemic levels.

Our study is limited by its retrospective design and the inability of our hospital information system to track readmissions beyond seven days. In addition, information not routinely recorded on the discharge sheets, such as comorbidities, disease severity, patient residence, socioeconomic status, and admission source, could not be analysed.



**Fig 2: Percentage of admission during pandemic vs post pandemic period**

## CONCLUSION

Our study offers a profile of patients admitted to a dermatology ward of a private tertiary care centre, as well as the impact of the coronavirus pandemic. The large number of admissions observed in our study underscores the importance of a specialised dermatological unit within a tertiary care facility. This analysis is a useful administrative tool for determining the optimal number of medical personnel needed to meet patient demand. This data can serve as a reference point for future studies and research, aiding in the identification of emerging trends and assessing the efficacy of therapeutic approaches.

## REFERENCES

1. Lis-Święty A, Niewiedziol M, Ciulkin K, Niemczyk W, Paciorek S, Więckowska B, Drożdżikowska A. Inpatient care for patients with skin conditions in Poland—hospitalization and patient characteristics. *Dermatology Review/Przegląd Dermatologiczny*. 2021;108(1):1-5.
2. Sen A, Chowdhury S, Poddar I, Bandyopadhyay D. Inpatient dermatology: characteristics of patients and admissions in a tertiary level hospital in eastern India. *Indian Journal of Dermatology*. 2016 Sep;61(5):561.
3. Ayyalaraju RS, Finlay AY. Inpatient dermatology. United Kingdom and United States similarities: Moving with the times or being relegated to the back bench? *Dermatol Clin* 2000;18:397-404, vii-viii.
4. Ferguson JA, Goldacre MJ, Newton JN, Dawber RP. An epidemiological profile of in-patient workload in dermatology. *Clin Exp Dermatol* 1992;17:407-12.
5. Munro CS, Lowe JG, McLoone P, White MI, Hunter JA. The value of in-patient dermatology: A survey of in-patients in Scotland and Northern England. *Br J Dermatol* 1999;140:474-9.
6. Bale J, Chee P. Inpatient dermatology: Pattern of admissions and patients' characteristics in an Australian hospital. *Australian Journal of Dermatology*. 2014 Aug;55(3):191-5.
7. Cuenca-Barrales C, de Vega-Martínez M, Descalzo-Gallego MÁ, García-Doval I. Inpatient dermatology: Where are we headed? A nationwide population-based study of Spain from 2006 to 2016. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2021 May;19(5):707-17.
8. Storan ER, McEvoy MT, Wetter DA, El-Azhary RA, Bridges AG, Camilleri MJ, et al. Experience with the dermatology inpatient hospital service for adults: Mayo Clinic, 2000-2010. *J Eur Acad Dermatol Venereol* 2013;27:1360-5.
9. García-Doval I, Feal C, Rosón E, Abalde MT, Flórez A, Cruces MJ. Inpatient dermatology: Characteristics of patients and admissions in a Spanish hospital. *J Eur Acad Dermatol Venereol* 2002;16:334-8.
10. de Paula Samorano-Lima L, Quitério LM, Sanches JA, Neto CF. Inpatient dermatology: Profile of patients and characteristics of admissions to a tertiary dermatology inpatient unit in São Paulo, Brazil. *Int J Dermatol* 2014;53:685-91 PubMed .
11. Gupta V, Gupta S, Kharghoria G, Pathak M, Sharma VK. Profile of dermatology inpatients and admissions over a four year period in a tertiary level government teaching hospital in North India. *Indian J Dermatol Venereol Leprol*. 2022 May-Jun;88(3):342-348.
12. Hasan S, Farshad F, Negin S, Parastoo D, Farzam G. Patterns of admissions to a Referral Skin Hospital in Iran. *Iran J Dermatol* 2008;11:156-8.
13. Jessop S, McKenzie R, Milne J, Rapp S, Sobey G. Pattern of admissions to a tertiary dermatology unit in South Africa. *Int J Dermatol* 2002;41:568-70.
14. Tanacan E, Aksoy Sarac G, Emeksiz MAC, Dincer Rota D, Erdogan FG. Changing trends in dermatology practice during COVID-19 pandemic: A single tertiary center experience. *Dermatol Ther*. 2020 Nov;33(6):e14136.
15. Finlay AY, Anstey AV. Dermatology inpatient care in the UK: Rarely possible, hard to defend but occasionally essential. *Br J Dermatol* 2019;180:440-2.