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Epidemiological Profile of Common Dermatoses in a Semi-Urban Tertiary Care Setting in South India: A Cross-Sectional Analysis

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ABSTRACT

Background: Skin disorders contribute substantially to morbidity in tropical settings, with disease patterns shaped by climate, socioeconomic context, and population characteristics. Local epidemiological data are essential to guide service planning and prevention strategies in semi-urban regions of South India.
Methods: A hospital-based, cross-sectional study was conducted in the dermatology outpatient department of a tertiary care centre in Sriperumbudur, Tamil Nadu, between January and May 2025. Consecutive patients aged 1–70 years (N = 515) were evaluated using a structured proforma capturing demographic and socioeconomic details (Kuppuswamy scale), clinical history, and standardized dermatological examination. Diagnoses were established clinically and supported by laboratory or histopathology where indicated. Data were analysed using descriptive statistics and chi-square tests; $p < 0.05$ denoted statistical significance.
Results: The mean age was 35.96 ± 18.43 years, with a slight female predominance (52.8%). Students (28.7%) and daily-wage workers (28.0%) were the most represented occupational groups; 74.6% belonged to lower socioeconomic classes (IV–V). Diabetes mellitus (19.6%) and hypertension (10.1%) were the commonest comorbidities. Eczematous disorders were most frequent (28.0%), followed by fungal infections (22.7%) and bacterial infections (9.5%); infectious dermatoses comprised 35.1% of presentations. Dermatosis patterns varied significantly by age ($p < 0.001$), with fungal infections predominating in children under 10 years and a rising burden of chronic/degenerative conditions with advancing age. Distribution did not differ by sex ($p = 0.999$).
Conclusions: In this semi-urban tertiary care setting, eczematous and infectious dermatoses account for the majority of consultations, with strong associations with age and socioeconomic disadvantage. The findings support targeted hygiene promotion, occupational risk mitigation, age-tailored dermatological care, and integrated management of skin disease alongside common metabolic comorbidities.

Keywords: *Dermatoses; Clinicodemographic pattern; Eczematous disorders; Cutaneous infections; Socioeconomic determinants; Tertiary care dermatology.*

INTRODUCTION

Skin disorders are among the most frequent reasons for outpatient visits in routine clinical practice and contribute substantially to non-fatal illness across populations. The Global Burden of Disease estimates have shown that skin and subcutaneous conditions together account for a large share of years lived with disability worldwide, with countries in South and Southeast Asia carrying a disproportionate part of this burden. In the Indian setting, skin diseases remain a common cause of morbidity and healthcare utilization, shaped by climate, crowding, and uneven access to care (1, 2).

The types of dermatoses seen in daily practice differ widely between regions. In tropical areas, heat and humidity favour the occurrence and persistence of superficial fungal and bacterial infections. At the same time, changes in occupation and

lifestyle with increasing urbanization appear to be contributing to a rising load of eczematous and contact-related skin conditions. Living conditions, education, hygiene practices, and health-seeking behaviour also play a role in determining who presents to care and at what stage of disease. Previous Indian studies have reported considerable variation in the balance between infectious and non-infectious dermatoses across rural, tribal, and urban populations, suggesting that local factors strongly influence disease patterns (3-6).

Data generated from tertiary care dermatology clinics do not represent the community at large, but they do reflect the types of cases that eventually reach specialist care. Such hospital-based clinicoepidemiological studies help identify common diagnostic groups, age clusters that present more frequently, and broader healthcare-seeking trends. Several reports from different parts of India have noted that eczematous disorders and superficial fungal infections form a major share of outpatient dermatology consultations, although the exact proportions vary depending on geography and socioeconomic setting (7-9).

Sriperumbudur in Tamil Nadu is a semi-urban area that has undergone rapid development over the last decade, with expanding industrial activity, inward migration for employment, and mixed rural–urban living environments. These changes are likely to influence patterns of skin disease through altered occupational exposure, housing conditions, and crowding. However, systematic local data on the spectrum of dermatoses seen in this region remain limited. Available state- and national-level figures do not capture age-specific patterns or the influence of occupation and socioeconomic position in this setting (3-5).

In this context, the present study was undertaken to describe the clinicodemographic profile of dermatoses among patients attending a tertiary care dermatology outpatient service in Sriperumbudur. The analysis focuses on the distribution of major diagnostic categories and their relationship with age, sex, socioeconomic status, and selected systemic comorbidities, with the aim of generating locally relevant information that may assist service planning and targeted preventive efforts in similar semi-urban populations.

METHODS

Study framework and clinical setting

A hospital-based, cross-sectional observational study was carried out in the outpatient department of Dermatology at a tertiary care teaching hospital located in Sriperumbudur Taluk, Kancheepuram district, Tamil Nadu, India. The study was conducted over a five-month period from January 2025 to May 2025. During this period, all eligible patients presenting with dermatological complaints were assessed as part of routine clinical care and considered for inclusion in the study.

Participants and recruitment

The study population comprised consecutive patients attending the dermatology outpatient clinic during the study period. In total, 515 patients were enrolled, representing the range of dermatological conditions encountered in routine tertiary care practice at the centre.

Eligibility criteria

Inclusion criteria: Patients aged between 1 and 70 years who attended the dermatology outpatient department during the study period and consented to participate were included. This age range was selected to capture disease patterns across pediatric, adolescent, adult, and elderly groups.

Exclusion criteria: Patients who declined clinical evaluation or did not provide consent were excluded from the study. No additional exclusions were applied in order to reflect real-world outpatient attendance as closely as possible.

Clinical assessment and diagnostic approach

Data were collected using a pre-tested structured proforma administered by trained clinicians. Information recorded included age, sex, occupation, and socioeconomic status, the latter assessed using the Kuppuswamy socioeconomic classification. Relevant clinical history, duration of symptoms, and prior treatment details were noted where available.
All participants underwent a focused dermatological examination performed by qualified dermatologists. Diagnoses were made on clinical grounds based on morphology, distribution, and pattern of lesions. Where the clinical diagnosis was uncertain or required confirmation, appropriate investigations were undertaken. These included potassium hydroxide (KOH) mount for suspected fungal infections, bacterial culture for purulent or ulcerated lesions when indicated, and histopathological examination in selected cases where clinicopathological correlation was required for definitive diagnosis.

Data handling and statistical analysis plan

Data were entered into Microsoft Excel and subsequently analysed using SPSS software (version 25.0). Continuous variables were summarized as mean with standard deviation, while categorical variables were expressed as frequencies and percentages. Associations between demographic variables and major diagnostic categories were assessed using the chi-square test. A p value of less than 0.05 was considered statistically significant. For associations demonstrating strong statistical evidence, p values less than 0.001 were reported separately.

Ethical considerations and safeguards

The study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Informed consent was obtained from all adult participants, and assent with consent from parents or legal guardians was obtained for children. Patient identifiers were removed from the dataset prior to analysis to ensure confidentiality.

RESULTS

Participant profile

A total of 515 patients with dermatological complaints were evaluated during the study period. The mean age of the study population was 35.96 ± 18.43 years. The largest proportion of attendees belonged to the 21–40 year age group (36.1%), followed by those aged 41–60 years (28.0%). Children below 10 years constituted a smaller share of the outpatient load (4.5%), while patients above 60 years accounted for 11.1% of presentations. Females formed a slight majority of the study population (52.8%), with males comprising 47.2% (Table 1).

Table 1. Age and sex profile of participants attending the dermatology outpatient clinic (N = 515)

Variable	Category	Number (n)	Proportion (%)
Age group (years)	<10	23	4.5
	10–20	105	20.4
	21–40	186	36.1
	41–60	144	28.0
	>60	57	11.1
Sex	Male	243	47.2
	Female	272	52.8
Age (years)	Mean ± SD	—	35.96 ± 18.43

With respect to occupation, students (28.7%) and daily wage labourers (28.0%) represented the two largest groups seeking dermatological care. Homemakers constituted 22.1% of the sample, while smaller proportions were drawn from professional, self-employed, clerical, and farming backgrounds. A large majority of participants belonged to the lower socioeconomic strata, with Class V accounting for 56.5% and Class IV for 18.1% of cases (Table 2).

Table 2. Occupational background and socioeconomic classification of the study population (N = 515)

Domain	Category	Number (n)	Proportion (%)
Occupation	Student	148	28.7
	Daily wage worker	144	28.0
	Homemaker	114	22.1
	Professional	51	9.9
	Self professional	51	9.9
	Self-employed	31	6.0
	Clerical	13	2.5
	Farmer	12	2.3
	Unemployed	2	0.4
Socioeconomic class	Class I	31	6.0
	Class II	24	4.7
	Class III	76	14.8
	Class IV	93	18.1
	Class V	291	56.5

Systemic comorbidities observed

Most participants did not report any known systemic comorbidity (62.7%). Among those with associated conditions, diabetes mellitus was the most frequent (19.6%), followed by systemic hypertension (10.1%). Hypothyroidism (5.0%) and polycystic ovarian disease (2.5%) were less common. The distribution of comorbidities across the cohort showed a statistically significant departure from uniformity ($\chi^2 = 631.398$, $p < 0.001$) (Table 3).

Table 3. Systemic comorbidities documented among study participants (N = 515)

Comorbidity status	Number (n)	Proportion (%)
No known comorbidity	323	62.7
Diabetes mellitus	101	19.6
Systemic hypertension	52	10.1

Hypothyroidism	26	5.0
Polycystic ovarian disease	13	2.5

Note: $\chi^2 = 631.398$, $p < 0.001$

Spectrum of dermatological diagnoses

The distribution of primary dermatological diagnoses is summarized in Figure 1. Eczematous disorders constituted the single largest diagnostic category, accounting for 28.0% of cases. Superficial fungal infections were the next most frequent presentation (22.7%), followed by bacterial infections (9.5%). Acne accounted for 6.2% of diagnoses, pigmentary disorders for 5.4%, papulosquamous disorders for 4.1%, and viral infections for 2.9%. The remaining 21.2% comprised a heterogeneous group of other dermatological conditions. Overall, infectious dermatoses (fungal, bacterial, and viral) together accounted for 35.1% of presentations. The observed distribution of diagnostic categories differed significantly from an equal distribution across groups ($\chi^2 = 280.045$, $p < 0.001$).

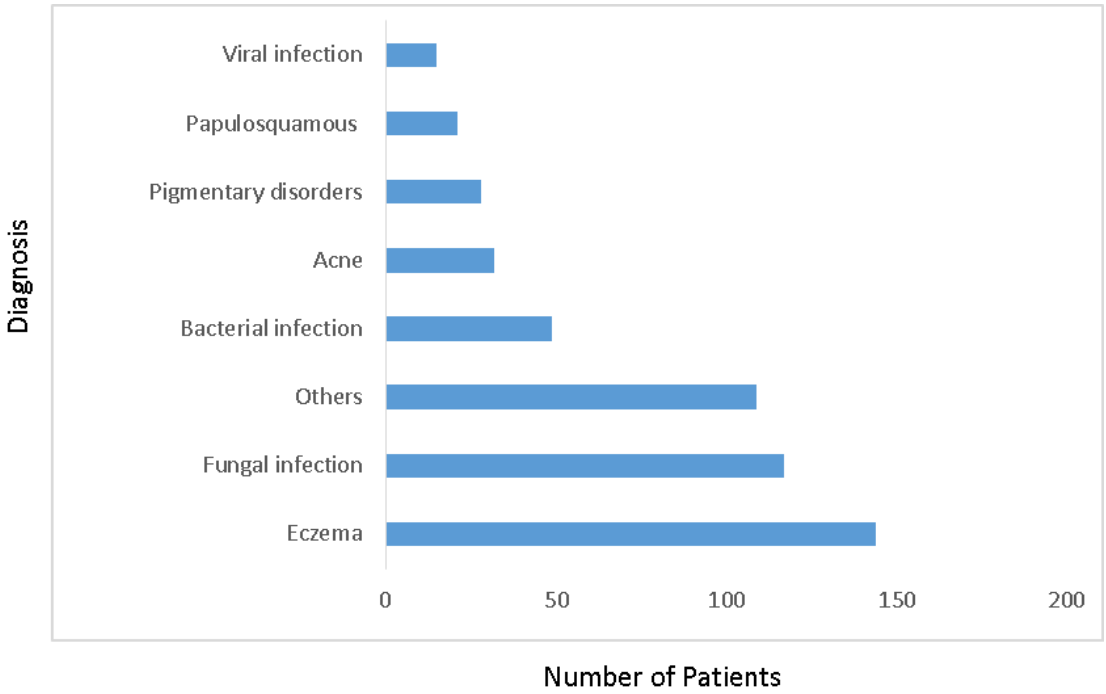

Figure 1. Distribution of major dermatological diagnoses among study participants (N = 515):

Bar chart showing the frequency of major dermatological diagnoses. Eczematous disorders were the most common, followed by fungal and bacterial infections. The overall distribution differed significantly across diagnostic categories ($\chi^2 = 280.045$, $p < 0.001$).

Age-wise distribution of major conditions

Clear differences were noted in the pattern of dermatoses across age groups (Figure 2). Among children younger than 10 years, fungal infections formed the largest proportion of cases (52.2%), followed by eczema (34.8%). In adolescents and young adults, eczema and fungal infections were seen with comparable frequency, while acne was more prominent in the 10–20 year age group. In older age groups, particularly beyond 40 years, the proportion of cases falling under the "others" category increased progressively, reaching 68.4% among those above 60 years of age. The association between age group and major diagnostic category was statistically significant ($\chi^2 = 116.127$, $p < 0.001$), indicating non-random variation in disease patterns with age.

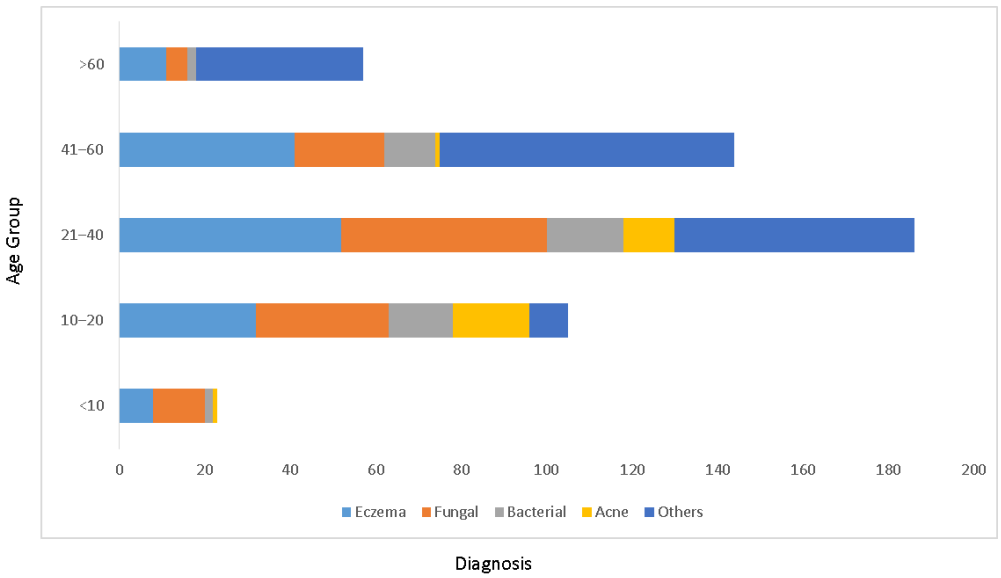

Figure 2. Age-wise distribution of major dermatological diagnoses.

Stacked bar chart showing variation in major dermatological diagnoses across age groups. A statistically significant association was observed between age group and diagnostic category ($\chi^2 = 116.127$, $p < 0.001$).

Sex-wise comparison of common dermatoses

The distribution of major diagnostic categories was comparable between males and females (Figure 3). Eczematous disorders were observed in 28.0% of males and 27.9% of females, while fungal infections affected 22.2% of males and 23.2% of females. Similar patterns were seen for bacterial infections and acne across both sexes. No statistically significant association was found between sex and the distribution of major dermatological diagnoses ($\chi^2 = 0.096$, $p = 0.999$), suggesting that the overall pattern of dermatoses in this setting did not differ meaningfully by gender.

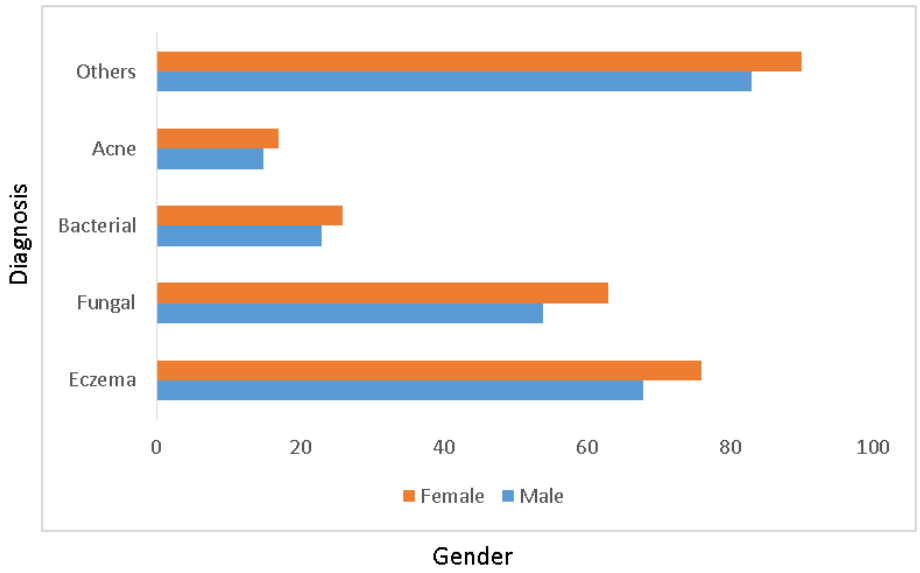

Figure 3. Sex-wise distribution of major dermatological diagnoses.

Grouped bar chart comparing the distribution of common dermatological diagnoses between males and females. No statistically significant difference was observed between sexes ($\chi^2 = 0.096$, $p = 0.999$).

DISCUSSION

This hospital-based study provides a snapshot of the spectrum of dermatoses encountered in a semi-urban tertiary care setting in Tamil Nadu. Eczematous disorders emerged as the most frequent diagnosis, followed by superficial fungal infections and bacterial skin infections. Infectious dermatoses together accounted for over one-third of presentations. The largest proportion of patients were young adults, and a substantial majority belonged to lower socioeconomic groups. Clear

age-related differences in diagnostic patterns were observed, while the overall distribution of common dermatoses did not differ between males and females.

The predominance of eczematous disorders in our outpatient population is consistent with reports from different regions of India, where eczema and contact-related dermatoses are commonly cited as leading reasons for dermatology consultations. Similar trends have been reported from community-based camps and hospital settings in tribal, rural, and semi-urban populations, suggesting that environmental exposures and lifestyle factors play an important role in shaping eczema burden across diverse settings (6-9). In a large multicentric analysis, dermatitis and related inflammatory skin conditions were identified as major contributors to non-fatal disease burden in India, reinforcing the relevance of eczematous disorders as a public health concern rather than merely an individual clinical issue (10).

Superficial fungal infections formed the second largest diagnostic group in the present study. The high frequency of fungal dermatoses in tropical and subtropical climates has been well documented, with humidity, prolonged sweating, occlusive clothing, and crowded living conditions acting as key drivers (4, 5). Recent Indian data have pointed to a rising and changing pattern of dermatophytosis, with chronicity and recurrence becoming increasingly common in routine practice (11, 12). This evolving epidemiology has been linked to widespread topical steroid misuse, incomplete treatment courses, and environmental persistence of fungal spores. The burden observed in the present cohort is therefore likely to reflect both climatic vulnerability and broader shifts in treatment practices in the community.

Bacterial skin infections accounted for a smaller but still clinically relevant proportion of cases. Although improved hygiene and access to basic healthcare may partly explain the lower frequency compared with fungal infections, bacterial dermatoses remain an important source of morbidity, particularly among individuals with metabolic comorbidities. The relatively high prevalence of diabetes mellitus in this cohort is notable in this context, as impaired host defenses and altered skin barrier function in diabetes predispose to recurrent and severe cutaneous infections (6-8). Population-based studies have shown that individuals with diabetes have a higher lifetime risk of bacterial and fungal skin infections, underscoring the need for integrated management approaches that address both dermatological and systemic risk factors (13).

The marked association between age group and diagnostic category observed in this study highlights how the burden of skin disease shifts across the life course. Fungal infections predominated in younger children, while chronic and degenerative conditions formed a larger share of diagnoses among older adults. Similar age gradients have been described in Indian and international studies, where exposure patterns, immune maturity, occupational factors, and cumulative environmental insults contribute to age-specific disease profiles (3, 4, 14). In contrast, the absence of meaningful sex-based differences in diagnostic distribution in the present cohort suggests that, in this semi-urban setting, shared environmental and socioeconomic exposures may outweigh gender-specific risk factors. This finding differs from some reports that describe higher consultation rates for acne or pigmentary disorders among women, reflecting cultural and cosmetic concerns rather than true disease prevalence (5, 8).

Socioeconomic disadvantage was a prominent feature of the study population, with nearly three-quarters of participants belonging to lower socioeconomic classes. The link between poverty, overcrowding, poor sanitation, and higher burden of infectious dermatoses has been consistently demonstrated in Indian and global literature (6, 7, 15, 16). Limited access to early care and reliance on over-the-counter or informal treatments may further contribute to delayed presentation and chronicity of skin disease in these groups. At a systems level, the Global Burden of Disease analyses have emphasized that skin diseases disproportionately affect socially and economically marginalized populations, reinforcing the need to view dermatological care as part of broader equity-oriented public health strategies rather than as a niche specialty service (10, 15).

From a service delivery perspective, the findings point to several practical implications. The high outpatient burden of eczema and superficial fungal infections highlights the importance of strengthening primary-level recognition and early management of common dermatoses. Training frontline healthcare providers to identify and manage uncomplicated cases, coupled with community education on hygiene, rational topical therapy, and early care-seeking, could reduce unnecessary referrals to tertiary centres. Integration of dermatological assessment into routine non-communicable disease clinics may also be useful, given the overlap between metabolic comorbidities and susceptibility to skin infections (13, 17).

The present study has certain limitations that should be acknowledged. As a hospital-based analysis, the findings reflect patterns among individuals who seek tertiary care and may not be fully representative of the community burden of dermatoses. Seasonal variation in disease patterns could not be assessed due to the limited study period, and some diagnoses relied primarily on clinical assessment without laboratory confirmation in all cases. Future studies incorporating community-based sampling, longer observation periods across seasons, and more detailed characterization of specific eczema subtypes and fungal species would provide a more comprehensive picture of regional dermatological epidemiology. Such data could help refine targeted prevention strategies and guide rational allocation of dermatology services in semi-urban and transitioning regions.

CONCLUSION

In this tertiary care–based clinicoepidemiological assessment from a semi-urban region of Tamil Nadu, eczematous disorders and superficial fungal infections accounted for the largest share of dermatology outpatient visits, with infectious dermatoses contributing substantially to the overall case load. Disease patterns varied significantly across age groups, while no meaningful sex-based differences were observed. The high representation of individuals from lower socioeconomic strata and the notable burden of metabolic comorbidities highlight the need for accessible, integrated dermatological care. Strengthening early recognition and management of common dermatoses at the primary care level, along with community-oriented hygiene and treatment education, may help reduce avoidable morbidity and referral burden in similar settings.

DECLARATION

Conflicts of interests: The authors declare no conflicts of interest.
Author contribution: All authors have contributed in the manuscript.
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REFERENCES

1. Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) results. Seattle (WA): Institute for Health Metrics and Evaluation; 2020.
2. Verma SB, Wollina U. Epidemiology of skin diseases in general practice. Int J Dermatol. 1999;38(12):920–922.
3. Pasricha JS, Khanna Y, Kanwar AJ. Relative prevalence of skin diseases in India. Int J Dermatol. 1991;30(10):679–683.
4. Dogra S, Upreti N. Epidemiology of superficial fungal infections. Clin Dermatol. 2010;28(2):197–201.
5. Bashir H, Qazi MA, Mir MR, et al. Pattern of dermatoses seen in community health camps and a tertiary care centre in Kashmir. Indian J Dermatol Venereol Leprol. 2014;80(4):313–317.
6. Wadhwa SN, Khandpur S, Agarwal AK, et al. Profile of skin disorders in unreached hilly areas of North India. Indian J Dermatol Venereol Leprol. 2016;82(5):494–498.
7. Manapurath RM, Hadaye R, Varughese CS, Gadapani B. Burden of skin diseases: a camp-based cross-sectional study in a tribal area of Maharashtra. Turk J Dermatol. 2022;16(1):12–15.
8. Geetha V, Reddy S, Kumar P, et al. Pattern of dermatological consultations in South India: a hospital-based study. Indian J Dermatol Venereol Leprol. 2021;87(4):345–350.
9. Bhatia V, Sharma PC. Epidemiological studies of dermatological disorders in rural areas of India. Indian J Dermatol. 2014;59(4):339–341.
10. Global Burden of Disease 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. Lancet. 2020;396(10258):1204–1222.
11. Verma SB, Madhu R. The great Indian epidemic of superficial dermatophytosis: an appraisal. Indian J Dermatol. 2017;62(3):227–236.
12. Pathania S, Rudramurthy SM, Narang T, Saikia UN, Dogra S. A prospective study of the epidemiological and clinical patterns of recurrent dermatophytosis at a tertiary care hospital in India. Indian J Dermatol Venereol Leprol. 2018;84(6):678-684.
13. Yosipovitch G, Hodak E, Vardi P, Shraga I, Karp M, Sprecher E. The prevalence of cutaneous manifestations in patients with diabetes mellitus. Diabetes Care. 1998;21(4):506–509..
14. Hay RJ, Johns NE, Williams HC, et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. J Invest Dermatol. 2014;134(6):1527–1534.
15. Karimkhani C, Dellavalle RP, Coffeng LE, et al. Global skin disease morbidity and mortality: an update from the Global Burden of Disease Study 2013. JAMA Dermatol. 2017;153(5):406–412.
16. Marmot M. Social determinants of health inequalities. Lancet. 2005;365(9464):1099–1104.
17. Hay RJ, Augustin M, Griffiths CEM, Sterry W. The global challenge for skin health. Br J Dermatol. 2015;172(6):1469–1472.