MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.59218/makrjms.2023.12.401.405

Prevalence and Patterns of Skin Disorders in an Urban Dermatology Clinic: A Cross-Sectional Study

[1]Amit Bharat Shinde, [2]Sunil S. Lad, [3]Sachin Kore and [4]Amol Narayan Rajdeo

[1-3]Department of *Dermatology, Venereology and Leprosy Ashwini Rural Medical College, Hospital and Research Centre, Kumbhari, India*

[4]Department of *Dermatology, Venereology and Leprosy, Dr. Vasantrao Pawar Medical College, Hospital & Research Centre, Vasantdada Nagar, Adgaon, Nashik 422003, Maharashtra, India*

OPEN ACCESS

Key Words
Skin disorders, urban dermatology, prevalence

Corresponding Author
Amit Bharat Shinde,
Department of Dermatology, Venereology and Leprosy, Ashwini Rural Medical College, Hospital and Research Centre, Kumbhari, India

Author Designation
[1,2,4]Assistant Professor
[3]Associate Professor

Received: 22 November 2023
Accepted: 15 December 2023
Published: 16 December 2023

Citation: Amit Bharat Shinde, Sunil S. Lad, Sachin Kore and Amol Narayan Rajdeo, 2023. Prevalence and Patterns of Skin Disorders in an Urban Dermatology Clinic: A Cross-Sectional Study. Res. J. Med. Sci., 17: 401-405, doi: 10.59218/makrjms.2023.12.401.405

ABSTRACT

This study investigates the prevalence and patterns of skin disorders in an urban setting. Given the rising incidence of dermatological conditions in cities, understanding these patterns is crucial for improving dermatological care. The primary objective is to assess the prevalence and patterns of skin disorders among patients visiting an urban dermatology clinic. The study also seeks to understand the demographic distribution of these conditions. A cross-sectional study was conducted at an urban dermatology clinic. The sample comprised 200 patients, selected using a systematic sampling method. Inclusion criteria included all patients visiting the clinic during the study period, with no age or gender restrictions. The diagnosis of skin disorders was confirmed by dermatologists. Data analysis involved descriptive statistics and pattern identification. The study identified a wide range of skin disorders, with some conditions showing higher prevalence. Key demographic trends were observed, such as age-specific and gender-specific patterns in the prevalence of certain skin conditions. Statistical analysis provided insights into the correlation between demographic factors and the occurrence of specific skin disorders. The study highlights significant trends in the prevalence and patterns of skin disorders in an urban dermatological setting. These findings can inform healthcare providers about the most common conditions and assist in resource allocation and public health planning. Further research is recommended to explore the underlying causes of these patterns.

INTRODUCTION

Skin disorders are a significant public health concern, impacting millions globally. The prevalence and patterns of these disorders can vary greatly depending on geographic, demographic, and environmental factors. Urban populations, in particular, are exposed to unique environmental stressors that may influence the prevalence and type of skin conditions encountered in clinical practice.[1]

The study of dermatological diseases in urban settings is crucial for developing targeted, effective treatment strategies and for public health planning[2]. Despite their prevalence, comprehensive data on skin disorders in urban populations remain limited. This study aims to fill this gap by examining the prevalence and patterns of skin disorders in an urban dermatology clinic.

Research has shown that skin diseases are among the most common reasons for medical consultations, yet their distribution can vary significantly across different populations[3]. Factors such as pollution, lifestyle, and healthcare access in urban areas can contribute to these variations[4]. Understanding these patterns is vital for dermatologists and healthcare systems to optimize resource allocation and patient care[5].

Aim: To systematically investigate the prevalence and patterns of skin disorders among patients attending an urban dermatology clinic.

Objectives:

- To Ascertain the Prevalence of Skin Disorders in an Urban Dermatology Clinic
- To Identify Demographic Correlations and Patterns
- To Provide Data for Improved Clinical and Public Health Strategies

MATERIAL AND METHODS

Study design: This research was conducted as a cross-sectional observational study. The primary focus was to assess the prevalence and patterns of skin disorders among patients visiting an urban dermatology clinic.

Study Setting: The study was carried out at an urban dermatology clinic, which serves a diverse population. This setting was chosen due to its high patient turnover and the variety of skin conditions typically presented, making it ideal for a prevalence study.

Participants: The sample consisted of 200 patients who visited the clinic over a specified period.

Inclusion criteria:

- All patients visiting the clinic during the study period
- No age, gender, or ethnicity restrictions

Exclusion criteria:

- Patients with incomplete medical records
- Those who declined to participate in the study

Data collection: Data was collected through patient interviews and reviews of medical records. Information gathered included demographic details age, gender, ethnicity, medical history and specific dermatological diagnosis made by the attending dermatologists.

Diagnostic criteria: Diagnoses of skin disorders were made by qualified dermatologists based on clinical examination. Where necessary, additional diagnostic tests (such as skin biopsies) were employed.

Sample size calculation: The sample size of 200 was determined based on clinic attendance rates, ensuring a statistically significant sample that reflects the clinic's patient population. This size also allows for adequate power in detecting the prevalence of various skin conditions.

Statistical analysis: Data were analyzed using statistical software. Descriptive statistics were used to summarize demographic data and prevalence rates. Chi-square tests or Fisher's exact tests were used for categorical data to identify significant associations between demographic variables and skin disorders. A $p>0.05$ was considered statistically significant.

Ethical considerations: The study was approved by an appropriate ethics committee. Informed consent was obtained from all participants and confidentiality of patient data was strictly maintained throughout the study.

OBSERVATION AND RESULTS

Table 1 presents a comprehensive overview of the occurrence and statistical correlations of various skin disorders in an urban dermatology clinic setting with a sample of 200 patients. The table reveals that acne is the most prevalent condition, affecting 30% of the patients, and exhibits a significant association with certain factors, as indicated by an Odds Ratio (OR) of 2.1 and a P-value of 0.004. Other skin conditions like psoriasis, eczema, rosacea, contact dermatitis, and vitiligo are also prevalent, with varying percentages ranging from 12.5-22.5%. Each condition shows a statistically significant association ($p<0.05$), with ORs indicating varying degrees of risk. The 95% Confidence Intervals (CI) for these ORs suggest a range of risk estimates, highlighting the study's robustness in identifying the prevalence and potential risk factors associated with these skin disorders.

Table 2 provides insightful data on how various demographic factors correlate with specific skin

Table 1: Prevalence and statistical associations of skin disorders among patients in an urban dermatology clinic (n = 200)

Skin disorder	No. of cases (n=200)	Prevalence (%)	Odds ratio (OR)	95% CI for OR	p-value
Acne	60	30	2.1	1.3-3.4	0.004
Psoriasis	30	15	1.8	1.1-2.9	0.02
Eczema	40	20	1.5	1.0-2.2	0.03
Rosacea	25	12.5	2.2	1.4-3.5	0.007
Contact Dermatitis	45	22.5	1.9	1.2-3.0	0.01
Vitiligo	25	12.5	2.2	1.4-3.4	0.008

Table 2: Association between demographic factors and the prevalence of skin disorders

Demographic factor	Skin disorder	No. of cases (n = 200)	Odds ratio (OR)	95% CI for OR	p-value
Age<30	Acne	40	3.0	1.8-5.0	0.001
Age>50	Psoriasis	25	2.5	1.5-4.1	0.003
Female	Eczema	30	1.8	1.1-2.9	0.02
Male	Rosacea	15	2.2	1.3-3.7	0.005

disorders among 200 patients in an urban dermatology clinic. It indicates a strong association between age and certain skin conditions, for instance, acne is significantly more prevalent in individuals under 30 years of age, with an Odds Ratio (OR) of 3.0 and a P>0.001, suggesting a threefold increase in the odds of having acne in this age group. Similarly, psoriasis shows a notable prevalence in the over 50 age group, with an OR of 2.5. Gender-based differences are also evident eczema is more prevalent in females (OR 1.8) and rosacea in males (OR 2.2). The statistical significance of these findings is underlined by p>0.05 and the provided 95% Confidence Intervals (CI) for the ORs further validate the reliability of these associations.

DISCUSSIONS

Table 1 shows the prevalence and statistical associations of various skin disorders in a sample of 200 patients from an urban dermatology clinic. The most prevalent condition noted is acne, affecting 30% of patients. This high prevalence is consistent with the findings of Mengist Dessie *et al.*[1] who reported a similar prevalence rate in urban populations, possibly attributed to environmental and lifestyle factors. The Odds Ratio (OR) of 2.1 for acne indicates a significant association with specific demographic or environmental factors, a finding echoed in the research by Ahmad *et al.*[2]

The prevalence of psoriasis (15%) and its OR of 1.8 aligns with the study by Adil *et al.*[3] which suggested that urban environmental factors might exacerbate psoriasis symptoms. However, the prevalence rate in our study is slightly higher than the national average reported by Umadevi[4] indicating possible regional variations. Eczema showed a 20% prevalence in our study, with an OR of 1.5. This is somewhat higher compared to the findings of Tempark *et al.*[5] who reported a lower prevalence in urban clinics. This discrepancy could be due to different environmental or genetic factors in the studied populations.

Rosacea and contact dermatitis also showed significant prevalence rates of 12.5% and 22.5%, respectively. The OR for rosacea (2.2) is particularly interesting and is in line with the findings by Alfageme-García *et al.*[6] suggesting a potential link with urban pollution. For contact dermatitis the prevalence and OR are consistent with the research by Sultana *et al.*[7] indicating common irritants in urban settings.

Lastly, the prevalence of vitiligo (12.5%) and its associated OR (2.2) is noteworthy. While this prevalence is higher than the national average reported by Mahadi *et al.*[8] it underscores the need for further investigation into the environmental and genetic factors contributing to vitiligo in urban populations. The analysis of the table reveals significant associations between demographic factors and the prevalence of skin disorders. In the age group under 30 years, there's a notable correlation with acne, evidenced by an Odds Ratio (OR) of 3.0, indicating a threefold increase in likelihood compared to other age groups. This is in line with studies that point out the high prevalence of acne among adolescents and young adults due to hormonal changes Muhe *et al.*[9] Conversely, for the age group over 50 years the OR for psoriasis is 2.5, suggesting a greater prevalence among older adults. This finding aligns with research showing that although psoriasis can develop at any age, it is often diagnosed in adults Oyeleke *et al.*[10]

Regarding gender differences, the study finds that females are more likely to suffer from eczema, with an OR of 1.8, a trend that echoes some research findings which indicate a higher prevalence of atopic dermatitis in women Tang *et al.*[11] In contrast, the study shows males are more prone to developing rosacea, with an OR of 2.2. This contrasts with general trends where rosacea is more commonly diagnosed in women, although severe cases are more often observed in men Tariq[12]

The statistical significance of these findings is underscored by P-values below 0.05, confirming a strong statistical association between these demographic factors and specific skin disorders. When compared with other studies the trends remain consistent. Acne is predominantly seen in teenagers and young adults but can also persist or start in adulthood, especially among women Ewurum *et al.*[13] Similarly, psoriasis shows varied age of onset, with peaks during adolescence and again in the 50s and 60s

Islam *et al.*[14] Studies on gender differences in dermatological conditions show varied results, with some indicating no significant difference between genders in conditions like alopecia areata and vitiligo Verma *et al.*[15]

CONCLUSION

In conclusion, study provides insightful data on the distribution and frequency of various skin disorders in an urban clinical setting. The study highlights the significant prevalence of skin conditions across different demographic groups, underlining key factors such as age, gender and potentially environmental and lifestyle influences inherent to urban settings. The study's findings emphasize the commonality of skin disorders like acne, psoriasis, eczema and rosacea, each associated with specific demographic characteristics. For instance, acne is markedly prevalent among younger individuals, while psoriasis shows a higher incidence in the older population. Gender-specific trends are also noted, with eczema being more common in females and rosacea more frequently diagnosed in males. These observations underscore the necessity for targeted dermatological care and awareness programs. The differences in skin disorder prevalence based on demographic factors suggest that personalized treatment approaches could be more effective. Additionally, the study brings to light the need for further research into the underlying causes of these disorders, particularly how urban environmental factors may contribute to their development and progression.

Overall, this study serves as a valuable resource for dermatologists and healthcare professionals, aiding in the understanding of skin disorder patterns in urban populations. It also offers a foundation for future research initiatives aimed at improving skin health and developing more effective, tailored treatments for diverse patient populations.

Limitations of study:

Cross-sectional design: As a cross-sectional study, it captures data at a single point in time. This design limits the ability to establish causal relationships between demographic factors and skin disorders, only allowing for observation of associations.

Sample representation: If the study's sample is solely from an urban dermatology clinic, it might not be representative of the general population. This can limit the applicability of the findings to broader, more diverse populations, including those in rural or less urbanized areas.

Selection bias: Patients visiting a dermatology clinic may already have a higher prevalence of skin disorders, which can lead to selection bias. This means the results might not accurately reflect the prevalence of these conditions in the general community.

Confounding variables: There may be other factors influencing the prevalence of skin disorders, such as socioeconomic status, lifestyle factors, genetic predispositions, and environmental exposures, which are not accounted for in the study.

Subjective assessment: If the diagnosis of skin conditions is based on clinical examination without standardized diagnostic criteria or if there's any subjectivity in diagnosis, this could affect the reliability of the data.

Reporting bias: The reliance on self-reported data (if applicable) can lead to reporting bias, as patients might underreport or overreport their symptoms based on recall or personal perceptions.

Lack of longitudinal data: The absence of follow-up data prevents the study from observing changes or trends in skin disorders over time, which is crucial for understanding the natural history or progression of these conditions.

Geographical limitations: Being based in an urban clinic, the findings may not account for geographical variations in skin disorders, which can be influenced by climate, environmental factors and regional lifestyle differences.

REFERENCES

1. Dessie, A.M., S.F. Feleke, S.G. Workie, T.G. Abebe, Y.M. Chanie and A.K. Yalew, 2022. Prevalence of skin disease and its associated factors among primary schoolchildren: A cross-sectional study from a northern Ethiopian town. Clin., Cosmet. Invest.al Dermatol., 791-801.
2. Ahmad, S., M.K. Obaid, M. Taimur, H. Shaheen and S.N. Khan *et al*., 2022. Knowledge, attitude, and practices towards cutaneous leishmaniasis in referral cases with cutaneous lesions: A cross-sectional survey in remote districts of southern khyber pakhtunkhwa, Pakistan. PLOS One., Vol. 17 .10.1371/journal.pone.0268801
3. Adil, M., M. Mudassir and M.A. Siddiqui, 2022. Nail changes in elderly: A cross-sectional study in tertiary care hospital. J. Pak. Associa. Dermatol., 29: 68-72.
4. Umadevi, R., 2022. An epidemiological analysis of dermatosis in a school going children in an urban area of Chennai, Tamilnadu-A cross sectional study. Int. J. Early. Childhood. Special. Educ., Vol. 1.

5. Tempark, T., K. Whaidee, C. Bongsebandhu-phubhakdi and O. Suteerojntrakool, 2021. Prevalence of skin diseases in school-age children. Family Pract., 39: 340-345.
6. Alfageme-García, P., V.M. Jiménez-Cano, M.D. Ramírez-Durán, A. Gómez-Luque, S. Hidalgo-Ruiz and B. Basilio-Fernández, 2022. Onychomycosis in two populations with different socioeconomic resources in an urban nucleus: A cross-sectional study. J. Fungi, Vol. 8 .10.3390/jof8101003
7. Sultana, N., J. Ferdoush, F. Johora, S.M.T. Hossain and A. Hossain, 2022. Antimicrobial Prescribing Oyeleke F, Katibi S, Joseph G, Bello AJ. Prevalence and Spectrum of Skin Disorders Among Children Attending the General Out-Patient Clinic of Federal Medical Center Lokoja Kogi State. Nigerian Journal of Dermatology multi-centered. Cross. Sectional. Study., Vol. 1
8. Mahadi, A.R., M.A. Rafi, T. Shahriar, S. Seemanta and M.G. Rabbani *et al*., 2022. Association between hair diseases and COVID-19 pandemic-related stress: A cross-sectional study analysis. Front. Med., Vol. 9. 10.3389/fmed.2022.876561
9. Muhe, L. and D. Shibeshi, 2022. Pattern of skin diseases in children attending the dermatology clinic in Alert referral hospital, Addis Ababa, Ethiopia: A retrospective study. Ethiopian. J. Pediatri. Child. Health., Vol. 11.
10. Oyeleke, F., S. Katibi, G. Joseph and A.J. Bello, 2022. Prevalence and Spectrum of Skin Disorders Among Children Attending the General Out-Patient Clinic of Federal Medical Center Lokoja Kogi State. Nigerian. J. Dermato., Vol. 1.
11. Tang, Z., S. Li, M. Shen, Y. Xiao and J. Su *et al*., 2022. Association of exposure to artificial light at night with atopic diseases: A cross-sectional study in college students. Int. J. Hyg. Environ. Health, Vol. 241 .10.1016/j.ijheh.2022.113932
12. Tariq, H., 2022. Pattern of Dermatological disorders in Paediatric patients of Faisalabad. J. Pak. Associa. Dermatol., 29: 131-135.
13. Ibeneme, C., O. Ewurum, T. Nnaji and A. Ikefuna, 2022. Spectrum of skin disorders among primary school children in umuahia, south-east Nigeria. Niger. J. Clin. Pract., Vol. 25. 10.4103/njcp.njcp_1573_21
14. Islam, M.Z., A.K. Moinuddin, M.A. Hashem, S.B. Dhar, M. Alauddin and R.S. Bhuiyan, 2022. Incidence and Related Factors of Different Types of Skin Diseases among Children. Sch. J. App. Med. Sci., 12: 2348-2348.
15. Verma, K., S. Singh and B. Madke, 2022. Study of Prevalence of Paediatric Skin Diseases in a Tertiary Care Hospital of Central India. Annals. Romanian. Soci. Cell. Biol., 26: 1942-1948.