

Epidemiological Profile Of Patients Presenting With Dermatitis In Outpatient Clinic: A Single Center Experience

Dr. Anisha Upreti¹, Dr. Sushil Karki¹, Dr. Badri Chapagain¹
(Department Of Dermatology, Bheri Hospital, Nepalgunj, Banke, Nepal)

Abstract:

Background: Understanding the epidemiological profile of patients presenting with dermatitis can help in improving health care systems and policy making. Hence, this study aimed to investigate the epidemiological profile of patients presenting with dermatitis, including demographic characteristics, clinical presentation, and risk factors associated with different forms of dermatitis.

Materials and Methods: This descriptive cross-sectional study was conducted between November 1, 2023, and October 31, 2024, involving patients presenting with dermatitis at the outpatient dermatological clinic. Outpatient clinic register was screened for patient eligibility, and patients who presented with a diagnosis of dermatitis were included. Patients with a history of other dermatological conditions or those presenting with secondary skin infections or other unrelated conditions were excluded from the study. Descriptive statistics were used. The prevalence of different types of dermatitis, demographic characteristics, and associated risk factors were calculated.

Results: A total of 258 patients were included in the study. Of the 258 patients, 152 (58.9%) were female, and 106 (41.1%) were male. The types of dermatitis most diagnosed were atopic dermatitis 91 (35.3%) followed by contact dermatitis 72 (27.9%). Topical corticosteroid was prescribed for 188 (72.9%) patients, emollients were prescribed for 160 (62.0%) patients. Overall, 205 (79.5%) showed improvement with appropriate treatment, while 41 (15.9%) experienced moderate improvement, and 12 (4.6%) had poor outcomes.

Conclusion: Dermatitis commonly affects females and working-age individuals. Atopic dermatitis is the most common type followed by contact dermatitis. However, further studies with multicenter designs are required to strengthen the findings on epidemiological profile of dermatitis among our population.

Key Words: Atopic dermatitis; contact dermatitis; epidemiological profile; seborrheic dermatitis; topical corticosteroids

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I. Introduction

Dermatitis is a group of inflammatory skin conditions that is characterized by redness, itching, and scaling.[1] It often results in discomfort, impaired quality of life, and, in some cases, long-term dermatological sequelae.[2, 3] The incidence is rising, posing a significant burden on public health.[4] The clinical presentation is heterogeneous, encompassing a range of conditions such as atopic dermatitis, contact dermatitis, seborrheic dermatitis, and psoriasis, among others.[5] The diagnosis often becomes difficult and challenging, as several conditions mimics each other during presentation, and being familiar to these conditions and their presentation patterns will definitely help prevent misdiagnosis and delay in treatment. [1, 5]

Understanding the epidemiological profile of patients presenting with dermatitis can help clinicians to be more aware of these conditions.[5] It also helps in improving health care systems and policy making that can enhance overall patient care in dermatological settings.[6] Despite the high prevalence of dermatitis, there is limited data on the detailed epidemiology of these conditions, particularly in our context. Hence, this study aimed to investigate the epidemiological profile of patients presenting with dermatitis, including demographic characteristics, clinical presentation, and risk factors associated with different forms of dermatitis.

II. Material And Methods

This descriptive cross-sectional study was conducted between November 1, 2023, and October 31, 2024, involving patients presenting with dermatitis at the outpatient dermatological clinic of Bheri Hospital, Nepalgunj, Banke, Nepal. The study was conducted following the guidelines of institutional review committee (approval was waived as low risk study). Outpatient clinic register was screened for patient eligibility and the records that met the inclusion/exclusion criteria were included in the study.

Study Design: Descriptive cross-sectional study

Study Location: Outpatient Dermatology clinic of Bheri Hospital, Nepalgunj, Banke, Nepal.

Study Duration: November 1, 2023, and October 31, 2024

Sample size: 258 patients, convenient non-probability sampling technique was used and all eligible patients during the study period were included.

Inclusion criteria:

1. Patients who presented to the clinic with a diagnosis of dermatitis
2. Either sex
3. Aged \geq 18 years

Exclusion criteria:

1. Patients with a history of other dermatological conditions
2. Patients presenting with secondary skin infections or other unrelated conditions

Data extraction and Statistical analysis

Following data were extracted, demographic details (age, gender, and occupation), type of dermatitis, duration of illness, family history, co-morbidities, and predisposing factors such as allergies or environmental triggers. A pre-determined electronic proforma was used to extract the data. The data were exported to Microsoft Excel 2019.

Descriptive statistics were used. The prevalence of different types of dermatitis, demographic characteristics, and associated risk factors were calculated. Continuous variables were reported as mean \pm standard deviation, while categorical variables were expressed as frequencies and percentages. Data analysis was performed using statistical package for social sciences (SPSS) version 26.0.

III. Result

A total of 258 patients were included in the study. Of the 258 patients, 152 (58.9%) were female, and 106 (41.1%) were male. Mean age of the patients was 36.7 ± 19.58 years. The age distribution showed that 104 (40.3%) were in the 20–40-year age group followed by 73 (28.3%) in 40-60-year age group, 56 (21.7%) were aged under 20 years, and 25 (9.7%) were over 60 years. A history of atopic disease (asthma, allergic rhinitis, or eczema) was found in 109 (42.2%) patients. Environmental factors, including exposure to chemicals or allergens, were reported in 67 (26.0%) cases. A family history of skin disease was documented in 78 (30.2%) patients.

In terms of disease severity, 117 (45.3%) patients reported moderate symptoms, while 100 (38.8%) had severe symptoms, and 41 (15.9%) experienced mild dermatitis. The types of dermatitis most diagnosed were atopic dermatitis 91 (35.3%) followed by contact dermatitis 72 (27.9%), seborrheic dermatitis 46 (17.8%), and psoriasis 27 (10.5%). Other forms of dermatitis, such as nummular dermatitis and dyshidrotic eczema, were less common, accounting for 22 (8.5%) of cases. The duration of illness varied, 104 (40.3%) patients experienced symptoms for 1-3 months, 91 (35.3%) patients for 3-6 months, and 63 (24.4%) patients for more than 6 months.

Topical corticosteroid was prescribed for 188 (72.9%) patients, emollients were prescribed for 160 (62.0%) patients, and antihistamines were prescribed for 91 (35.3%) patients. Systemic treatments, including immunosuppressive drugs, were prescribed for 25 (9.7%) cases. Overall, 205 (79.5%) showed improvement with appropriate treatment, while 41 (15.9%) experienced moderate improvement, and 12 (4.6%) had poor outcomes.

IV. Discussion

The study identified that the dermatitis was more prevalent among females, with prevalence of 58.9%. This finding is similar with some previously published studies, in which there was female predomination with prevalence of 50-68%.[7–9] The reason behind that could be due to hormonal influences and skin barrier differences among females.[10] In addition, another major reason for female predomination in having dermatitis could be an increased healthcare-seeking behavior among females.[11] Similarly, age distribution in this study showed that dermatitis was most common in patients aged 20-40 years (40.3%), reflecting a peak incidence of such dermatological disorders in 2nd to 4th decade of life. This suggests that the working-age individuals are more likely to suffer from dermatitis. The reason behind that could be due to higher exposure to environmental irritants or stressors during work or outdoor activities.[12] However, children are found to be affected more by

these conditions.[13] The reason behind higher prevalence of young adults in this study could be due to less number of pediatric cases seen by dermatologists in our set up.

This study also identified that atopic dermatitis was the most diagnosed type (35.3%) followed by contact dermatitis (27.9%). The reason behind this could be due to increased effect of environmental triggers and allergen exposure among our patients.[12] Other forms of dermatitis, such as seborrheic dermatitis (17.8%) and psoriasis (10.5%) were also frequent. This suggest that there was heterogeneity in dermatitis presentations among our population. The prevalence and distribution of dermatitis subtypes seen in this study align with global trend of dermatological disorders, where atopic dermatitis remains the most common with prevalent of 36.17% in 2019.[7, 14, 15] The major reason behind that is its chronicity and association with comorbidities.[16] The study's findings on risk factors suggested the association of multiple factors in causing dermatitis.[17] A history of atopic disease was noted in 42.2% of patients. This suggests that there are strong genetic predispositions associated with atopic dermatitis. Similarly, environmental exposures were reported in 26.0% of cases, suggesting their major role in occurrence of contact dermatitis. This also highlighted the critical need for improvement in the standards of protective measures and public awareness to minimize allergen exposure.[18] A family history of skin diseases was noted in around 30% of the patients, predominantly in cases with atopic dermatitis and psoriasis. This association suggests that there is hereditary component.[19] This highlights the need for targeted screening and early intervention strategies in families with a history of dermatological disorders.

This study identified that most patients reported moderate (45.3%) to severe (38.8%) symptoms. This showed that dermatitis results in considerable disease burden.[20] The reason behind this could be due to higher number of patients seeking specialist's care when the symptoms are more pronounced because of high prevalence of using over the counter prescriptions and other forms of treatments, such as herbal and Ayurvedic medicines among our patient populations.[21] The findings were similar to what reported in the previously published studies conducted in similar settings.[21] This study also found that there were considerable variations regarding duration of symptoms, with majority (40.3%) experiencing symptoms for 1-3 months followed by lasting over six months (24.4%). This can very well be explained by the prevalence of dermatitis subtypes and their disease course. This helps in Understanding the chronic nature of dermatitis which is helpful in setting realistic treatment expectations and ensuring long-term follow-up care.

The most common treatment option was topical corticosteroids (72.9%) followed by use of emollients (62.0%). Topical steroids are found to be effective in reducing inflammation and alleviating symptoms.[22, 23] Emollients are used to maintain skin hydration, which was considered a fundamental component in the management of dermatitis.[22, 23] In this study, most (79.5%) patients showed excellent improvement following treatment, and 15.9% experienced moderate improvement. This suggests that topical treatment is effective in majority of the cases with dermatitis.[23–25] Systemic treatments, including immunosuppressive drugs, can be reserved for severe or refractory cases.[26, 27]

This study has some limitations. As this was a single-center descriptive cross-sectional study, the findings cannot be generalized to whole population. There may be risk of selection and reporting bias. As the diagnosis was based on clinical judgment of dermatologists without histological evidence, the prevalence of subtypes may not be accurate. However, it is proven that majority of dermatitis can be diagnosed clinically. The duration of therapy, treatment adherence, and tolerance were not evaluated in this study, suggesting that future studies should evaluate the adherence and tolerance of topical treatment in patients with dermatitis to affirm their effectiveness. In addition, study with multicenter designs and standardized diagnostic criteria is needed to enhance the robustness of findings.

V. Conclusion

Dermatitis commonly affects females and working-age individuals. Atopic dermatitis is the most common type followed by seborrheic dermatitis. Most patients with dermatitis have moderate symptoms for duration of 1-3 months. These conditions improve mostly with topical treatment using steroids and emollients. However, further studies with multicenter designs are required to strengthen the findings on epidemiological profile of dermatitis among our population.

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