Original Article

Exploring the Incidence and Contributing Factors of Skin Disorders — An Observational Study

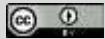**Md Ashraful Haque[1]* , Md Nazim Uddin[2], Sadia Sarwar[3], Sazib Miah[4]**

ABSTRACT

Introduction: Skin disorders are prevalent health concerns with a substantial impact on individuals' well-being and healthcare systems. This study explores the incidence and contributing factors of skin disorders, aiming to enhance our understanding of their prevalence and potential determinants. Methods & materials: A total of 172 cases were analyzed, considering environmental and lifestyle factors such as smoking status, alcohol consumption, sunlight exposure, sunscreen use, and exposure to chemicals or irritants at work. This observational study employs a cross-sectional design, capturing data from the study population. Results: The findings reveal that a significant proportion of individuals (12.21%) are present smokers. Exposure to sunlight varies, with nearly half reporting less than 1 hour of daily exposure, underscoring the need to explore the relationship between sunlight duration and skin health. Sunscreen use is infrequent, with 94.77% either never or rarely using it, highlighting a potential gap in protective measures against harmful UV rays. A high percentage (97.67%) report never or rarely being exposed to chemicals or irritants at work, indicating a relatively low occupational risk for skin disorders. Conclusion: This comprehensive analysis sheds light on the multifaceted nature of skin disorders, emphasizing the interconnectedness of lifestyle choices and environmental exposures with skin health. The insights derived from

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this study contribute to the development of targeted preventive measures and interventions to mitigate the incidence and impact of skin disorders in the population.

Keywords: *Skin disorders, sunlight exposure, sunscreen, chemical exposure, dermatological issues*

INTRODUCTION

Skin disorders encompass a spectrum of conditions with diverse etiologies and manifestations, impacting individuals of all ages and demographics [1]. The prevalence of these disorders underscores their significance as a global public health concern [2]. Understanding the incidence and identifying contributing factors are crucial steps toward effective prevention, management, and treatment [3-5].

Maintaining and improving skin health is internationally recognized as one of the salient quality indicators across the entire continuum of health care settings. Evidence-informed practices to promote skin integrity and prevent breakdown are strongly recommended to safeguard patient safety, minimize risks, benchmark performance, and deliver care that is more cost-effective compared to wound treatment [6].

Skin disorders encompass a wide spectrum of conditions, from common afflictions like acne and eczema to more complex and chronic diseases such as psoriasis and atopic dermatitis [7]. The prevalence of these disorders varies across different populations and geographical regions, highlighting the importance of investigating the underlying factors that contribute to their development [8-10]. As the body's largest organ, the skin serves as a vital protective barrier, and any disruption to its normal function can lead to a range of dermatological issues [11]. Understanding the incidence and contributing factors of skin disorders is crucial for both medical practitioners and researchers in order to develop effective preventive measures, diagnostic strategies, and treatment modalities [12].

The investigation into skin disorders is particularly relevant in the context of a rapidly changing global landscape, where factors such as climate change, urbanization, and lifestyle modifications may influence the prevalence and nature of dermatological conditions. Furthermore, advancements in genetic research and molecular biology have opened new avenues for uncovering the underlying mechanisms of skin disorders, offering potential targets for innovative therapeutic interventions [13].

Through a systematic examination of existing literature, epidemiological data, and clinical observations, this research endeavors to contribute valuable insights into the incidence and contributing factors of skin disorders. Ultimately, this exploration into the incidence and contributing factors of skin disorders is poised to advance our understanding of these conditions, fostering improved healthcare practices and contributing to the overall well-being of individuals' globally [14-15].

Through this research, we aim to contribute to the existing body of knowledge in dermatology, offering evidence-based insights that can inform public health initiatives and clinical practices.

METHODS & MATERIALS

This observational study employs a cross-sectional design, capturing data from a diverse population at Central Medical College, Cumilla and January 2023 to October 2023. The goal is to obtain the prevalence and contributing factors of skin disorders within the study cohort. The study includes individuals of varying ages, ethnicities, and geographical locations to ensure a representative sample. Participants are recruited from dermatology clinics, hospitals, and community health centers, ensuring a mix of both clinical and non-clinical settings. Data is collected through medical records, clinical examinations, and participant interviews. The diagnoses of skin disorders are verified by trained dermatologists, utilizing established diagnostic criteria. Additionally, participants provide information on demographic factors, lifestyle, environmental exposures, and family history to facilitate a comprehensive analysis of potential contributing factors.

Inclusion Criteria:
- Individuals aged below 80 years, covering a diverse age range.
- Both male and female participants residing in rural and urban areas to capture variations in environmental factors with varying occupations
- Individuals with different exposure levels to sunlight
- Participants with a history of various skin disorders
- Cases with skin disorders of varying durations and severity levels

Exclusion Criteria:
- Individuals with a history of serious medical conditions such as chronic heart disease, rheumatoid arthritis, and thyroid disorders, as these conditions may confound the results of the study.
- Participants with a known history of allergies, as allergic reactions may complicate the assessment of skin disorders.

The primary variables include the type and incidence of skin disorders, demographic information (age, gender, ethnicity), environmental factors (exposure to allergens, pollutants, sunlight), lifestyle factors (diet, hygiene practices), and family history of skin disorders.

Descriptive statistics are used to characterize the prevalence of each skin disorder to identify associations and potential risk factors. The study adheres to ethical guidelines and has received approval from the authorized Institution. Informed consent is obtained from all participants, and measures are in place to ensure confidentiality and privacy.

RESULT
The majority of participants fall into the age groups of <10 and <20, constituting nearly 48.26% of the total cases. This indicates a significant presence of younger individuals in the study. Again, our study shows a higher representation of males (57.56%) compared to females (42.44%). This gender imbalance might influence the overall study findings **(Table I).**

Table I: Demographic factors distribution among participants

Factor	Subcategory	Count	Percentage
Age	<10	42	24.42%
	<20	41	23.84%
	<30	37	21.51%
	<40	14	8.14%
	<50	13	7.56%
	<60	12	6.98%
	<80	13	7.56%
Gender	Male	99	57.56%
	Female	73	42.44%
Occupation	Student	74	43.02%
	Unemployed	60	34.88%
	Govt. Employee	7	4.07%
	Private Employee	13	7.56%
	Day Laborer	10	5.81%
	Businessman	8	4.65%
Residence Type	Urban	7	4.07%
	Rural	165	95.93%

A substantial portion of participants are students (43.02%) and unemployed (34.88%), reflecting a diverse mix of individuals in terms of professional status. The majority of participants reside in rural areas (95.93%), with only a small percentage residing in urban areas (4.07%). This rural dominance might impact the generalizability of the study findings to urban populations (**Table II**).

Table II: Environmental and lifestyle factors of skin disorders among study population

Factors	Cases	Percentage
Smoking status		
Past smoker	1	0.58
Present smoker	21	12.21
No	150	87.21
Alcohol Consumption		
Past consumer	1	0.58
Present consumer	1	0.58
No	170	98.84%
Exposure to sunlight (hours per day)		
Less than 1 hour	83	48.26
1-2 hours	52	30.23
3-5 hours	26	15.12
6-12 hours	11	6.40
Use of Sunscreen		

Never	163	94.77
Rarely	1	0.58
Sometimes	3	1.74
Often	2	1.16
Always	3	1.74
Exposure to Chemicals at work		
Never	168	97.67
Rarely	1	0.58
Sometimes	1	0.58
Often	1	0.58
Always	1	0.58

A comprehensive overview of the medical history of 172 participants, offering insights into personal history, family history, comorbidities, and a history of allergies. In terms of personal history, urticaria (14.22%) and fungal infections (11.39%) are the most prevalent skin conditions, while family history reveals a notable occurrence of urticaria (12.24%) and fungal infections (13.09%) among relatives. Comorbidities include hypertension (2.27%), diabetes (3.41%), asthma (1.7%), and a range of other health issues. Notably, 23.59% of participants report a history of allergies **(Table III)**.

Table III: Medical History of the participants (n=172)

Factors		Cases	Percentage
Personal History	Psoriasis	5	1.42
	Acne	13	3.70
	Urticaria	50	14.22
	Fungal infection	40	11.39
	Bacterial infection	12	3.41
	Viral infection	5	1.42
	Eczema	17	4.83
	Other	30	8.54
Family History	Acne	5	1.42
	Urticaria	43	12.24
	Fungal infection	46	13.09
	Bacterial infection	12	3.41
	Eczema	25	7.11
	Other	41	11.65
Comorbidities	Hypertension	8	2.27
	Diabetes	12	3.41
	Asthma	6	1.7
	Chronic Heart Disease	2	0.57
	Thyroid Disorders	1	0.28

	Rheumatoid Arthritis	1	0.28
	Other	10	2.84
History of Allergies	Yes	83	23.59
	No	89	25.35

Figure 1 shows the different types of skin disorders among the participants. 51 % of the participants had fungal infections, while Bacterial Infection and urticaria were each present in 20% of the patients. 78% of the participants had other forms of skin complications.
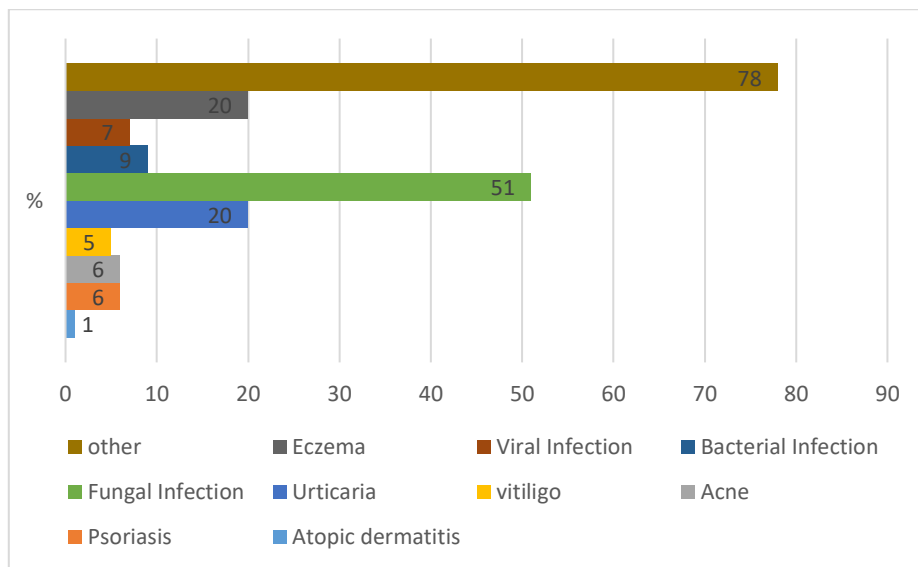

Figure 1: Diagnosis analysis of skin orders among the patients

Figure 2 shows that among the participants. 76 participants had been suffering from skin disease for ≤50 days, while 26 had suffered for 51-100 days, and 23 suffered for 101-200 days.
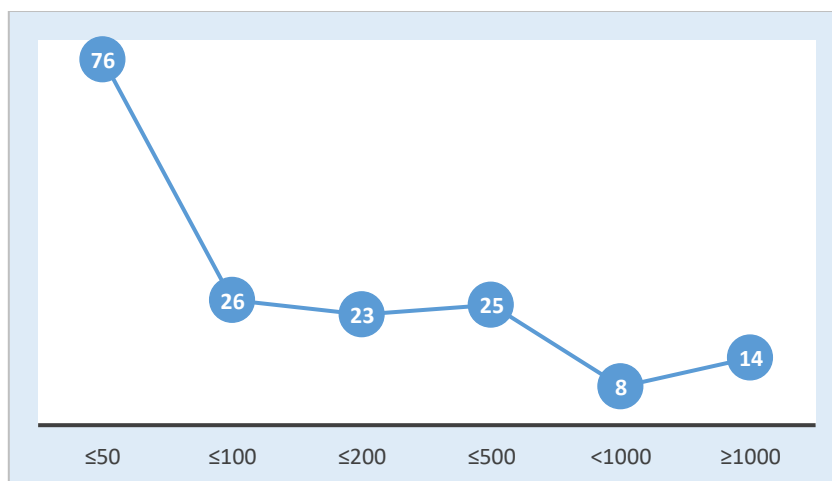
Figure 2: Duration of the skin disorders suffering by the patients

Figure 3 shows that 78% had moderately severe skin disorder, 10% had mild and 12% had severe skin disorders.
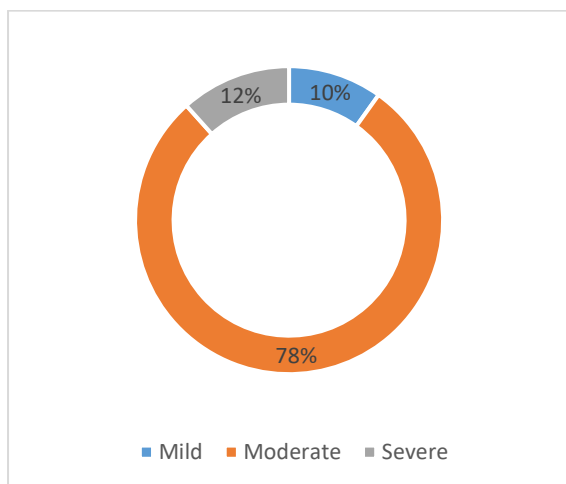

Figure 3: Severity of the skin disorders conditions

DISCUSSION

In analyzing the provided data on skin disorders among 172 participants, several key trends and associations emerge. First and foremost, the demographics reveal a diverse group, primarily consisting of individuals under the age of 30 (42% below 10 years and 24% between 10 and 20 years). The gender distribution indicates a slightly higher prevalence among males (57.6%). The majority of participants hail from rural areas (95.9%), reflecting a potential correlation between geographic location and skin disorders.

Exploring lifestyle factors, 12.2% of participants identified as present smokers, and a noteworthy 83.1% reported exposure to less than one hour of sunlight daily. Sunscreen use appears to be infrequent, with 94.8% reporting never or rarely using it. Additionally, a significant portion of the participants (97.7%) claimed no exposure to chemicals or irritants at work, which might influence skin health.

The medical history section unveils important insights into the prevalence of skin disorders among participants. Notably, 23.8% have a personal history of urticaria, making it the most commonly reported condition, followed by fungal infection (23.3%) and acne (7.6%). Family history further reinforces the significance of genetic factors, with 25.0% reporting a family history of eczema and 25.0% reporting a family history of urticaria. Comorbidities are present in varying degrees, with 4.7% reporting hypertension,

7.0% diabetes, and 3.5% asthma. Allergies are relatively common, with 48.3% of participants confirming a history of allergies.

Moving to the current skin disorders section, fungal infections emerge as the predominant issue, affecting 29.7% of participants, followed by eczema (11.6%) and urticaria (11.6%). Psoriasis and acne are reported by 3.5% and 3.5% of participants, respectively. Notably, 45.3% of participants report other skin disorders, indicating a diverse range of dermatological conditions.

In terms of duration, the majority of cases (44.2%) have persisted for less than 50 days, suggesting a substantial number of acute conditions. Regarding severity, the majority of cases (78.5%) are classified as moderate, highlighting the need for medical attention and intervention.

CONCLUSION

Dermatological conditions such as urticaria, fungal infections, and acne are notably prevalent among the participants, underscoring the significance of these issues in the study population. Family history further emphasizes the hereditary nature of skin disorders, with urticaria and fungal infections showing notable familial patterns. In terms of comorbidities, a range of health issues is observed, with hypertension, diabetes, and a history of allergies standing out. The high prevalence of allergies highlights the need for a comprehensive approach to skin health that considers both dermatological and systemic factors.

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