

Prevalence of Psoriasis in Outpatient Department of Dermatology and Venereology in North Bengal Medical College Hospital, Sirajganj, Bangladesh

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ABSTRACT

Introduction: Psoriasis is a common, chronic, recurrent inflammatory skin disease, characterized by erythematous plaque covered with silvery white scales. Determination of the prevalence of psoriasis is important for understanding the burden of this disease in the community. Aim of this study was to determine the prevalence of psoriasis in Sirajganj district of Bangladesh. **Methods:** This cross-sectional descriptive study was carried in the Department of Dermatology and Venereology, North Bengal Medical College Hospital, Sirajganj, Bangladesh during the period of September, 2020 to August, 2021. A total of 36 patients suffering from psoriasis were included for this study. Data were collected by structured questionnaire. Statistical analysis was done by computer software SPSS (V-20). **Results:** Out of 2194 patients, prevalence of psoriasis was 1.6% and mean age was 33.69 ± 13.80 years. Maximum (15, 41.7%) were in 21-40 years of age group and majority were male (26, 72.2%). Farmer and students was common sufferer of psoriasis and plaque psoriasis was common (29, 80.5%). **Conclusion:** Plaque psoriasis is common in this study and this prevalence is useful for estimating the disease burden and promoting initiatives in research, instruction and health policy.

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INTRODUCTION

Skin is the largest organ of the human body and dermatological disorders are common health problem now a day. Almost every individual affected by different type of skin disease at some point in their lives. Psoriasis comes from Greek word psora which means itch.¹It is a common, relapsing, chronic

papulosquamous dermatitis that is distinguished by erythematous papules or plaques that are coated in silvery scales.² The actual cause and mechanism of the disease is unknown but genetic, autoimmune and environmental factors are related to this disease.³ It affects both male and female of all age group throughout the world.⁴

Currently thought that, this disease results from genetically determined immune dysregulation which produce various types of cytokines like TNF, Interferon, IL-12, IL-17 and IL-23.⁵ An unidentified antigen, triggered by environmental stimuli such as trauma, infections, stress, medications, sunlight and metabolic disturbances, is considered to be the cause of this immunological dysregulation. Psoriasis has been linked to a number of genes, although only PSORS1 is well-characterized and verified in 30–50% of individuals.^{6,7} Psoriasis is diagnosed based on the clinical appearance of the skin lesion, but a biopsy is required to confirm and differentiate it from other similar types of illnesses like lichen planus, lichen simplex chronicus, tinea corporis, and seborrheic dermatitis etc.⁸

Prevalence of psoriasis varies from 0.09% to 11.4% in different regions of the world.^{9,10} Psoriasis is common in the Northern Europe and North Atlantic region.¹¹ In USA, its prevalence in white and black people is 2.5% and 1.3% respectively.¹² It is low in certain ethnic groups of Asia.^{13,14} On the basis of the study findings of Kalam et al.⁸ and Bhuyan et al.¹⁵ prevalence of psoriasis were 1.13% and 0.7% in Bangladesh respectively.

There is limited number of research work done on the prevalence of psoriasis in Bangladesh.

The objective of this study was to assess the prevalence of psoriasis in the Sirajganj district of Bangladesh.

METHODS

This cross-sectional descriptive study was carried out in the Department of Dermatology and Venereology of North Bengal Medical College and Hospital, Sirajganj, Bangladesh, during the period of September, 2020 to August, 2021. A total of 2194 patients were visited in outpatient department during the study period. Out of them total 36 psoriasis patients were included in this study on the basis of selection criteria. All patients with psoriasis irrespective of age and sex were included for this study. A careful history was taken from each patient regarding the presence of chronic inflammatory diseases or other dermatoses. Majority of the patients were diagnosed clinically and few selected patients were diagnosed after histopathological investigation. Data were collected by structured questionnaire. Informed written consent was taken from each study subject. Statistical analysis was performed with Statistical package of social science (SPSS) windows version 20. Chi-square test and other statistical analyses were done to employ appropriate interpretations of the findings. *P*-values of <0.05 were considered statistically significant.

RESULTS

During the study period, common dermatological disorders were dermatophytosis (380, 17.3%) and acne vulgaris (352, 16.1%). Prevalence of psoriasis was 1.6% among all the patients (Table I). The mean age of psoriasis patient was 33.69±13.80 years.

Table I: Distribution of dermatological diseases among the patients (n-2194)

Dermatological conditions	Frequency	Percentage (%)
Dematophytosis	380	17.3%
Acne Vulgaris	352	16.1%
Seborrheic dermatitis	138	6.3%
Dermatitis	111	5.1%
Scabies	104	4.7%
Psoriasis	36	1.6%
Ptyriasisrosea	09	0.4%
Lichenplanus	06	0.3%
Others	1058	48.2%
Total	2194	100%

Maximum patients of psoriasis were in 21 to 40 years of age group (15, 41.7%) and males (26,

72.2%) were worst victim of psoriasis. Regarding occupational status, farmer and students was

common patient of psoriasis (Table II). There was no significant relation of psoriasis with age and

occupation but significantly ($p=0.000094$) related with gender.

Table II: Demographic characteristics of the study subjects (n-36)

Variables	No. of patients		χ^2	p-value
Age in years	With psoriasis (%)	Without psoriasis (%)		
0-20	05 (13.9%)	431 (19.9%)	3.8531	0.27 ^{ns}
21-40	15 (41.7%)	1077 (49.9%)		
41-60	14 (38.9%)	540 (25.1%)		
Above 60	02 (5.5%)	110 (5.1%)		
Total	36 (100%)	2158 (100%)		
Sex				
Male	26 (72.2%)	863 (39.9%)	15.263	0.000094 ^s
Female	10 (27.8%)	1295 (60.1%)		
Total	36 (100%)	2158 (100%)		
Occupation				
Farmer	8(22.2%)	408 (18.9%)	7.67	0.17 ^{ns}
Student	7 (19.4%)	462 (21.5%)		
Businessman	6 (16.7%)	196 (9.1%)		
Service holder	5 (13.9%)	171 (7.9%)		
House wife	4 (11.1%)	598 (27.7%)		
Others	6 (16.7%)	323 (14.9%)		
Total	36 (100%)	2158 (100%)		

*ns-not significant, *s-significant

Most of the psoriasis patients were belongs to Sirajganj Sadar and Kamarkhanda Upazila but there were no patients from Shazadpur, Kazipur and Tarash Upazila (Table III).

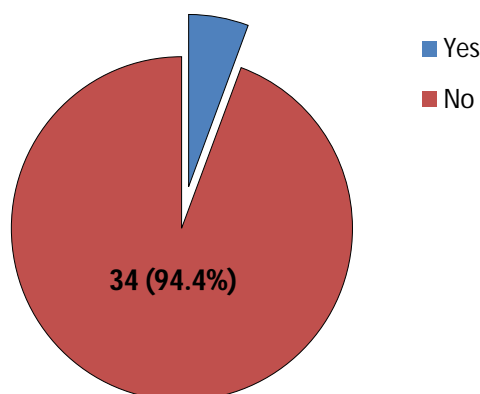
Table III: Distribution of the psoriasis patients according to location (n-36)

Different Upazila	No. of patients	Percentage (%)
Sirajganj Sadar	16	44.4%
Kamarkhanda	8	22.2%
Belkuchi	4	11.1%
Ullapara	4	11.1%
Chouhali	2	5.6%
Raiganj	2	5.6%
Shahjadpur	0	0.0%
Kazipur	0	0.0%
Tarash	0	0.0%
Total	36	100%

Among the psoriasis patient, 22.2% had DM and 13.9% had HTN (Table IV).

Table IV: Comorbidities of psoriasis (n-36)

Variables	No. of patients	Percentage (%)
Comorbidities		
DM	8	22.2%
HTN	5	13.9%
None	23	63.9%
Total	36	100%

**Figure 1: Family history of psoriasis (n-36)**

Out of 36 patients, only 2 (5.6%) had positive family history of psoriasis (Figure 1). In this study, most common type of psoriasis was plaque psoriasis (29, 80.5%) but scalp and erythrodermic psoriasis was less common (Table V).

Table V: Types of psoriasis (n-36)

Types of psoriasis	No. of patients	Percentage (%)
Plaque psoriasis	29	80.5%
Nail psoriasis	3	8.3%
Guttate psoriasis	2	5.6%
Scalp psoriasis	1	2.8%
Erythrodermic psoriasis	1	2.8%
Total	36	100%

DISCUSSION

Psoriasis is a chronic and immune-mediated inflammatory skin disease. This study demonstrated that prevalence of psoriasis among

the dermatological disorders in a tertiary care medical college Hospital of Bangladesh.

This study showed the prevalence of psoriasis was 1.6%. Therefore, the findings of the study are

in well agreement with the findings of Fernández-Armenteros et al.¹⁶ (1.72%) and Ferrándiz et al.¹⁷ (2.31%). Previous study in Bangladesh reported the prevalence of psoriasis was 0.7%.¹⁵ There are other European studies that evaluated the prevalence of psoriasis through databases such as those of Springate et. al.¹⁸ in the United Kingdom and Radtke et. al.¹⁹ in Germany, with a prevalence of 2.8% and 2.78% respectively. Highest prevalence of psoriasis is in Scandinavian countries, like Norway (11.4%).¹¹

The prevalence of psoriasis in different geographical areas widely differs due to environmental, nutritional and genetic variation.²⁰ Psoriasis is comparatively less frequent among the black population, followed by Asian.²¹

In this study, psoriasis was more common among the age group of 21-40 years and mean age was 33.69±13.80 years. Age variation is not statistically significant (p=0.27) with the prevalence of psoriasis. This findings is consistent with other studies.^{15,22} There were two peaks in the age of onset: First and fourth decades of life.²³

Psoriasis was common in male then female and male female ratio was 2.6:1. Psoriasis was significantly (p=0.000094) related with Gender variation. Male preponderance of psoriasis was found in other studies conducted by Bhuiyan et al.¹⁵ Sikder et al.²² and Shao et al.²⁴ They found male patients were 55.1%, 61.2% and 67.5% respectively. It may be equal among male and female genders.²⁵

Psoriasis was common among farmers it may be due to stress and smoking. Initiation and adverse progress of psoriasis is associated with smoking.²⁶ Maximum patient of psoriasis were from Sirajganj sadar upazila because this study was conducted at tertiary care hospital which is situated in sadar upazila of sirajganj district. There were no patients from Shahzadpur, Kazipur and Tarash upazila possibly due to long distance.

Regarding comorbidities, diabetes mellitus and hypertension were present in 22.2% and 13.9% of cases respectively. Similar study conducted by Singh et al.²⁷ reported 18% psoriasis patients were Diabetic and 13.3% were hypertensive. This study revealed, 5.6% patient had positive family history of psoriasis. Kalam et al.⁸ found positive family history in 6.45% cases.

In this study, common type of psoriasis was plaque type (80.5%) followed by nail (8.3%) and guttate type (5.6%). Bhuiyan et al.¹⁵ reported similar finding that, plaque type psoriasis was 81.3% of patients. Another study conducted by Kaur et al.²⁸ where plaque psoriasis was 93%. The actual reason of this plaque type of psoriasis is unknown but considers autoimmune factor may be related.

CONCLUSION

This study concludes, psoriasis is more prevalent in males and plaque psoriasis is common. This result can be used as a reference value for the prevalence of psoriasis in Bangladesh as well as helpful for the diagnosis and treatment of the patients.

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Conflict of interest: None

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