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## The Pattern of Skin Diseases in Patients Attending OPD: A Study in Dhaka Birdem General Hospital, Dhaka, Bangladesh

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### Abstract

Skin diseases differ in different countries, and within various regions of a country depending on social, economic, racial and environmental factors. Many patients have reported various patterns of skin diseases in different countries. We have conducted this study during the period from January 2018 to December 2018 in the dept. of Skin Dermatology and Venereology, Birdem General Hospital, Dhaka, Bangladesh. The purpose of the present study was to evaluate the pattern of skin diseases in a tertiary care hospital in Bangladesh. In addition, we wanted to collect more information regarding skin diseases in this region. This was a cross-sectional study and was conducted in the outpatient department of Birdem General Hospital, Dhaka, Bangladesh during the period from January 2018 to December 2018. In our study period, total 2, 62,870 patients visited OPD. Among them 26,980 patients visited OPD for skin disorders/diseases. All the patients at any age and sex who were attended in the OPD of Skin and Venereal Diseases of the hospital were selected as study population. In this study, we found among 26,980 participants, 56% was suffering from some infectious and 44% from some non-infectious skin diseases. Among the patients with infectious skin diseases it was found parasitic, fungal and bacterial infection were about 33%, 28%, and 20% respectively. On the other hand in non-infectious group about 38% patients suffer from eczema or dermatitis only. So to do something betterment for the patients with skin diseases one should pay more attention to those four (4) skin diseases and/disorders at first. The diagnosis was made on clinical basis by expert dermatologists. Lab investigations were restricted to the cases where they carried diagnostic importance. In this study we found 56% patients of our study were suffering from infectious diseases. Among that 33.21% had parasitic infection which was the highest ratio. Besides this 28.28% had fungal, 20.06 had bacterial, 9.56% had viral, 4.72% had STI, and (4.16%) had other infections. On the other hand we found 44% patients had several types of non-infectious diseases and disorders. The highest number of patients with non-infectious diseases was suffering from eczema or dermatitis. This number was 1681 (37.79%). In rest of the patients 17.87% had the papulosquamous disease, 14.25% had acne, 14.01% had urticaria, 3.15% had drug reaction, 8.70% had vitiligo and rest 4.22% patients had some other non-infectious skin diseases.

**Keywords:** Skin diseases; OPD; Fungal; Non-infectious; Acne; Venereal diseases; Bangladesh

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### Introduction

The largest external organ, which is also the largest organ in general, is the skin. Skin diseases affect all ages from neonates to the elderly [1]. It causes harm in a number of ways and can have

a profound effect on both the individual and the community. Morbidity is significant through disfigurement, disability or symptoms such as intractable itch impair quality of life, even social isolation and economic burden [2]. Death, though rare

but still seen from metastatic skin cancer. Many times, some dermatological manifestations may give some clues to the presence of benign or malignant systemic diseases in individual. Despite the high frequency of certain skin diseases in developing countries, they have so far not been regarded as a significant health problem in the development of public health strategy [3]. The pattern of skin diseases varies from country to country. Even in the same country it differs from region to region. Types of skin diseases are influenced by various factors like genetics, race, religion, occupation, nutrition, and habits [4]. Geographical factors such as season and climate also contribute to the increased prevalence of certain types of skin disorders in a particular area. Bangladesh is such a country where wide variation in climate, socioeconomic status, religion, and customs is quite prevalent in different parts of the country [5]. In developing countries, other than hot and humid climatic conditions, low hygiene, poor access to water, overcrowding, high interpersonal contact also play significant etiological role for certain skin diseases like pyoderma, scabies, fungal infection [6]. In developing countries 70% of the people suffer from skin diseases in some parts of their life [7]. Many do not have access to basic skin services and even in developed countries 15% of the patients apply home remedies before proper medical services [8]. Many of the skin infections are endemic in developing countries. However the epidemiology of these diseases is inadequately understood in many areas, particularly in Bangladesh [9]. Different studies have shown different results. However, most of the result from the Indian subcontinent shows similar to the present study result. In developed countries like U.K., Denmark, Egypt, Singapore shows different results. In Indian subcontinent infectious skin diseases are more common than non-infectious diseases even in Ghana [10-12]. Whereas in Denmark, Egypt and in Singapore dermatoses are more common and in U.K. premalignant and malignant skin diseases are more common [13,14]. Moreover, there is scarcity of knowledge about common skin diseases which can be very easily treated by general practitioners reducing the burden on specialized centers for management of more complicated skin diseases. In addition there is a need to create awareness among public and primary health care providers to educate people about preventive aspects related to skin diseases so that the burden of disease can be minimized [15]. Therefore this present study was undertaken to evaluate the pattern of skin diseases among the patients attending the OPD of a tertiary care hospital at Barisal in Bangladesh.

## Objective

- **General objective:** To evaluate the pattern of skin diseases attending OPD in a tertiary hospital in Bangladesh
- **Specific objective:** To assess the socio-economic and demographic status of patients with skin diseases

## Materials and Methods

It was a cross-sectional study conducted in the outpatient department of Skin and Venereal Diseases in Birdem General Hospital, Dhaka, Bangladesh during the period from January 2018 to December 2018. All the patients at any age and both sex

who were attended in the OPD of Skin and Venereal Diseases of the hospital were considered as study participants. For the study, newly diagnosed cases were included. Twenty-six thousand, two hundred and eighty-two (26,282) patients were recruited as study population. There was a pre-designed questioner for data collection from the respondents. In this study, the socio-demographic profiles and diseases pattern were recorded on the datasheet by some trained staff. The diagnosis was made on clinical basis by expert dermatologists. Lab investigations were restricted to the cases where they carried diagnostic importance. Data were collected through direct interview of the patients at the respective departments by the researcher and competent colleagues. Collected data was checked and edited first. Then they were processed with the help of software SPSS (Statistical Package for Social Sciences) version 16 and analyzed.

## Results

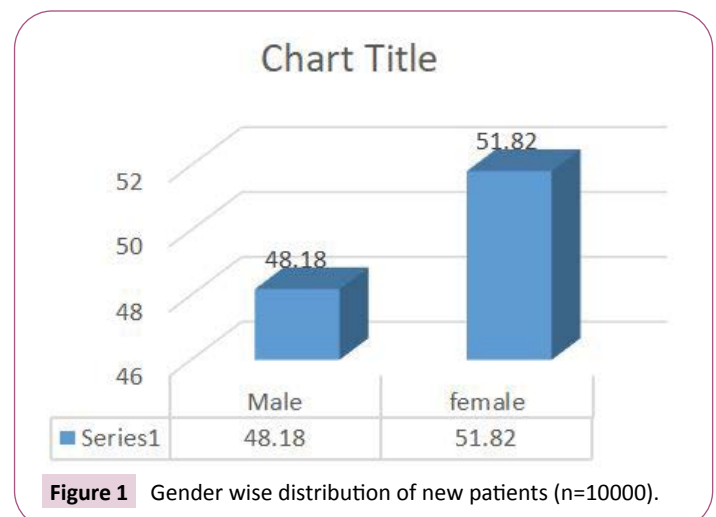
It was a cross-sectional study and was conducted in the outpatient department of Skin and Venereal Diseases of Birdem General Hospital, Dhaka in Bangladesh during the period from January 2018 to December 2018. In total 10,000 patients were recruited for this study who were presented with skin diseases in the OPD of that tertiary care hospital.

**Table 1** mentions that, out of 10,000 patients 5,098 (50.98%) was male and 4,902 (49.02%) were female. In this table we have also shown that the highest ratio of patients were from 0 to 10 years' age group and the number was 2509 (25.09%) in total. Then it followed 2211 (22.11%), 2063 (20.63%), 1783 (17.83%) and 1434 (14.34%) for 11-20, 21-40, 41-60, 60+ age groups respectively. In total 810 male patients of 60+ years' age group was the highest sufferer male ratio which was 56.62%. On the other hand, the largest female sufferer ratio was 51.82% and it was from 41-60 years' age group. To make clearer we also showed the graphical presentation of several sufferer age group patients in **Figure 1**.

According to yearly family income status in our study out of

**Table 1:** Gender wise distribution of new patients (n=10000).

Male patients	Female patients
5,098 (50.98%)	4,902 (49.02%)



10,000 respondents we found, 5257 (52%), 3085 (31%) and 1658 (17%) were from financially poor, mid labeled and sound family respectively. This may an indication of more abilities of financially sound families to prevent several skin diseases. We found infectious and non-infectious, both types of diseases in our study. In **Tables 2 and 3** we showed that 5552 patients of our study were suffering from infectious diseases.

Among these 5552 patients 1844 (33.21%) had parasitic infection which was the highest ratio of infectious diseases. Besides this 1570 (28.28%) had fungal, 1114 (20.06) had bacterial, 513 (9.56%) had viral, 262 (4.72%) had STI, and 231 (4.16%) had other infections. On the other hand we found 4442 patients had several types of non-infectious diseases and disorders. In **Table 4** we showed that the highest number of patients of our study with non-infectious diseases was suffering from eczema or dermatitis.

This number was 1681 (37.79%). In rest of the patients 795 (17.87%) had papulosquamous disease, 634 (14.25%) had acne,

**Table 2:** Age wise distribution of patients (n=10000).

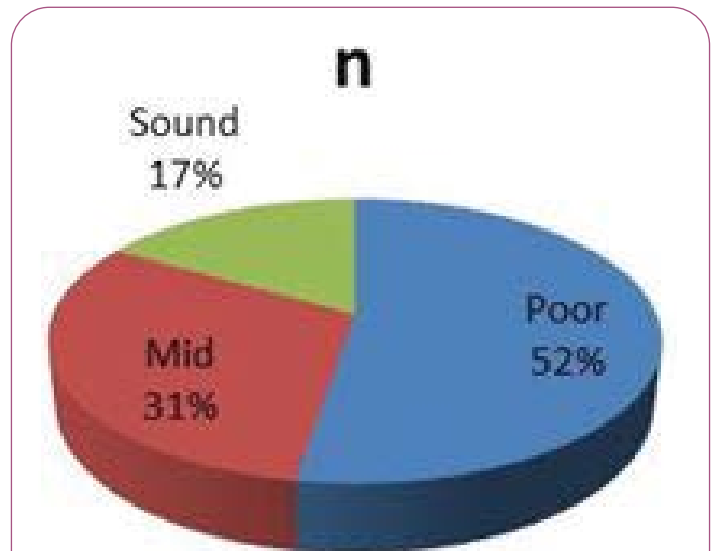
Age groups	Number of patient =2747	N= (%)
0-10 years	2509	-25.09%
11-20 years	2211	-22.11%
21-40 years	2063	-20.63%
41-60 years	1783	-17.83%
>60 years	1434	-14.34%
<b>Total</b>	<b>10000</b>	<b>-100%</b>

**Table 3:** Distribution of infectious diseases of respondents (n=5552).

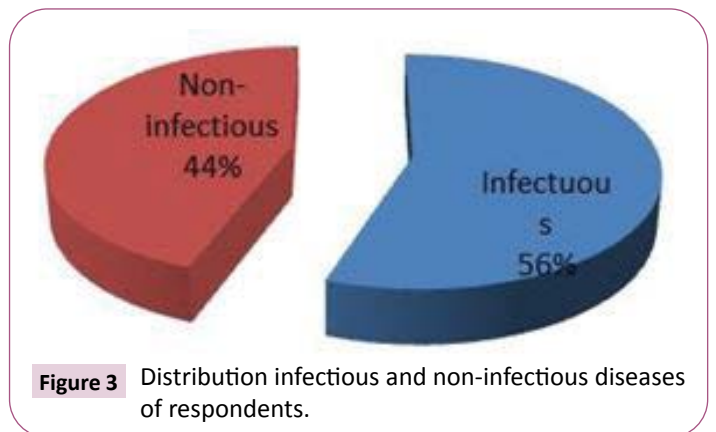
Infectious Diseases	n	%
Parasitic	1844	33.2
Fungal	1570	28.3
Bacterial	1114	20.1
Viral	531	9.56
STI	262	4.72
Other infectious diseases	231	4.16
<b>Total</b>	<b>5552</b>	<b>100</b>

**Table 4:** Distribution of non-infectious diseases of respondents (n=4448).

Non Infectious Diseases	n	%
Eczema/Dermatitis	1681	37.79
Papulo Squamous disease	795	17.87
Acne	634	14.25
Urticaria	623	14.01
Drug reaction	140	3.15
Vitiligo	387	8.7
Chronic arsenicosis	42	0.94
Neoplastic skin disorder	31	0.7
Genodermatoses	57	1.28
Other non-infectious diseases	58	1.3
<b>Total</b>	<b>4448</b>	<b>100</b>



**Figure 2** Distribution of infectious diseases of respondents (n=5552).



**Figure 3** Distribution infectious and non-infectious diseases of respondents.

623 (14.01%) had urticaria, 140 (3.15%) had drug reaction, 387 (8.70%) had vitiligo and rest 4.22% patients had some other non-infectious skin diseases. In the figure we showed that among 10,000 selected responded, 56% (5552) were suffering from some infectious and 44% (4448) from some non-infectious skin diseases. In our study we found maximum patients from 0 to 10 years' age group (**Figures 2 and 3**).

## Division and Discussion

It was a cross-sectional study and was conducted in the outpatient department of Skin and Venereal Diseases of Birdem General Hospital, Dhaka in Bangladesh during the period from January 2018 to December 2018. In total 10,000 patients were recruited for this study who were presented with skin diseases in the OPD of that tertiary care hospital. In our study out of 10,000 patients 5,098 (50.98%) was male and 4,902 (49.02%) were female. Male-female ratio was about 1: 1. Also female patients were more in studies done in Denmark [16] and Egypt. However, in one study in Singapore [15] male and female ratio 5:1 and in a study by Kar et al. [10] shows male: female ratio 1.1:1 in which male were 51.98%. In a study by Grover et al. [8] the prevalence of skin disorders presented with female preponderance and the largest group of

population (50.7%) was in their second and third decades. In another study [9], although there was female preponderance with skin disorders of 55.7%, the largest group was in the third and fourth decades of life (49.1%), respectively. In Singapore more patients were in age group 20 to 39 years [15]; however, in Egypt it is more on 2<sup>nd</sup> decade. In our study we found, infective diseases (56%) were more than non-infective diseases (44%). In Indian sub-continent infectious skin diseases are more common than non-infectious diseases [10,11]. Whereas in Denmark, Egypt [14] and in Singapore [13] dermatoses are more common and in the UK [17,18] premalignant and malignant skin diseases are more common. We recorded the family income labels of our respondents to find out any cause if responsible. We found financially sound family respondents are very low in number. But in maximum study they recorded the data regarding living atmosphere which may help to find more specific information. In some studies [17,18] they mentioned about social score of respondent which may also specific. In infectious skin diseases group we found about one third (33.21%) patients were with parasitic infection. But there had not been conducted enough studies regarding parasitic infections. Similar information we found from some of the study [19,20] which was very disappointing. In **Table 2** we showed that 5552 patients of our study were suffering from infectious skin diseases. Among the 5552 patients 1844 (33.21%) had parasitic infection which was the highest ratio of infectious diseases. Besides this 1570 (28.28%) had fungal, 1114 (20.06) had bacterial, 513 (9.56%) had viral, 262 (4.72%) had STI (Sexually Transmitted Infection), and 231 (4.16%) had other

infections. In fungal infection the greater portion of patients were with tinea infections. The tinea infections were: tinea capitis, tinea corporis, tinea cruris, candidiasis, Onychomycosis, and Pityriasis Versicolor. Besides these as bacterial infections we found mainly impetigo, pyoderma, folliculitis, leprosy, and Skin TB. In parasitic infections we found mostly scabies and pediculosis patients. On the other hand we found 4442 patients had several types of non-infectious diseases and disorders. In **Table 3** we showed that the highest number of patients of our study with non-infectious diseases was suffering from eczema or dermatitis. This number was 1681 (37.79%). In rest of the patients 795 (17.87%) had papulosquamous disease, 634 (14.25%) had acne, 623 (14.01%) had urticaria, 140 (3.15%) had drug reaction, 387 (8.70%) had vitiligo and rest 4.22% patients had some other non-infectious skin diseases. In our study we found maximum patients from 0 to 10 years' age group. So age may be a vital factor in the treatment in several infectious as well as non-infectious skin diseases in this region.

### Limitations of the Study

This was a single-center study. So, the results may not reflect the scenarios of the whole country.

### Conclusion and Recommendations

We can conclude that the young age group is the most vulnerable group for skin-related diseases in Bangladesh. Government and policymaker should give more attention to this group for being a healthy society with free of skin diseases.

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