

## Pattern of Skin Diseases in Patients Attending OPD of Dermatology and Venereology in a Tertiary Care Hospital in Bangladesh

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### Abstract

**Background:** Skin diseases account for a higher proportion of outpatient department in developing countries including Bangladesh. **Objective:** The purpose of the present study was to evaluate the pattern of skin diseases in patients attending OPD of Dermatology and venereology in a tertiary care hospital. **Methodology:** This cross-sectional study was conducted in the outpatient department of medical college hospital of Kishoreganj in Bangladesh from 2013 to 2016 for a period of four (4) years. All the patients at any age and sex who were attended in the OPD of the hospital selected as study population. Only newly diagnosed cases were included in the study. The socio-demographic profiles and diseases pattern were recorded in a data sheet. Diagnosis was made on clinical basis by expert dermatologist. Lab investigations were restricted to the cases where it carried diagnostic importance. **Result:** A total number of 119228 patients (near about 82/day) were recruited for this study. Out of them 57825 (48.5%) cases were male and 61403 (51.5%) cases were female. Infective diseases were more common than non-infective diseases which were (65409; 54.9%) and (53819; 45.1%) cases respectively. In cases of infective diseases; parasitic, fungal, bacterial, viral, sexually transmitted infection and other nonspecific infections were 20408(31.2%), 17464(26.7%), 12166(18.6%), 8503(13.0%), 3597(5.5%) and 3271(5.0%) respectively. Out of 20408 parasitic diseases of which 20061(98.3%) cases were scabies and 1347(1.7%) cases were pediculosis. Out of 17464 fungal diseases tinea capitis, tinea corporis, tinea cruris, candidiasis, onychomycosis and pityriasis versicolor were found in 2655(15.2%) cases, 3737(21.4%) cases, 3423(19.6%) cases, 3127(17.9%) cases, 1031(5.9%) cases and 3492(20.0%) cases respectively. Out of 12166 bacterial diseases Impetigo was found in 4745(39.0%) cases, pyoderma in 4282(35.2%) cases, folliculitis in 3103(25.5%) cases, leprosy in 24(0.2%) cases and skin TB in 12(0.1%) cases. Among the viral diseases verruca was found in 4056(47.7%) cases. In case of non-infective diseases, eczema, papulo-squamous disease, acne, urticarial, drug reaction, vitiligo, chronic arsenicosis, neoplastic skin disorder, genodermatoses and others were 16953(31.5%), 9903( 18.4%), 7696( 14.3%), 8019( 14.9%), 4682( 8.7%), 2099( 3.9%), 269(0.5%), 161(0.3%), 431(0.8%) and 3606( 6.7%) respectively. **Conclusion:** In conclusion, we found that a huge burden of skin diseases are present in the OPD. Infective skin diseases mostly bacterial and parasitic still predominant in Bangladesh though it is less frequent in developed countries. [*Journal of National Institute of Neurosciences Bangladesh, 2018;4(2): 116-122*]

**Keywords:** skin diseases; OPD; tertiary care hospital

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### Introduction

Skin diseases affect all ages from neonate to the elderly<sup>1</sup>. 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<sup>2</sup>. Death, though rare but

still seen from metastatic skin cancer. Many times, some dermatological manifestations may give some clue 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<sup>3</sup>.

Pattern of skin diseases vary 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 genetic, race, religion, occupation, nutrition and habits<sup>4</sup>. Geographical factors such as season and climate also contribute to the increased prevalence of certain type of skin disorder in a particular area. Bangladesh is such a country where wide variation in climate, socio-economic status, religion, and customs is quite prevalent in different parts of the country<sup>5</sup>. In developing countries, other than hot and humid climatic condition, low hygiene, poor access to water, overcrowding, high interpersonal contact also play significant etiological role for certain skin diseases like pyoderma, scabies, fungal infection<sup>6</sup>.

In developing countries 70% of the people suffer from skin diseases in some part of their life<sup>7</sup>. 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<sup>8</sup>. Keeping in view the importance of health issues related to skin it is important to devise means and measures to estimate the burden of disease which affects not only the patient's life but also their families and society. 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<sup>9</sup>. 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 sub continent infectious skin diseases are more common than non-infectious diseases even in Ghana<sup>10-11,18</sup>. Whereas in Denmark, Egypt and in Singapore dermatoses are more common and in U.K pre malignant and malignant skin diseases are more common<sup>16-19</sup>. 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<sup>20</sup>. Therefore this present study was undertaken to find out the pattern of skin diseases among the patients attending the skin OPD of a tertiary care hospital, Kishoreganj in Bangladesh.

### Methodology

This cross-sectional study was conducted in the outpatient department of Dermatology & Venereology in Shaheed Syed Nazrul Islam Medical College, Kishoreganj, Bangladesh from 2013 to 2016 for a period of four (4) years. All the patients at any age and sex who were attended in the OPD of the hospital were selected as study population. The study population comprised of newly diagnosed cases presenting in the outpatient irrespective of gender and age. Diagnosis was made on clinical basis. Lab investigations were restricted to the cases where it carried diagnostic importance. The socio-demographic profiles and diseases pattern were recorded in a data sheet. Methods used for data analysis included descriptions of quantitative variables in the form of percentage, mean, standard deviation, and range, as well as analysis of qualitative data using the Chi-square test.  $P < 0.05$  were considered significant. Comparison was done between our results and those reported from nearby countries through similar hospital attendance based studies.

### Results

A total number of 119228 patients were recruited for this study who were presented with skin diseases in the OPD of the tertiary care hospital in Kishoreganj. Out of 119228 patients 57825 (48.5%) cases were male and 61403 (51.5%) cases were female. In year wise distribution it is seen that the number of patients were increasing every year. During the study period maximum number of patients attending attended in OPD were in the year of 2015. Distribution of the patients according to age and sex in year wise given below (Table 1).

Table 1: Distribution of the patients according to year and sex (n=119228)

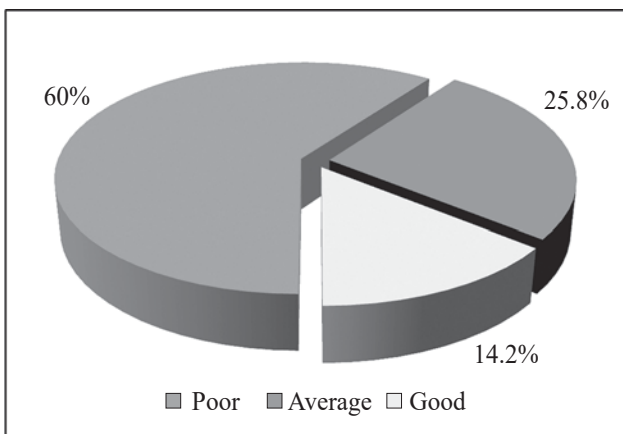
Year	Male	Female	Total
2013	13549 (48.2%)	14557 (51.8%)	28106 (100.0%)
2014	14282 (49.0%)	14861(51.0%)	29143(100.0%)
2015	15266 (47.9%)	16599 (52.1%)	31865 (100.0%)
2016	14728 (48.9%)	15386 (51.1%)	30114 (100.0%)
<b>Total</b>	<b>57825 (48.5%)</b>	<b>61403 (51.5%)</b>	<b>119228(100.0%)</b>

Out of 119228 cases majority were in the 19 to 40 years of age group which was 33311 cases and among this 14034 (42.1%) cases were male and 19277 (57.9%) cases were female. (Table 2).

Table 2: Distribution of the patients according to age and sex (n=119228)

Age Group	Male	Female	Total
0 to 12 years	14879(54.6)	12372 (45.4)	27251 (100.0)
13 to 18 years	13140 (44.2)	16589 (55.8)	29729 (100.0)
19 to 40 years	14034 (42.1)	19277 (57.9)	33311 (100.0)
41 to 60 years	10518 (52.1)	9650 (47.9)	20168 (100.0)
More than 60 years	5254 (59.9)	3515 (40.1)	8769 (100.0)
<b>Total</b>	<b>57825 (48.5)</b>	<b>61403 (51.5)</b>	<b>119228 (100.0)</b>

It has been found that majority of the patients were from poor socio-economic condition which was 60.0%(71582) cases followed by average and good which were 25.8%(30717) cases and 14.2%(16929) cases respectively (Figure I).



Group A= With Inter-maxillary fixation; Group B= without inter-maxillary fixation

Majority of the patients were student which was 40.6%(48408) cases. Housewife was found in 12.2%(14510) cases. Dependent was found in 13.6%(16203) cases. Service was found in 9.7%(11541) cases. Business was found in 8.0%(9491) cases. Others were in 16.0%(26142) cases (Figure II).

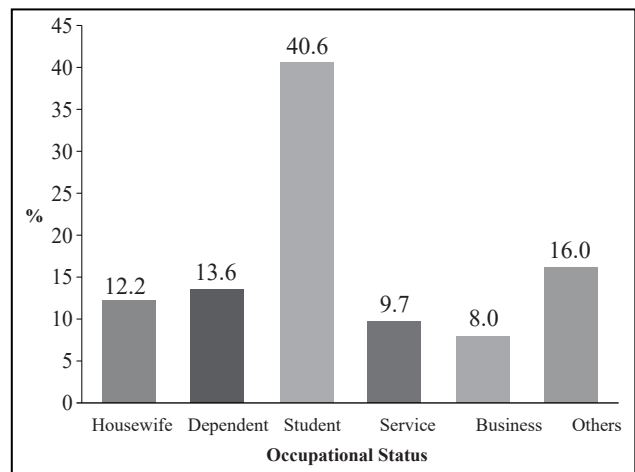


Figure II: Bar diagram of the patients according to occupational status

Educational status of the most of the patients was SSC which was 32.7%(38959) cases followed by up to class five, HSC, illiterate and graduate with above which were 23.8%(28331) cases, 18.8%(22415) cases, 18.4%(21904) cases and 6.4%(7619) cases respectively (Figure III).

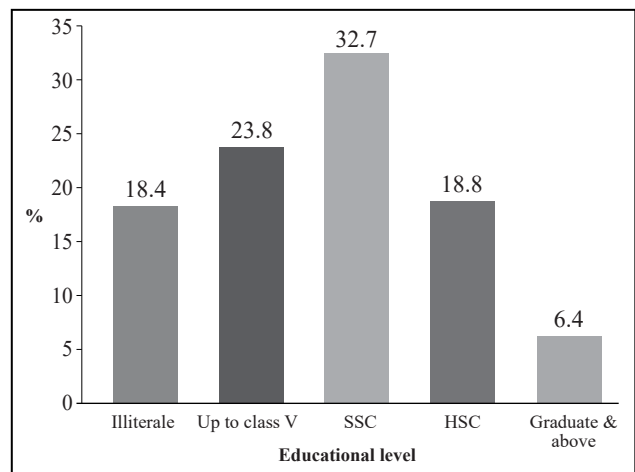


Figure III: Bar diagram of the patients according to educational level

Among the diseases infective diseases were more than non-infective diseases which was (65409;54.9%) and (53819;45.1%) cases respectively (Figure IV).

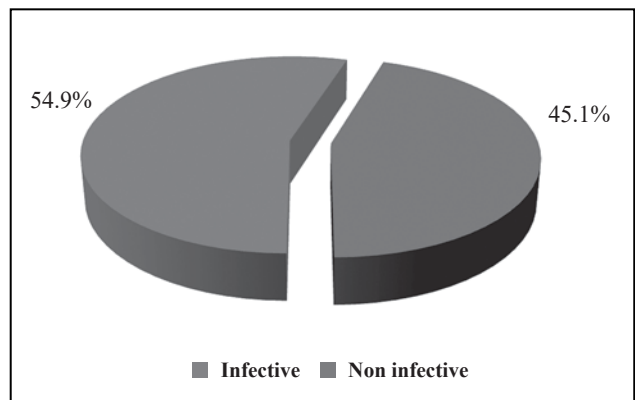


Figure IV: Pie chart of the patients according to disease

Table 3: Distribution of the patients according to infectious state and sex (n=119228)

Sex	Infectious disease	Non-infectious disease	Total
Male	26813(46.4%)	31012(53.6%)	57825(100%)
Female	32937(53.6%)	28466(46.4%)	61403(100%)

Out of 57825 male patients 26813(46.4%) were infectious and 31012(53.6%) were non-infectious. On the other hand total female patients were 61403 and infectious and non-infectious cases were 32937(53.6%), 28466(46.4%) respectively (Table 3).

A total number of 20408 cases were parasitic diseases of which 20061(98.3%) cases were scabies and 347(1.7%) cases were pediculosis. Out of 17464 fungal diseases tinea capitis, tinea corporis, tinea cruris,

candidiasis, onychomycosis and pityriasis versicolor were found in 2655(15.2%) cases, 3737(21.4%) cases, 3423(19.6%) cases, 3126(17.9%) cases, 1031(5.9%) cases and 3492(20.0%) cases respectively. Out of 12166 bacterial diseases Impetigo was found in 4745(39.0%) cases, pyoderma in 4282(35.2%) cases, folliculitis in 3103(25.5%) cases, leprosy in 24(0.2%) cases and skin TB in 12(0.1%) cases. Among the viral diseases verruca was found in 4056(47.7%) cases, Herpes simplex was in 1582(18.6%) cases, Herpes zoster was in 935(11.0%) cases, Molluscum contagiosum was in 850(10.0%) cases, Varicella was in 723(8.5%) cases and Measles was in 357(4.2%) cases. Among 3597 sexually transmitted infection (STI) cases non specific urethritis was found in 1482(41.2%) cases, Gonococcal urethritis was in 647(18.0%) cases and Others STI was found in 1468(40.8%) cases (Table 4).

Table 4: Distribution of the Patients According To Type of Infective Disease

Infective Disease	Frequency(n=65409)	Percent(54.9%)
<b>Parasitic</b>	<b>20408</b>	<b>31.2</b>
o Scabies	20061	98.3
o Pediculosis	347	1.7
<b>Fungal</b>	<b>17464</b>	<b>26.7</b>
o Tinea capitis	2655	15.2
o Tinea corporis	3737	21.4
o Tinea cruris	3423	19.6
o Candidiasis	3126	17.9
o Onychomycosis	1031	5.9
o Pityriasis versicolor	3492	20.0
<b>Bacterial</b>	<b>12166</b>	<b>18.6</b>
o Impetigo	4745	39.0
o Pyoderma	4282	35.2
o Folliculitis	3103	25.5
o Leprosy	24	0.2
o Skin TB	12	0.1
<b>Viral</b>	<b>8503</b>	<b>13.0</b>
o Verruca	4056	47.7
o Herpes simplex	1582	18.6
o Herpes zoster	935	11.0
o Molluscum contagiosum	850	10.0
o Varicella	723	8.5
o Measles	357	4.2
<b>STI</b>	<b>3597</b>	<b>5.5</b>
o Non specific urethritis	1482	41.2
o Gonococcal urethritis	647	18.0
o Others	1468	40.8
<b>Others (Non specific skin infection)</b>	<b>3271</b>	<b>5.0</b>

Table 5: Distribution of the patients according to type of non-infective disease

Disease	Frequency(n=53819)	Percent(45.1%)
<b>Eczema/Dermatitis</b>	<b>16953</b>	<b>31.5</b>
o Seborrheic dermatitis	5255	31.0
o Pompholyx	4577	27.0
o Lichen simplex chronicus	3611	21.3
o Atopic dermatitis	2323	13.7
o Contact dermatitis	492	2.9
o Undetermined type	695	4.1
<b>Papulo Squamous Disease</b>	<b>9903</b>	<b>18.4</b>
o Psoriasis	4585	46.3
o Lichen planus	3536	35.7
o Pityriasis rosea	1485	15.0
o Others	297	3.0
<b>Acne</b>	<b>7696</b>	<b>14.3</b>
<b>Urticaria</b>	<b>8019</b>	<b>14.9</b>
<b>Drug reaction</b>	<b>4682</b>	<b>8.7</b>
<b>Vitiligo</b>	<b>2099</b>	<b>3.9</b>
<b>Chronic arsenicosis</b>	<b>269</b>	<b>0.5</b>
<b>Neoplastic skin disorder</b>	<b>161</b>	<b>0.3</b>
o Premalignant	138	85.9
o Malignant	23	14.1
<b>Genodermatoses</b>	<b>431</b>	<b>0.8</b>
o Ichthyosis	284	65.8
o Neuro fibromatosis	72	16.7
o Others	75	17.5
<b>Other non infective disease</b>	<b>3606</b>	<b>6.7</b>

Among 16953 eczema/dermatitis cases Seborrheic dermatitis was found in 5255(31.0%) cases, Pompholyx was in 4577(27.0%) cases, Lichen simplex chronicus was in 3611(21.3%) cases, Atopic dermatitis was in 2323(13.7%) cases, contact dermatitis was in 492(2.9%) cases and undetermined type was in 695(4.1%) cases. Among 9903 cases of Papulo Squamous Disease, Psoriasis was found in 4585(46.3%) cases, lichen planus was in 3536(35.7%) cases, pityriasis rosea was in 1485(15.0%) cases and Others was in 297(3.0%) cases. Acne was found in 7696(14.3%) cases. Urticaria was found in 8019(14.9%) cases. Drug reaction was found in 4682(8.7%) cases. Vitiligo was found in 2099(3.9%) cases. Chronic arsenicosis was found in 269(0.5%) cases. Among genodermatoses cases ichthyosis was found in 284(65.8%) cases. Neurofibromatosis was found in 72(16.7%) cases. Others were in 75(17.5%) cases respectively.(Table 5).

## Discussion

A total number of 119228 patients were recruited for this study who were presented with skin diseases in the OPD of the tertiary care hospital in Kishoreganj. Out of 119228 patients 57825(48.5%) cases were male and 61403(51.5%) cases were female. Out of 119228 cases majority were in the 19 to 40 years of age group which was 33311(27.9%) cases and among this 14034(42.1%) cases were male and 19277(57.9%) cases were female. Followed by 13 to 18 years of age group 29729 (24.9%), 0 to 12 years group 27251(22.9%), 41 to 60 years group 20168(16.9%) and above 60 years group 8769(7.4%) respectively. Similar result was reported by Indian studies<sup>1,2,6,8,9,11</sup>. Also female patients were more in studies done in Denmark<sup>17</sup> and Egypt<sup>19</sup>. However, in one study in Singapore<sup>16</sup> male and female ratio 5:1 and in a study by Kar et al<sup>10</sup> shows male: female ratio 1.1:1 in which male were 51.98%. In a study by Grover et al<sup>8</sup> 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<sup>9,17</sup>, 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<sup>16</sup>; however, in Egypt<sup>19</sup> it is more on 2<sup>nd</sup> decade.

It has been found that majority of the patients were from poor socio-economic condition which was 60.0% cases followed by average and good. Majority of the patients were student which was 40.6% cases. Then chronologically housewife, dependent, service, business and others were found. Educational status of the most of the patients was SSC which was 32.7% cases followed by up to class five, HSC, illiterate and graduate with above. This is similar to in a study by Kar et al<sup>10</sup> except in that study most of the patients were under v class (22.35%). In this study we found, infective diseases (54.9%) were more than non-infective diseases (45.1%). In Indian sub continent infectious skin diseases are more common than non-infectious diseases<sup>10,11,18</sup>. Whereas in Denmark<sup>17</sup>, Egypt<sup>19</sup> and in Singapore<sup>16</sup> dermatoses are more common and in UK<sup>18</sup> pre malignant and malignant skin diseases are more common. Female patients were found more in infectious cases 32937(53.6%), and male patients are more found in non-infectious cases 31012(53.6%). In infectious disease parasitic diseases were more common. This is similar to Indian study<sup>1,8,9,10</sup> but differ from Singapore and Egyptian study<sup>16,19</sup>. Regarding parasitic diseases scabies and pediculosis were most common. But in few Indian study they only mentioned about scabies was more prevalent<sup>1,8,9,10</sup>. Out of 17464 fungal diseases tinea corporis (21.4%) was found more common. This is similar to one Indian<sup>10</sup> study. Other fungal infections include tinea capitis (15.2%), tinea cruris (19.6%), candidiasis (17.9%), onychomycosis (5.9%) and pityriasis versicolor (20.0%). In one Egyptian study among fungal subgroup pityriasis versicolor is most common<sup>19</sup>. Among bacterial diseases impetigo was found in 39.0% and pyoderma in 35.2% cases where as folliculitis in 25.5% cases, leprosy in 0.2% cases and skin TB in 0.1% cases. This result quite similar to Indian<sup>10</sup> and Egyptian<sup>19</sup> study except in Indian study the number of leprosy cases are much higher in that study (17.56%). Among the viral diseases verruca was found in 47.7% cases, then herpes simplex, Herpes zoster, molluscum contagiosum, varicella, and Measles were found 18.6%, 11.0%, 10.0%, 8.5% and 4.2% cases

respectively. This is similar to other Indian<sup>10</sup> and Egyptian<sup>19</sup> studies but differ from Singaporean<sup>16</sup> studies. Among sexually transmitted infection (STI) cases non specific urethritis was found in 41.2% cases, gonococcal urethritis in 18.0% cases and Others STI was found in 40.8% cases. In one Indian<sup>10</sup> study gonococcal urethritis (52.24%) is more common than syphilis (34%). In non-infectious cases seborrheic dermatitis was found in 5255(31.0%) cases, whereas pompholyx in 4577(27.0%) cases, lichen simplex chronicus in 21.3% cases, Atopic dermatitis in 13.7% cases, contact dermatitis in 2.9% cases and undetermined type in 4.1% cases. Whereas in a study in Denmark<sup>17</sup> non specific dermatitis is more common, then atopic dermatitis followed by seborrheic dermatitis. On the other hand in an Indian<sup>10</sup> study seborrheic dermatitis is more common then atopic dermatitis and pompholyx cases were found. Regarding papulo squamous disease psoriasis was found in 4585(46.3%) cases, lichen planus in 35.7% cases, pityriasis rosea in 15.0% cases and acne was found in 14.3% cases. This result correlates with Egyptian<sup>19</sup> and Indian<sup>8-10</sup> study. Urticarial and drug reaction was found in 14.9% and 8.7% cases respectively. In a study in Denmark<sup>17</sup> drug reaction was 2<sup>nd</sup> most common skin disorder. Vitiligo was found in 3.9% cases. Chronic arsenicosis was found in 0.5% cases. In genetic disorders, ichthyosis was found in 65.8% cases. This results are similar to Egyptian<sup>19</sup> and Indian<sup>10</sup> studies. Neurofibromatosis was found in 16.7% cases and other genodermatoses including tuberous sclerosis, Darier's disease) are 17.5% respectively. Different studies have shown different results. However, most of the result from the Indian subcontinent shows similar to the present study result. In a study Jain et al<sup>9</sup> have reported that fungal infections is the most common skin disease which is in 54.52% and eczemas is in 39.2%. Again, in an another study by Rao et al<sup>1</sup> showed fungal diseases to be the most common infection (22.92%) and eczemas took an upper hand in noninfectious group (32.19%). Likewise, Jain et al<sup>9</sup> have reported that maximum patients presented with eczema of which the most common noninfectious dermatoses (22.0%) and fungal infections are the most common infective dermatoses (13%). However, in developed countries the scenario was different<sup>16,17,18,19</sup>.

It has been well established that environment, overcrowding, poor living conditions, and poor hygiene are the major factors and correction of these conditions and these shall significantly reduce the occurrence of these dermatoses<sup>10-15</sup>. In India Das and Chatterjee<sup>11</sup> have

found eczema (23.1%), pyoderma (14.29%), fungal infections (14.24%) and psoriasis (7.7%) are the major skin diseases in that part of country. In another study it has been found that eczema (17.48%), fungal (17.19%), pyoderma (9.1%) and scabies (8.97%) are the major pattern of skin morbidities. Fungal diseases (20.6%) were the commonly found infection among children reported by Yasmeen and Khan<sup>12</sup> in their study in Pakistan. The study in the tertiary care hospital in Kerala by Asokan et al<sup>13</sup> found fungal infection (18.74%), bacterial (6.74%), parasitic (4.31%) are commonly found among infectious skin disorder and eczema (21.83%), papulosquamous (12.3%), psoriasis (7.75%) were the noninfectious category. Another study in West Bengal by Das and Chatterjee<sup>11</sup> in Dermatology OPD of a Tertiary care hospital found proportion of different skin diseases more than the present study.

### Conclusion

In conclusion a huge burden of skin diseases is present in the OPD of tertiary care hospital with the predominance of infective diseases mostly bacterial and parasitic. Among the infectious diseases scabies, tinea capitis, impetigo, pyoderma and verruca are the most common infection. Among sexually transmitted infection (STI) non specific urethritis and gonococcal urethritis are frequently found in this study. This huge burden of dermatological diseases should be properly managed and cure to prevent the contamination to others.

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