



Original Article

Studies on Socio-Demographic Pattern of Dermatophytoses Patients Attending in Rajshahi Medical College Out Patient Department

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Abstract

A total of 2,194 fungal diseases patients (dermatophytoses and candidiasis) were interviewed about their socio-demographic characteristics attending the Skin and V.D. department of Rajshahi Medical College Hospital. It was found that high prevalence of diseases was in age group 21-30 years (46.63%) and females were the more suffered group (60.12%) than the males (39.88%). Among the different occupations, housewives ranked first (41.34%). Tinea corporis were highest in prevalence (44.67%) as compared to other clinical varieties of diseases. Majority of the patients were heavy sweating group (75.89%) and sweating shows a definite association with fungal diseases ($P < 0.001$). It was observed that patients who use oil were less sufferers (37.33%) and who washed their cloths and bed sheets every day also suffered less (10.71%).

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Introduction

Fungal infections are common health problem faced by dermatologists in their daily practice. The prevalence of these diseases found most common in underdeveloped and developing countries. Occurrence of fungal diseases in a community usually depends on age, sex, occupation, educational status and personal hygiene of the patients. Some investigators reported that the disease pattern of fungal infections varies among the different countries and different areas within the same country^{1,2}. Rajshahi is a big city of Bangladesh. So, it was logical to study the socio-demographic characteristics of fungal (dermatophytoses) diseases patients at Rajshahi locality.

As because the fungal diseases are not life threatening and usually not reportable, so the exact prevalence is not known. Some investigators reported that about 15-20% of all skin diseases patients had fungal problems¹. A study at Turin (Italy) revealed that skin mycoses affect 20-25% of world population or in Turin (Italy), making them the most frequent form of infection and hence a major public health problem³.

This investigation evaluates the results of a survey work on socio-demographic characteristics of fungal diseases patients attending the outpatient department of Skin & V.D of Rajshahi Medical College Hospital over the period of January 2001 to December 2002. Questionnaires for each patient were filled up to obtain information related to

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fungal infections that gives a complete profile of socio-demographic characteristics of the patients. The factors associated with fungal diseases should be determined for taking effective control and preventive measures.

Methodology

A prospective survey work was conducted on socio-demographic characteristics and prevalence of the different types of fungal infections (particularly dermatophytoses and candidiasis) among the patients attended in outpatient department (OPD) of Skin and V.D. of Rajshahi Medical College Hospital. For this purpose the same department was visited time to time during the period of January 2001 and to December 2002. A total number of 68,217 dermatological patients were attended during the study period. Among these patients, 10,970 (15.96%) had suffered from fungal infections. Questionnaires were supplied to every fifth number of fungal disease patients (n=2,194) including both male and female and interviewed in examination room.

The specialist physician working at the same department examined the patients and performed the diagnosis of diseases on the basis of clinical history, physical examination and relevant laboratory investigations. The data thus collected through questionnaires were studied according to the age, sex, occupation and personal hygiene of patients (i.e. habits of using oil and/or washing of cloths & bed sheets) that may influence the incidence and prevalence of fungal diseases. The results are shown in Table: 1-8 and Figure: 1-2. Data were analyzed using Chi-square test. A sample of questionnaire is shown below.

Questionnaire

- Name of the patient:
- Sex: Age:
- Occupation:
- Socio-economic status:
- Educational status:
- General health condition:
- Smoking: Yes/ No
- Sweating: Normal/ Medium/ Heavy
- Washing of cloths & bed sheets:

- Use of soaps:
- Use of oils:
- Use of antibiotics:
- Duration of disease:
- Symptoms:

Results

It is evident that fungal infections were more in age group 21- 30 years (46.63 %) than the rest of age group (Table-1). The patients of 31- 40 years were the second dominant suffered group (24.02 %) and age group 61-70 years were less suffered (1.32%) group. Table-2 showed that female patients were more sufferer (60.12 %) than males (39.88 %).

Ranking of different occupations of the patients are shown in Table-3. It was found that housewives ranked first (41.34%) and next the labor class (21.33%), service holders (18.82%), students (11.90%), businessman (5.29%) and others (1.32%). The incidence of different clinical varieties of fungal disease is shown in Table-4. It was observed that tinea corporis was the highest in prevalence (41.67%), followed by tinea cruris (23.06%), tinea versicolor (12.10%), tinea pedis (7.62%), onychomycosis (6.34%), candidiasis (5.63%), tinea mannum (1.37%), tinea facie (1.18%) and tinea capitis (1.03%). Among these patients tinea capitis was the lowest in prevalence.

Table-5 and Figure-1 showed that sweating appears to be a highly important factor for the development of fungal infection. Out of 2,194 patients, 1,665 were found in heavy sweating group (75.89%). The number of patients in moderate sweating group were 432 (19.79%) and in less sweating group 97 (4.42%). Table-6 showed the relationship of sweating of housewives in comparison to other occupational groups. It was observed that housewives were significantly affected with fungal infections due to sweating ($p < 0.001$, h.s.; $df = 1$).

Oil is also a factor for fungal skin disease development. The data on use of oil (Table-7 and Figure-2) showed that the patients who used oil were less suffered (37.33 %) than that of no use of oil (62.67 %). The data in Table-8 revealed that

washing of clothes and bed sheets are another precipitating factor for fungal infections. Patients who wash their clothes and bed sheet every day were less suffered (10.71%) than the patients who wash their clothes and bed sheets once in 7 days were (16.59%) and once in 15 days were (29.31%) and once in 21 days were (43.39%).

Table-1. Age distribution of the study population (n = 2,194)

Age groups (Years)	No. of patients	Percentage
0-10	61	2.78 %
11-20	240	10.94%
21-30	1023	46.63 %
31-40	527	24.02 %
41-50	198	9.02 %
51-60	116	5.29 %
61- 70	29	1.32 %
Total	2,194	100%

Mean age of the patients = 30.17, SD = 0.63 (30.17 ± 0.63)

Table-2. Sex distribution of the patients (n=2,194)

Sex	No. of patients	Percentage
Male	875	39.88 %
Female	1319	60.12 %
Total	2,194	100%

Table-3: Effects of occupation on the study population (n = 2,194)

Occupation	No. of the patients	Percentage (%)
House wife	907	41.34 %
Labor class	468	21.33 %
Service holder	413	18.82%
Student	261	11.90%
Businessman	116	5.29%
Others	29	1.32%
Total	2,194	100%

Table-4. Distribution of diseases according to different clinical varieties (n=2,194)

Type of dermatomycoses	No. of patients	Percentage
Tinea corporis	914	41.67 %
Tinea cruris	506	23.06 %
Tinea versicolor	265	12.10 %
Tinea pedis	167	7.62 %
Onychomycosis	139	6.34 %
Candidiasis	124	5.63%
Tinea manum	30	1.37 %
Tinea facie	26	1.18 %
Tinea capitis	23	1.03 %
Total	2,194	100%

Table-5. Distribution of patients according to state of sweating (n=2,194)

Sweating	No. of patients	Percentage
Heavy	1665	75.89%
Moderate	432	19.79%
Less	97	4.42%
Total	2,194	100%

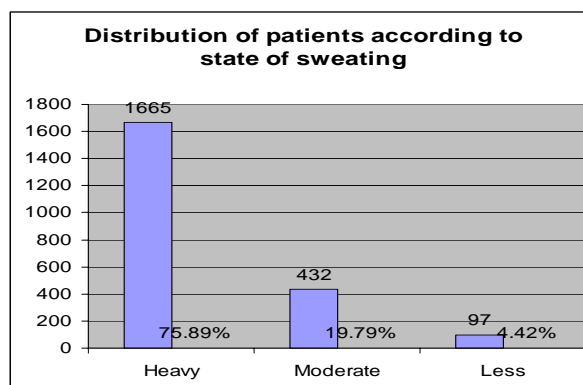


Figure-1: Distribution of patients according to state of sweating (n=2,194).

Table-6. Shows the relationship of sweating of housewives in comparison to other occupational group of the fungal disease patients

Group	Heavy sweating	Not heavy sweating	Total
Housewives	792	115	907
Others	873	414	1,287
Total	1665	529	2,194

P < 0.001, h.s.; df =1, P = Probability, h.s. = Highly significant, df = Degree of freedom

Table-7. Distribution of disease according to personal hygiene of patients due to use of oil (n= 2,194).

Use of oil on body and head	No. of patient	Percentage
Regular use of oil	819	37.33 %
No use of oil	1375	62.67 %
Total	2,194	100%

Table-8. Distribution of disease according to personal hygiene of patients due to washing of clothes and bed sheets (n = 2,194)

Washing of clothes and bed sheets	No. of Patients	Percentage
Every day	235	10.71 %
Once in 7 days	364	16.59 %
Once in 15 days	643	29.31 %
Once in 21 days	952	43.39 %
Total	2,194	100%

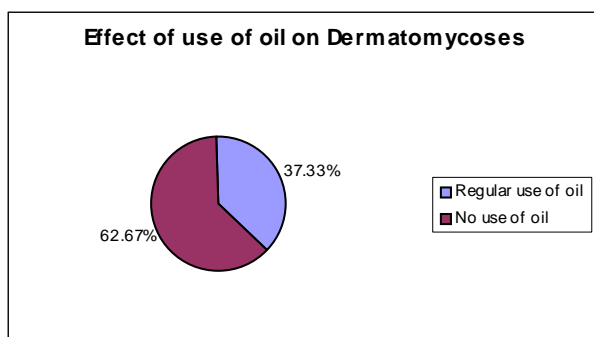


Figure-2: Distribution of disease according to personal hygiene of patients due to use of oil (n = 2,194).

Discussion

Fungal diseases are major public health problem and widely distributed all over the world. It varies with different age group of patients. The data obtained in our study, showed that highest number of patients were in the age group between 21-30 years (46.63 %) and 31-40 years (24.02 %) among the all age group of patients. This may be due to more physical activities of the patients at this age group. Our observation coincided with the results of some workers^{4,5}. A study⁴ at Mymensingh Medical College Hospital revealed that 76.88% patients were above 15 years and rest of the patients below 15 years of age. Rao⁵ found that the incidence of dermatophytoses increased with age except tinea capitis, which was considered a disease of children in many countries of the world.

Regarding sex of the patients, the highest percentage was found in females (60.12%). The reason may be that the body of the females always remains covered with clothes, which keep their body moist and provide favorable condition for dermatophytic infection especially during warm and humid seasons. The result of the present study is consistent with Ghosh⁶ and Kabir⁷.

Among the various occupational groups, housewives were more sufferers (43.33%) than the other groups. This may be due to more household wet work done by this group of peoples and provide favorable condition for fungal infection. Some investigators⁸ reported that among the different occupational groups, housewives were

the worst sufferer group (41.33%). This observation correlated with the results of the present study.

Regarding the incidence of different clinical varieties of the diseases, tinea corporis was the highest in prevalence (41.67%), followed by tinea cruris (23.06%), tinea versicolor (12.10%), tinea pedis (7.62%), onychomycosis (6.34%), candidiasis (5.63%), tinea manuum (1.37%), tinea facie (1.18%) and tinea capitis (1.03%). Our results are in conformity with the results of some workers^{8,9}. Islam and co-workers⁸ reported that Tinea corporis was 44.66% and tinea cruris was 23.33% whereas tinea capitis was 0.7% claimed by Korstanje and Staats⁹.

Sweating is an important factor for the development dermatomycoses. Out of 150 patients, the highest percentage of patients was found to be the heavy sweating type. Due to sweating, the spores of dermatophytes can easily germinate on the skin surface. Spores can easily take different minerals, vitamins and other necessary nutrients from sweating and then they drew their nutrition from cellular layer and ultimately host-pathogen interaction may occur. Sauer¹⁰ observed that superficial fungal infection and monilial infections are very common in warm and humid climate. Ghosh⁶ found that due to sweating female patients suffer more than the male patients. These observations are correlated with study. Present observation indicates that the patients who use oil were less sufferers. This finding differs with the findings of Parvin¹¹. With respect to the use of oil the data as obtained from the questionnaires are somewhat confusing and therefore no definite conclusion could be drawn with regard to their uses & less occurrence of dermatomycoses.

Washing of clothes and bed-sheets is another important factor for dermatophytic infection. The present study showed that the patients who wash their clothes every day and bed-sheets once in every 7 days are less sufferer from dermatophytoses than the patients who wash their

clothes and bed-sheets every fifteen days interval or more. These findings indicate that dermatophytes can draw easily their nutrition from dirty clothes. The unclean clothes may be a carrier of dermatophytes and from that they can easily draw cellulose substance for their growth and development. When they got a favorable condition for infection, they infect the host body. This observation is correlated with those of Ghosh⁶ and Parvin¹¹.

On the bases of above studies it can be concluded that hot humid climate, excessive sweating, low socioeconomic condition, unawareness about the diseases and lack of personal hygiene are to be considered as major precipitating factors for the present rising trend of fungal diseases particularly dermatophytoses and candidiasis. The study also revealed that better nutrition; increased awareness and improved hygiene may be effective for the prevention of the fungal diseases. However, detailed study may be needed for this purpose.

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