Original Research Article

Spectrum of dermatological manifestation in all female attending tertiary health care in a developing country

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Abstract

Background: Skin diseases occur all over the world at significant levels. Skin conditions are both wide spread and among the most prevalent and disabling diseases, and a source of considerable loss of healthy life. They have been identified as a public health problem in developing countries. Skin diseases affect all segments of the population without ethnic variability but are more prevalent among children and women in low socioeconomic groups, essentially due to poor hygienic practices. **Objective:** Objective was to study the dermatoses in females attending a tertiary health care dermatology clinic. **Patients and Methods:** Total 600 female patients who were attending the Skin outpatient department during data collection period and were willing to participate constituted the study population. The diseases of the patients were then classified according to infectious and non-infectious dermatoses. **Results:** Out of 600 Female patients, 36% belonged to the age group of 21-30 years, 28% were illiterate and 59% were unskilled worker. 58% of the patients had various noninfectious dermatoses while 42% had various infectious dermatoses. **Conclusions:** Apart from environmental factors, skin diseases are mostly dependent on occupation, socioeconomic status and age of the patients.

Key word– Dermatoses, Female, Infectious, Inflammatory, Autoimmune disorder

Introduction

Dermatological conditions are a common cause of morbidity in both rural and urban areas of developing countries[1]. These account for a high proportion of visits to healthcare facilities. The pattern of dermatoses in a particular area is determined by many factors, such as geographical location including environmental and climatic factors, socio-economic status, literacy levels, and psychological, cultural and racial factors[2,3].

In developing country women are sidelined due to social stigma (in conditions like vitiligo, leprosy), or embarrassment (in cases of venereal diseases like syphilis, candidiasis, herpes). Moreover, women also tend to have nutritional deficiencies (pellagra, scurvy), and other maladies due to age-old practices and superstitions, especially in the rural community. Further more, some conditions like psoriasis and atopic dermatitis are worsened in rural womenfolk due to, irregular follow-ups and recurrence of these conditions.

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Aims and Objective

Objective was to study the dermatoses in females attending a tertiary health care dermatology clinic.

Material and Methods

Place of study- Index medical college, Indore a tertiary care center of central India

Study type- Cross sectional observational study.

Study Duration- 18 months (June 2016 to December 2017)

Sample Method- Simple random sampling

Inclusion criteria

1. All the female patients attended dermatology outpatient department.
2. Treatment Naïve patient

Exclusion criteria- Patients who were not willing to give consent

Study was conducted after the Institutional Ethics Committee clearance. This study was in accordance with Declaration of Helsinki.

Total 600 femalepatients were enrolled in the study. In case of patients aged ≤ 12 years accompanying guardians were interviewed. Dermatological diagnosis made by dermatologists was recorded. In cases of suspicion, appropriate diagnostic tests (biopsy, Tzanck smear, scraping for fungus, etc.) were performed to come to a conclusion. The patient information included socio-demographic factors like age, sex, residence, religion, socio-economic factors and personal characteristics like habits, hygiene.The diseases of the patients were then classified according to infectious and non-infectious dermatoses.

Results

Total 600 patients were included in our study.Highest number of females belonged to the age group of 21-30 years 36% (n=216) and 31-40 years 23% (n=138) (Table 1). Most of the patients in our study population were either illiterate (Never been to school) 28% (n=168) or educated up to primary school 23.5% (n=141) (Table 2).

Our study population had highest number of unskilled workers 59% (n=354) followed by a sizeable number of students19% (n=114) thereby giving a wide spectrum of diseases; (Table 3).12% (n=72) of females in our study suffered from Diabetes Mellitus while 51 (8.5%) of females suffered from Hypertension while one patient suffers from diabetes and hypertension both.

Table-1: Demographic Distribution of Patients.

Groups:	No. of Patients (n=600):	% of Patients:
1-10 years	72	12%
11-20 years	66	11%
21-30 years	216	36%
31-40 years	138	23%
41-50 years	66	11%
51-60 years	24	4%
>60 years	18	3%

Table-2: Literacy rate of the study population

Groups:	No. of Patients (n=600):	% of Patients:
Illiterate (never been to school)	168	28%
Primary	141	23.5%
Higher Secondary	117	19.5%
Secondary	105	17.5%
Graduate	69	11.5%

Table-3: Occupation/Employment Status of Patients

Groups:	No. of Patients (n=600):	% of Patients:
Unskilled Worker	354	59%
Student	114	19%
Homemaker	54	9 %
Skilled Worker	30	5%
Professional	30	5%
Service	18	3 %

Table-4: Distribution of Patients with Non-Infectious Dermatoses.

Sr. No.:	Non-Infectious Dermatoses:	No. of Patients: (n=348)	% of Patients:
1	Acne	84	14%
2	Eczema	64	10.67%
3	Papulo-squamous Disorders	38	6.33%
4	Benign Tumours	36	6%
5	Pigment Disorders	30	5%
6	Hair Disorders	22	3.67%
7	Insect Bite	14	2.33%
8	Metabolic Disorders	12	2%
9	Immuno-bullous Disorders	10	1.67%
10	Urticaria	8	1.33%
11	Connective Tissue Disorders	8	1.33%
12	Photodermatoses	6	1%
13	Keratinization Disorders	6	1%
14	Nevus	6	1%
15	Vasculitis	4	0.67%

The various dermatoses in our study had been divided into 2 sub-headings- Infectious dermatoses & Non-Infectious dermatoses. Out of 348, most common Non-Infectious dermatoses found in our study were acne (14%), eczema (10.67%) & papulosquamous disorders (6.33%) (Figure 1) followed by benign tumors (6%), pigment disorder (5%), hair disorder (3.67%), insect bite reactions (2.33%), metabolic disorder (2%), immunobullous disorder(1.67%), urticaria (1.33%), connective tissue disorder (1.33%), photodermatosis (1%), Keratinization disorder(1%) (Figure 2), Nevus (1%) (Figure 3) and vasculitis (0.67%) (Table 4).

Table-5: Distribution of Patients with Infectious Dermatoses.

Sr. No.:	Infectious Dermatoses:	No. of Patients (n=252):	% of Patients:
1	Fungal	120	20 %
2	Scabies	48	8%
3	Bacterial	28	4.67%
8	Leprosy	24	4 %
4	Viral	18	3%
7	STIs	12	2%
6	Onychomycosis	4	0.67%
5	Intertrigo	3	0.5%
9	Others	0	0%

Among Infectious dermatoses (n=252), Fungal Infection 20% (n=120) was the most common infectious dermatological condition followed by Scabies 8% (n=48). All bacterial skin infectionscombined together, except leprosy, were the 3rd most common infectious skin condition in 4.67 % (n=28) found to be prevalent in our study population. 4% (n=24) of the patient had leprosy. All other conditions had a very low prevalence rate of ≤ 2% (Table 5)

Figure-1: Lichen-Planus-a) Oral Lichen Planus b) Lichen-Planopilaris

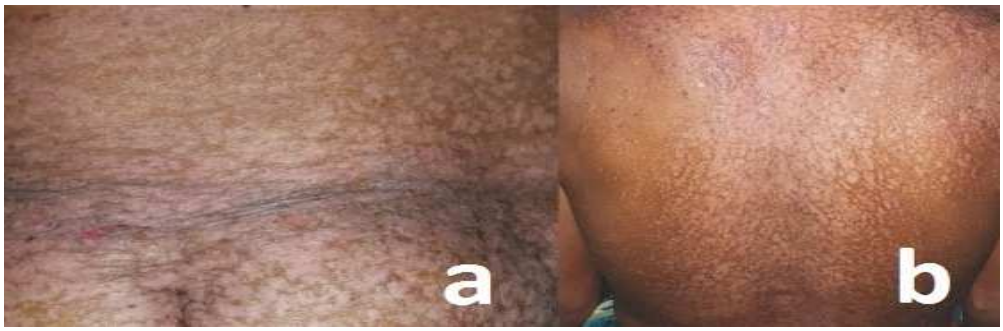

Figure-2: Darier disease a) abdomen b)back

Figure-3: Bilateral-Nevus- Comedonicus

Discussion

Types of skin diseases vary from country to country. Even within the same country there is considerable regional variation. The pattern of dermatoses in a given area is influenced by various factors, such as the local climatic and socio-economic conditions in addition to literacy, psychosocial and cultural environment and racial origin. Due to lack of resources in rural areas, skin diseases are typically neglected at the primary healthcare setup [4-11]. Thus the impact of skin diseases must be viewed from a broader healthcare perspective, because regional variations in disease databases may reflect differences not only in prevalence but also availability of qualified dermatology services.

Proportion of children, adolescents and teenagers formed approximately one-fifth (20.5%) of the studied population. Most of the patients (82%) were under 40 years of age. Similar bio demographic findings were reported by Emmanouil K S et al, in their study at a Mediterranean island [12].

Almost 30% of our subjects are illiterate and nearly 60% of the population comprises of unskilled workers (especially farmers). The study by Florence Dalgard et al exhibited gender and ethnic differences in the reporting of skin complaints [13]. This interesting finding was borne out in our study too. Among the total interviewed patients, Non-infectious dermatoses (58%) were more common than Infectious dermatoses (42%), similar to the study in Kerala (Non-Infectious 57.07%, Infectious 43.4%) by Rao et al [7]. Within the Non-infectious dermatoses group, Acne, Eczema and Papulosquamous disorders were found to be the most common diagnoses (31%). Likewise in the study done by Emmanouil K S and others in a Mediteranean island, Allergic dermatitis and Urticaria were the most commonly found non-infectious dermatoses (35.7%) [12].

Contrarily in our study, due to higher number of younger patients (20-30 years), acne was the most common non-infectious dermatoses. This can further be attributed to non-availability of proper treatment and medical facilities in rural areas. Inadvertent use of over the counter creams, oils and inadequate facial hygiene may be some of the other reasons.

Consistent with our findings, the prevalence of acne vulgaris was higher in the adolescent and teenage population of a study by Sudip Das et al [14]. The prevalence of Psoriasis in our study was found to be 6.33% which is similar to that in another study at a tertiary hospital in Kerala (7.75%)[15].

Two separate studies from North Eastern India depicted eczema rates of around 18 to 23% [5,10]. The reasons for this could be due to the land-locked nature of both these areas with consequent arid climates, leading to

higher cases of eczematous disorders. A comparatively higher proportion of allergic conditions in our populace as well as the Mediterranean one is likely due to more farmers in both these studies. Farmers are frequently exposed to hay, parthenium and various pesticides which are well-known causes of hand eczema, contact and atopic dermatitis. Additionally, due to higher exposure to sunlight, these patients also showed a greater incidence of photodermatitis.

Another specific reason for a proportionately higher number of non-infectious dermatoses is that anti-infective treatment provided by general practitioners for common infectious conditions like tinea and scabies is generally effective. On the other hand, commonly occurring non-infectious dermatoses are referred to higher centers by primary care physicians owing to difficulty in diagnosis and consequent inappropriate management leading to intractable recurrences.

Regarding the Infectious dermatoses group in our study, Fungal Infections (23%) were the commonest form of dermatological infection, followed by Scabies (8%). Bacterial skin infections together constituted about 5 % of the cases. Proportion of Insect bites (10.2%) in the Mediterranean study was relatively higher than in ours (only 2.33%) [16].

This significant difference may be potentially explained by geography and the fact that our study was conducted in a tertiary care hospital. In contrast, at their local primary health center, affected individuals may have sought immediate treatment promptly owing to the painful nature of this problem.

A study in Dermatology O.P.D of Guwahati Medical college in India by Das KK found Eczema (23.1%), Pyoderma (14.29%), Fungal infections (14.24%) and Psoriasis (7.7%) were the major skin diseases in that part of our country [5].Study done by Th. Bijayanti Devi in North Eastern India also found Eczema (17.48%), Fungal (17.19%), Pyoderma (9.1%) and Scabies (8.97%) were the major pattern of skin morbidities [10]. Our study has a similar distribution of prevalence of dermatoses compared to the results of the above 2 studies conducted in the North-Eastern states of India.

Notably, fungal diseases (20.6%) were the commonly found skin infection among children reported by Nuzhat Yasmeen in their 2005 study in Pakistan, which is similar to our study [17. In a 2009, publication from a tertiary care hospital in Kerala by N. Asokanfungal infection (18.74%), Bacterial (6.74%) and Parasitic (4.31%) were commonly found among Infectious skin disorders as opposed to Eczema (21.83%)[18]. This study showed that the causes of infectious skin diseases for which the patients paid recurrent visits, some health education should also be given along with medical treatment to reduce the disease burden. This study showed that type of skin diseases significantly varied with socio-economic classes.

Reason is that patients coming from lower socio-economic category had low awareness, might live in overcrowded condition with poor environmental sanitation. For example, slum dwellers in our study usually presented with candidiasis, paronychia and hand eczemas.

For infectious dermatoses, by reviewing different studiesit is clear that the fungal or bacterial infections are the commonest infectious skin disorders instead of parasitic and protozoal infestations of our study [4, 5, 8, 9, 11, 12, 14, 16]. This can be primarily ascribed to the vast rural population served by our tertiary-care institution.

In the spectrum of superficial fungal infections, tinea corporis is the most common dermatophyte in most Indian studies [4,5,9,19]. We have recorded a similar trend. However, pertaining to deep mycoses, there were only 2 reported cases in our study which is far less compared to above described studies [4,12].

The incidence of fungal, bacterial and viral infections of many studies are very close to our study [4,5,10].

Leprosy incidence of a few Indian studies show wide variations (0.41-5.68%).We found leprosy in 1.3% of our female patients. This is similar to one study butappreciably lesser thananother [14,20]. In general, the incidence of leprosy has largely decreased but there is a recent surge due to inaccurate diagnosis, poor compliance and improper management in primary healthcare centers.

In the context of STI's, our study has documented a low incidence (2%) of mainly non-bacterial STIs (genital herpes and warts). This is quite low compared to most Indian studies (2.26-5.4%). But it lies within the range of 2 other Indian reports (0.63-2.14%). This may be attributed to increased awareness of these conditions, easy availability of antibiotics and syndromic management of these cases at the primary healthcare level.

Infectious skin diseases were significantly more among patients suffering from uncontrolled diabetes mellitus and poor hygienic conditions, which constituted 12% of our study population (72 patients). This study showed that infectious dermatoses were characteristically higher among those who had history of contact. Some of our study findings were also supported by WHO in their report that four main factors have been generally responsible for the frequent occurrence of common skin diseases in developing areas: a low level of hygiene, differential access to water, overcrowding and climatic factor [6].

Conclusion

An important finding of our study was that apart from environmental factors, skin diseases are mostly dependent on occupation, socioeconomic status and age of the patients. The similarities and differences in the prevalence of certain infectious and non- infectious skin diseases between our study and other studies from different geographical areas highlights, that all the above-mentioned factors interplay in the causation.

Contribution- All the authors contributed equally in study design. Dr Parikshit Sharma and Dr Radha collected the data. Data was compiled by Dr Radha, Dr Akhil and Dr Ashish. Manuscript prepared by Dr Ashish and Dr Akhil. Prepared manuscript was approved by all the authors before submission.

What this study adds to existing knowledge? The study shows that infectious skin diseases significantly varied in prevalence with socio-economic classes. This was due tolow awareness in patients coming from lower socio-economic category. Also, these patients lived in overcrowded condition with poor environmental sanitation, which further contributes to more prevalence. Study suggests that some health education should also be given along with medical treatment to reduce the disease burden.

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