

Frequency of skin diseases and associated factors in a tertiary care hospital in Karachi

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Abstract

Introduction Skin disease affects 30-70% of individuals. Skin disease patterns are variable from country to country and from one region to another within the country. Many factors govern the pattern of skin diseases like personal hygiene, over-crowding, nutritional status, socioeconomic condition and traditional taboos. Among the ten most prevalent diseases worldwide fungal infections, skin and subcutaneous diseases, acne are included. Studies have shown that scabies is the most frequent skin condition in Pakistan. Other prevalent skin conditions include acne, fungal infection and psoriasis. The pattern of infections varied in different age groups and demographic conditions.

Materials and Methods It was a cross-sectional study conducted at Dermatology out-patient department of Abbasi shaheed hospital Karachi. All patients attending Dermatology out-patient department having age between 5-70 years were included. Data was collected through a self-administered questionnaire and face to face interview was conducted from the participants. Data was analyzed by using IBM SPSS v.20.

Results The study included 300 participants. Out of 300, 26.7% (80) were males and 73.3% (220) were females. Highest percentage of participants were between age range of 16-30 years 49% (147). Acne was the most frequent disease encountered having frequency of 23.3% (69). Most frequent skin diseases in men was Fungal Infections 21.2%(17). In females the most frequent skin diseases observed was Acne 24.5%(69). Highest percentage of participants (43.7%) belong to class having monthly income between 10,000-25,000 rupees.

Conclusion Skin disease pattern is varied in different age groups, children and young people being affected most. People of low socio-economic group were affected most necessitating the need to improve the living standards and hygiene conditions.

Key words

Skin diseases, Acne, Fungal infections.

Introduction

Skin disease affects 30% -70% of individuals and is prevalent in all cultures and occurs at all ages. More than 1,000 skin or skin related illnesses are listed in The International

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Classification of Diseases. Despite this profound impact skin diseases receive little attention on national and international health debate.¹ Skin disease patterns are variable from country to country and from one region to another within the country.⁴ Many factors governs the pattern of skin diseases in a community like personal hygiene, over-crowding, nutritional status, educational background, family size, socioeconomic condition, family history and traditional taboos.²

Skin diseases account for a high percentage of all diseases dealt by physicians.³ Among the ten most prevalent diseases worldwide fungal infections, skin and subcutaneous diseases, acne are included and they rank 4th, 5th and 8th respectively. Five more diseases are among the top 50 prevalent diseases, these include pruritus, eczema, impetigo, molluscum-contagiosum and scabies.¹ Among the fungal infections, Superficial Mycoses is estimated to affect 20-25% of the world's population. Dermatophytes are the major causative agents of these infections.⁴ Other skin conditions like acne, psoriasis and scabies are also prevalent in the world and have very variable prevalence's globally.⁵

Studies have shown that scabies (18, 45.5%) is the most frequent skin condition in Pakistan. Other prevalent skin conditions include eczema (18, 18%), acne (13, 3%), pruritus (5.5%), fungal infection (3, 13.1%), folliculitis (4.4%), impetigo (3, 3.4%) and psoriasis (1%). The pattern of infections varied in different age groups and demographic conditions.^{7,8}

Skin diseases are mostly neglected by people and due to their chronicity and low compliance to treatment results in recurrence. This unfortunately may lead to disability in the long run. Therefore we want to aware the general public about prevalent skin diseases and also want to aware doctors about the most frequently encountered skin diseases. This will help to take preventive measures in decreasing the burden of skin diseases in future.

Materials and Method

The study was conducted at Dermatology OPD of Abbasi Shaheed Hospital Karachi. It was a cross-sectional study having a study duration of three months from 1st Feb 2016 till 31st April 2016. A minimum sample size of 300 was

calculated by taking confidence interval of 95%, Alpha error of 5% and anticipated frequency of 70%. Non-probability convenience sampling technique was used. All patients attending the Dermatology OPD of Abbasi Shaheed hospital aged between 5-70 years were included. Mentally retarded, handicapped and those who were not willing to participate were excluded. The data was collected through a self-administered questionnaire. The questionnaire was validated by a pilot study conducted on 20 patients. The questionnaire contained variables regarding patients demographics, presenting complaint, diagnosis, treatment advised, previous history of similar disease or other skin disease, duration of problem, use of beauty products, history of allergy and socio-economic condition. Face to face interview of the participants was conducted after a written consent. The data was analyzed by using IBM SPSS V.20. Descriptive analysis was done. All the qualitative variables were presented in percentages while quantitative data was demonstrated in mean and standard deviation.

Results

Out of 300 participants included in the study 26.7% (80) were males and 73.3% (220) were females. The age range was 5-70 years. Highest number of patients were between age range of 16-30 years 49% (147). Patients ranged between 5-15 years of age were 17.7% (53), 29.3% (88) ranged between 31-50 years of age, 4% (12) were between age range of 51-70 years. Among studied population 30 different skin diseases were found prevalent. Acne was the most frequent disease encountered having frequency of 23.3% (69). Fungal infections were next to acne in frequency constituting 16.3% (49) of the total participants. Scabies was seen in 8.7% (26) of the patients. Warts (6.7%) and psoriasis (5%) followed scabies in frequency.

Other skin diseases found were contact-dermatitis (4.3%), seborrhea (3.7%), seborrheic-dermatitis (3.7%), melasma (3.3%), allergy (3.3%), pyogenic infection (2.7%), lichen planus hypertrophicus (2.3%), xanthelasma (2%), hyperpigmentation (1.7%), impetigo (1.3%), keloid (1.3%), purpura (1%), herpes zoster infection, hirsutism, tanning and urticaria all had frequency of 0.7% each. Erythema, folliculoma, mole, scar, xerosis and skin sensitivity all had frequency of 0.3% each.

In patients of age range 5-15 years, acne 20.8%(11) was the most common skin disease, other frequent diseases includes fungal infections 15.1%(8), scabies 13.2%(7) and seborrheic dermatitis 9.4%(5). In age range of

16-30 years, most frequently occurring disease was Acne 35.4% (52) followed by fungal infections 18.6%(16) and warts 11.4%(10). In the patients of age range 31-50 years, fungal infections were most common 18.2% (16), warts were second 11.4% (10) and scabies was third 8.0%(7) in frequency. The frequent diseases found in the age range of 51-70 years were fungal infections 41.7%(5), allergy 16.7%(2), pyogenic infections 8.3%(1) and seborrhea 8.3%(1) **Table 1.** Most frequent skin diseases in men were fungal infections 21.2%(17), acne 18.8%(15), psoriasis 8.8%(7) and warts 8.8%(7), whereas in females the most frequent skin diseases observed were acne 24.5%(69), fungal infections 14.5%(32) and scabies 9.1%(25) see **Table 2.**

Table 1 Age wise distribution of diseases.

Diseases	5-15 Years (N,%)	16-30 Years (N,%)	31-50 Years (N,%)	51-70 Years (N,%)
Acne	11 (20.8%)	52 (35.4%)	6 (6.8%)	0 (0%)
Fungal infection	8 (15.1%)	20 (13.6%)	16 (18.2%)	5 (41.7%)
Scabies	7 (13.2%)	12 (8.2%)	7 (8.0%)	0 (0%)
Warts	5 (9.4%)	5 (3.4%)	10 (11.4%)	0 (0%)
Psoriasis	2 (3.8%)	5 (3.4%)	7 (8.0%)	1 (8.3%)
Contact dermatitis	1 (1.9%)	8 (5.4%)	4 (4.5%)	0 (0%)
Seborrheic dermatitis	4 (9.5%)	4 (2.7%)	2 (2.3%)	0 (0%)
Seborrhea	1 (1.9%)	8 (5.4%)	1 (1.1%)	1 (8.3%)
Melasma	0 (0%)	3 (2.0%)	7 (8.0%)	0 (0%)
Allergy	2 (3.8%)	2 (1.4%)	4 (4.5%)	2 (16.7%)
Pyogenic infection	4 (7.5%)	2 (1.4%)	1 (1.1%)	1 (8.3%)
Lichen Planus hypertrophy	3 (5.7%)	2 (1.4%)	2 (2.3%)	0 (0%)
Eczema	1 (1.9%)	5 (3.4%)	1 (1.1%)	0 (0%)
Xanthelasma	0 (0%)	1 (0.7%)	5 (5.7%)	0 (0%)
Vitiligo	0 (0%)	3 (2.0%)	2 (2.3%)	0 (0%)
Hyper pigmentation	0 (0%)	2 (1.4%)	3 (3.4%)	0 (0%)
Keloid	0 (0%)	2 (1.4%)	2 (2.3%)	0 (0%)
Impetigo	2 (3.8%)	1 (0.7%)	1 (1.1%)	0 (0%)
Purpura	0 (0%)	1 (0.7%)	0 (0%)	2 (16.7%)
Urticaria	1 (1.9%)	0 (0%)	1 (1.1%)	0 (0%)
Tanning	0 (0%)	1 (0.7%)	1 (1.1%)	0 (0%)
Telanoma	0 (0%)	0 (0%)	2 (2.3%)	0 (0%)
Hirsutism	0 (0%)	2 (1.4%)	0 (0%)	0 (0%)
Herpes zoster	0 (0%)	2 (1.4%)	0 (0%)	0 (0%)
Xerosis	0 (0%)	0 (0%)	1 (1.1%)	0 (0%)
Skinsensitivity	0 (0%)	1 (0.7%)	0 (0%)	0 (0%)
Scar removal	0 (0%)	0 (0%)	1 (1.1%)	0 (0%)
Removal of mole	0 (0%)	1 (0.7%)	0 (0%)	0 (0%)
Folliculoma	0 (0%)	0 (0%)	1 (1.1%)	0 (0%)
Erythema	0 (0%)	1 (0.7%)	0 (0%)	0 (0%)

Table 2 Gender wise distribution of diseases.

Disease	Male (%)	Female(%)
Acne	15 (5.0%)	54 (18.0%)
Fungal infection	17 (5.7%)	32(10.7%)
Scabies	6 (2.0%)	20 (6.7%)
Warts	7 (2.3%)	13 (4.3%)
Psoriasis	7 (2.3%)	8 (2.7%)
Contact dermatitis	3 (1.0%)	10 (3.3%)
Seborrheic dermatitis	3 (1.0%)	8 (2.7%)
Seborrhea	3 (1.0%)	8 (2.7%)
Melasma	1 (0.3%)	9 (3.0%)
Allergy	1 (0.3%)	9 (3.0%)
Pyogenic infection	3 (1.0%)	5 (1.7%)
Lichen Planus	0 (0.0%)	7 (2.3%)
hypertrophicus		
Eczema	3 (1.0%)	4 (1.3%)
Xanthelasma	0 (0.0%)	6 (2.0%)
Vitiligo	2 (0.7%)	3 (1.0%)
Hyper pigmentation	1 (0.3%)	4 (1.3%)
Keloid	2 (0.7%)	2 (0.7%)
Impetigo	2 (0.7%)	2 (0.7%)
Purpura	0 (0.0%)	3 (1.0%)
Urticaria	1 (0.3%)	1 (0.3%)
Tanning	1 (0.3%)	1 (0.3%)
Telanoma	0 (0.0%)	2 (0.7%)
Hirsutism	0 (0.0%)	2 (0.7%)
Herpes zooster	0 (0.0%)	2 (0.7%)
Xerosis	0 (0.0%)	1 (0.3%)
Skinsensitivity	1 (0.3%)	0 (0.0%)
Scar removal	1 (0.3%)	0 (0.0%)
Removal of mole	0 (0.0%)	1 (0.3%)
Folliculoma	0 (0.0%)	1 (0.3%)
Erythema	0 (0.0%)	1 (0.3%)

13.7% (41) patients had a similar skin disease in the past and 10.4% (31) of them took treatment while 3.3% (10) didn't take any treatment for the disease. 8% of the patient had a skin disease in the past and 3.3% (10) took treatment for the disease and 4.7% (14) didn't take any treatment for the disease. 25.3% (76) of the patients had the similar disease in their family or close contacts and 74.3% (223) didn't have any one among family or close contacts with similar skin disease. Beauty products were used by 29.3% (88) of the participants. 15.7% of patients belonged to group having monthly income less than 10,000 rupees, 43.7% of the participant's belong to class having monthly income between 10,000-25,000 rupees, 36.3% had monthly income between 26,000-50,000 rupees, 3.7%

had a monthly income ranging between 51,000-1,00,000 and 0.7% had a monthly income in excess of 1 lac.

Discussion

Pattern of skin diseases is varied from country to country and from one region to another within the country.² Karachi is the most populated city of Pakistan where people from all over Pakistan reside, therefore it is necessary to assess pattern of diseases in Karachi to determine the prevalent diseases in the people and see for any change in pattern or prevalence. Our study showed Acne being the most frequent skin disease having frequency of 23.3%. Previous studies conducted in Pakistan showed much lower frequency of Acne.^{4,7,8} This difference in frequency could be due to different setting and small sample size as compared to previous studies. Karachi is a polluted city due to its heavy traffic and industries. Its weather is also very humid, so all these factors may play a part in the causation of acne. While a study in Nepal showed similar results showing frequency of 22% of Acne.⁹ Fungal infections had a frequency of 16.3%, which is a bit high as compared to frequency reported in the past in studies conducted in Karachi⁷ and Hyderabad⁸ showing frequency of 12.6% and 13.1% respectively. This might be due to difference in climatic and hygienic conditions. Our study showed scabies in 8.7% of the patients but on contrary previous studies conducted in Karachi⁷, Hyderabad⁸ and Rawalpindi¹⁰ have reported a higher frequency of scabies. Current study showed that warts have frequency of 6.7%, a previous study reported very less frequency of warts 2.9%¹⁰. This study showed psoriasis frequency to be 5% which is in consistence with previous work.¹⁰

The majority of the patients were of age group 16-30 years 49%, followed by people between aged ranged 5-15 years 17.3%, studies

conducted in the past endorse these results also.^{7,10} Gender wise distribution showed that a higher percentage of females visit dermatology OPD 73.3%. This may be due to female being more cautious about skin problems due to cosmetic reasons and men overlook them. One factor could be the majority of female dermatologists in the hospitals as compared to males and male patients may be hesitant to consult female doctors for lesions on their private body parts.

Conclusion

Skin disease pattern is varied in different age groups, children and young people being affected most. Acne and fungal infections are found to be most frequent skin diseases. People of low socio economic group are seen to be affected most necessitating the need to improve the living standards, hygiene conditions and take measures to prevent the diseases in the future.

Recommendations

Awareness campaigns should be launched to aware people about skin diseases so they can take measures to save themselves from skin diseases. Male doctors should pursue dermatology so male patients can comfortably consult them. Measures should be taken to improve personal hygiene of people and also convince people to take complete treatment for skin diseases to prevent disability and recurrence.

References

1. Hay RJ, Johns NE, Williams HC, Bolliger IW, Dellavalle RP, Margolis DJ *et al*. The global burden of skin disease in 2010: An analysis of the prevalence and impact of skin conditions. *J Invest Dermatol* 2014;**134(6)**: 1527–34.
2. Muzaffar F. Pattern of skin diseases at The Children's Hospital, Lahore: Comparison between 1996-1998 and 2011. *J Pak Assoc Dermatol* 2012;**22(3)**:230-5.
3. Ahmed Z, Khan AA, Nisar N. Frequency of infectious diseases among flood affected people at district Rajanpur, Pakistan. *Pak J Med Sci* 2011;**27(4)**:866-9.
4. Vena GA, Chieco P, Posa F, Garofalo A, Bosco A, Cassano N. Epidemiology of dermatophytoses: retrospective analysis from 2005 to 2010 and comparison with previous data from 1975. *New Microbiol* 2012;**35(2)**: 207-13.
5. Parisi R, Symmons DPM, Griffiths CEM, Ashcroft DM. Global epidemiology of Psoriasis: A systematic review of incidence and prevalence. *J Invest Dermatol* 2013;**133(2)**:377–85.
6. Kar C, Das S, Roy AK. Pattern of skin diseases in a tertiary institution in kolkata. *Indian J Dermatol*. 2014;**59(2)**:209.
7. Maryum H, Alam MZ, Ahmed I. Pattern of skin diseases in a tertiary care private hospital, Karachi. *J Pak Assoc Dermatol* 2014;**24(4)**:292-7.
8. Memon KN, Soomro RA, Ansari MS. Pattern of skin diseases in patients visiting a tertiary care health facility at Hyderabad, Pakistan. *J Ayub Med Coll Abbottabad* 2011;**23(4)**:37-9.
9. Shrestha R, Shrestha DP, Lama L, Gurung D, Rosdahl I. Pattern of skin diseases in a rural village development community of Nepal. *NJDVL* 2014;**12(1)**:41-4.
10. Uddin T, Butt AQ, Bangash FA, Abbas H. Burden of skin diseases at a tertiary care hospital. *J Rawal Med Coll* 2010;**14(2)**:90-2.