



STUDY OF COMMON SKIN DISEASES IN ALIGARH

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ABSTRACT Skin diseases have been reported to be the fourth leading cause of non fatal disease burden globally. Skin diseases depends on various factors like genetic, race, religion, occupation, nutrition, habits, geographical factors (season and climate also contribute to the increased prevalence of certain type of skin disorder in a particular area) etc. In developing countries, other than hot and humid climatic condition, low hygiene, poor access to water, overcrowding, and high interpersonal contact also play significant etiological role for certain skin diseases like pyoderma, scabies, and fungal infections. The present study was conducted to find out the socio-demographic factors associated with common skin diseases. This study was conducted in the field practice areas of the Urban and Rural Health Centres, Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh. It was community based and cross-sectional study. The study period was one year i.e. from June 2016 to May 2017. **Inclusion Criteria:** All individuals of the household. **Exclusion Criteria:** All who did not gave consent. It was observed that prevalence of infectious diseases was more than non-infectious in the rural area. While non infectious diseases were reported slightly more in urban population than infectious diseases. It was found that in both urban and rural population the prevalence was highest among the illiterate population. There was association of skin diseases with occupation. As infectious diseases reported more in rural population, giving education, knowledge as well as accessible therapy could help in lowering the biased burden of infectious skin diseases in rural areas.

KEYWORDS : skin diseases, prevalence, occupation, illiteracy, urban, rural

INTRODUCTION

Skin diseases have been reported to be the fourth leading cause of non fatal disease burden globally (1). Also some skin diseases are associated with decreased quality of life (2). The commonest skin disorders seen in developing countries are pyoderma and scabies, though they represent a significant problem which could benefit from public health measures (3).

Skin diseases are very common among the populations in many developing countries. They have not been regarded as a significant problem. Indeed, more attention is frequently given to some less common health problems in the same countries. This attitude is because of the assumption that skin diseases are a benign and not life-threatening. However, in some countries, there seems to be a high demand by patients and healthcare workers for more consideration to be given to skin diseases (4). Our body is liable to various skin infections in unhygienic conditions. Due to ignorance or lack of proper education, personal hygiene may not be taken care properly (5).

Skin diseases depends on various factors like genetic, race, religion, occupation, nutrition, habits, geographical factors (season and climate also contribute to the increased prevalence of certain type of skin disorder in a particular area) etc. In developing countries, other than hot and humid climatic condition, low hygiene, poor access to water, overcrowding, and high interpersonal contact also play significant etiological role for certain skin diseases like pyoderma, scabies, and fungal infections (6).

The present study was conducted to find out the socio-demographic factors associated with common skin diseases.

MATERIAL AND METHODS

This study was conducted in the field practice areas of the Urban and Rural Health Centres, Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh. It was community based and cross-sectional study. The study period was one year i.e. from June 2016 to May 2017.

Inclusion Criteria: All individuals of the household.

Exclusion Criteria: All who did not gave consent.

Sampling Method:

Systematic random sampling with Population Proportionate to Size (PPS) was used to draw sample size.

Sample Size Calculation:

$$n = Z^2 p (100 - p) / l^2$$

$$n = (1.96)^2 p (100 - p) / l^2$$

$$n \sim 4pq / l^2$$

$$q = 100 - p$$

p = prevalence of common skin disease(s) found in the pilot study

The sample size was calculated on the basis of pilot study conducted on 50 household each in RHTC and UHTC. As per pilot study, the prevalence of common skin diseases in registered areas of RHTC and UHTC came out to be 20% and 17% respectively.

Sample Size Calculation:

$$n = Z^2 p (100 - p) / l^2$$

$$l = (\text{absolute allowable error}) = 2\% \text{ at } 95\% \text{ confidence interval}$$

Substituting the values for RHTC

$$(1.96)^2 p (100 - p) / l^2 = 4 * 20(100 - 20) / 2^2$$

$$= 1600$$

Substituting the values for UHTC

$$(1.96)^2 p (100 - p) / l^2 = 4 * 17(100 - 17) / 2^2$$

$$= 1411$$

$$\approx 1420$$

Applying PPS for both RHTC and UHTC

Data was entered and managed in SPSS-20 (Statistical Package of Social Science). For descriptive purpose frequency and percentage were used.

To test associations chi square test, independent t test and one way ANOVA was applied. P value < 0.05 was considered significant.

Ethical clearance was obtained from ethical committee, JNMC, AMU, Aligarh. Informed verbal consent was taken from each subject before interview (Copy of ethical committee is attached).

RESULTS

Table 1: Distribution Of Study Population According To Area, Age, And Sex.

Age (years)	Urban		Total N (%)	Rural		Total N (%)
	Male N (%)	Female N (%)		Male N (%)	Female N (%)	
0-5	75(5.3)	72(5.1)	147(10.4)	86(5.4)	76(4.8)	162(10.1)
6-10	101(7.1)	96(6.8)	197(13.9)	89(5.6)	78(4.9)	167(10.4)
11-18	164(11.5)	155(10.9)	319(22.5)	144(9.0)	125(7.8)	269(16.8)
19-30	178(12.5)	180(12.7)	358(25.2)	231(14.4)	204(12.8)	435(27.2)
31-40	85(6.0)	76(5.4)	161(11.3)	107(6.7)	101(6.3)	208(13.0)
41-50	66(4.6)	51(3.6)	117(8.2)	76(4.8)	67(4.2)	143(8.9)
51-60	33(2.3)	29(2.0)	62(4.4)	54(3.4)	60(3.8)	114(7.1)
> 60	26(1.8)	33(55.9)	59(4.2)	59(3.7)	43(2.7)	102(6.4)
Total	728(51.3)	692(48.7)	1420(100)	846(52.9)	754(47.1)	1600(100)

Table 2: Distribution Of Study Population According To Occupation.

Occupation	Urban N (%)	Rural N (%)
Laborer/farmer	221(15.6)	231(14.4)
Homemaker	267(18.8)	361(22.6)
Dependent	303(21.3)	415(25.9)
Student	525(37.0)	394(24.6)
Service/Shopkeeper/Business	99(7.0)	193(12.1)
Retired	5(0.4)	6(0.4)
Total	1420(100)	1600(100)

Table 3: Prevalence And Pattern Of Common Skin Diseases.

Skin disease	Urban			Rural			
	N	Prevalence (%)	Frequency	N	Prevalence (%)	Frequency	
Infectious	Bacterial	4	0.3	2.9	25	1.6	9.6
	Fungal	79	5.6	56.4	117	7.3	45.0
	Viral	7	0.5	5.0	17	1.1	6.5
	Scabies	20	1.4	14.3	90	5.6	34.7
	Pediculosis	29	2.0	20.7	10	0.6	3.8
	Leprosy	1	0.1	0.7	1	0.1	0.4
Total	140	9.9	100	260	16.3	100	
Non infectious	Acne	58	4.1	40.0	56	3.5	33.3
	Eczema	43	3.0	29.7	63	3.9	37.5
	Pigmentary disorders	25	1.8	17.2	22	1.4	13.1
	Psoriasis	2	0.1	1.4	3	0.2	1.8
	Urticaria	9	0.6	6.2	6	0.4	3.6
	Benign skin tumours	4	0.3	2.8	8	0.5	4.8
	Miscellaneous	4	0.3	2.8	10	0.6	5.9
	Total	145	10.2	100	168	10.5	100
Total (infectious + noninfectious)	285	20.1		428	26.8		

Table4: Distribution Of Skin Disease Patients According To Education.

Education	Urban		Total N (%)	Rural		Total N (%)
	Present N (%)	Absent N (%)		Present N (%)	Absent N (%)	
Illiterate	92(24.9)	277(75.1)	369(100)	158(28.8)	391(71.2)	549(100)
Primary	124(20.3)	488(79.7)	612(100)	134(28.0)	345(72.0)	479(100)
High School	30(18.5)	132(81.5)	162(100)	45(29.8)	106(70.2)	151(100)

Senior Secondary	13(20.6)	50(79.4)	63(100)	25(25.2)	74(74.8)	99(100)
Higher degree	15(16.3)	77(83.7)	92(100)	38(25.5)	111(74.5)	149(100)
Not applicable	11(9.0)	111(91.0)	122(100)	28(16.2)	145(83.8)	173(100)
Total	285(20.1)	1135(79.9)	1420(100)	428(26.8)	1172(73.2)	1600(100)
				$\chi^2=15.8$; df=5; p=0.007	$\chi^2=12.3$; df=5; p=0.031	

Table 5: Prevalence Of Skin Disease According To Area Of Residence.

Area	Skin disease		Total N (%)
	Present N (%)	Absent N (%)	
Urban	285(20.1)	1135(79.9)	1420(100)
Rural	428(26.8)	1172(73.2)	1600(100)
		$\chi^2=18.611$; df=1; p < 0.001	

Table 6: Distribution Of Patients According To Occupation

Occupation	Urban		Total N (%)	Rural		Total N (%)
	Present	Absent		Present	Absent	
Labourer/Farmer	38(17.2)	183(82.8)	221(100)	65(28.1)	166(71.9)	231(100)
Homemaker	77(28.8)	190(71.2)	267(100)	90(24.9)	271(75.1)	361(100)
Dependent	45(14.9)	258(85.1)	303(100)	108(26.0)	307(74.0)	415(100)
Student	110(21.0)	415(79.0)	525(100)	125(31.7)	269(68.3)	394(100)
Service/Shopkeeper / Business	14(14.1)	85(85.9)	99(100)	40(20.7)	153(79.3)	193(100)
Retired	1(20.0)	4(80.0)	5(100)	0(0.0)	6(100.0)	6(100)
Total	285(20.1)	1135(79.9)	1420(100)	428(26.8)	1172(73.2)	1600(100)
		$\chi^2=21.5$; df=5; p=0.001		$\chi^2=11.7$; df=5; p=.039		

DISCUSSION

As shown in **Table 1**, out of total participants (3020) in the study, 1420 were taken from urban area while 1600 were included from the rural area.

In urban area 51.3% individuals of study population were males and 48.7% were females, while in rural area, proportion of males and females was 52.9% and 47.1% respectively.

Both in urban and rural areas, most individuals were from 11-30 years age group (47.7%, in urban and 44.0% from rural area) while least were from >60 years age (4.2% urban, 6.4% rural).

Table 2 shows that in urban population students were proportionately higher (37.0%) whereas in rural population dependents formed the majority (25.9%). Other studies(8,7) also reported that majority of the population were students (30.5%) followed by dependents (30.4%) and in other study also, majority were students (32.33%). So our study population shows no change of occupation distribution from previous study.

Table 3 shows the overall prevalence and percentage of individual disease among the infectious and non-infectious category. It was observed that prevalence of infectious diseases was more than non-infectious in the rural area i.e. 16.3 per cent and 10.5 per cent respectively. While non infectious diseases were reported slightly more in urban population than infectious diseases i.e. 10.2 per cent and 9.9 per cent respectively.

Another study(9) in their retrospective review found only 24.6% skin diseases to be of Infectious origin. Dimri et al (10) observed that the infections of the skin and subcutaneous tissue were the most common (32.6%). Kumar et al(11) observed Scabies was the major skin infection with the prevalence of 16.9%, followed by pediculosis 10.7%, comprising an overall prevalence of infectious diseases of 27.6%. Ali K.B.M (12) found that 20.1 per cent subjects had infectious skin diseases while 16.2% cases had non-infectious skin diseases. Other study(13) showed that the leading causes were the skin infections and

infestation (bacterial, viral, fungal and parasitic) constituted 23.9% of all skin problems , followed by eczema / dermatitis (19.0%) and acne vulgaris (16.8%). Another study (14) reported the overall prevalence of infectious and parasitic infestation skin disorders was 32.75% as against 29.25% for non-infectious disorders. Infectious diseases 23.8% were the most common cause for attendance, followed by dermatitis 15.5% and pigmentary disorders 7.4% in another study (15). Another study (16) reported infective conditions 59.1% outstripped the prevalence of non infective conditions 40.9%.

Non Infectious dermatoses were also reported in majority in some studies. A study(7) found the prevalence of Non-infectious diseases i.e. 60.15% more than that of Infectious diseases 39.85%. Another study(6) in rural sector Gurgaon, India reported infective (38.19%), noninfective (47.98%), and miscellaneous dermatoses (13.83%) were reported. Another study (11) in Nepal, reported Infective and Non Infective to be 36.8% Baur et al (2017) in a hospital study in Kolkata reported non-infectious dermatoses more than Infectious group (54.3 per cent vs. 45.7per cent).

Table 4 shows the distribution of skin diseases with education status of the population. It was found that in both urban and rural population the prevalence was highest among the illiterate population i.e. 24.9 per cent and 28.8 per cent respectively. The prevalence shows a declining trend in both urban and rural population with the increment in educational status of the population. The association was found to be significant ($p=0.007$ for urban; $p=0.031$ for rural.).

A study reported (18) that the infective and allergic skin diseases were more common in illiterate and less-educated groups (46.15% and 42.20%, respectively).

Another study (14) observed that bacterial skin infections were significantly more common in subjects without any education ($p=0.029$).

Another study (19) found prevalence of transmissible disease decreased significantly with an increase in the educational status of the parents. The difference was statistically significant with a prevalence of 26.3% in the group with lowest and 1.6% in the group with highest educational status of parents. One other study (20) also reported highly statistically significant associations of skin diseases with Children of illiterate mothers 104 (93.7%). One other study (21) found that the education level of parents was significantly associated with the prevalence of skin diseases ($P=0.04$).

Another study (22) in Aligarh also showed significantly declining trend in prevalence rates with increasing literacy status.

As shown in **table 5**, the prevalence of skin diseases in rural area was significantly more i.e. 26.8 per cent compared to the urban area where the prevalence was on the lower side i.e. 20.1 per cent.

Another study (10) found no significant difference of morbidity pattern among various regions ($p=0.41$).

Another study(17) observed that proportion of rural patients were more in infectious group than Non Infectious group (16.5% vs.12.3%) but with no statistical association.

Another study (13) reported overall prevalence rate of skin disorders was 20.3% in high socio-economic area (B) and 29.1 % in low socioeconomic area (A) with a significant difference between the two. Another study (22) found the prevalence rate of skin diseases was found to be 5.5 per cent in urban population and 11.5 per cent in rural population. The difference was found to be statistically significant ($X^2=86.023$; $D.f=1$).

Table 6 reported that the prevalence of skin diseases in urban area with occupation of the population was highest among the homemakers i.e. 28.8 per cent, followed by 21 per cent in students, 20 per cent in retired persons, 17.2 per cent in laborers/farmers, 14.9 per cent in dependents, 14.1 per cent in service/businessmen.

Highest prevalence in rural area was reported among students i.e. 31.7 per cent, followed by 28.1 per cent prevalence in laborers/farmers, 26 per cent among dependents, 24.9 per cent among homemakers, 20.7 per cent among service/ businessmen, but no retired person found to be suffering from skin disease.

Another study(13) also found high prevalence rates of skin disorders among housewives in Basrah city.

In a similar study (22), occupational association with a number of skin diseases was reported.

CONCLUSION

As infectious diseases reported more in rural population, giving education, knowledge as well as accessible therapy could help in lowering the biased burden of infectious skin diseases in rural areas. Improvement in environmental conditions by community participation and administrative commitment can help to gradually bring down the morbidity profile. Measuring the impairment of the quality of life in dermatology patients is an important aspect of management. It allows clinicians to assess the extent and nature of the disability so that an appropriate management regimen can be implemented and its effectiveness assessed.

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