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Prevalence of dermatoses among naxal infested tribal villagers: A community based study from South Chhattisgarh, India

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Introduction

The pattern of skin diseases differ across various geographical regions by level of economic development, literacy, climate, industrialization, access to medical care, and varied social, cultural and racial factors. Many studies have been conducted to access burden of dermatoses in the community as well as in hospital settings. The prevalence of dermatoses has varied from 6.16% to 19.76% in various studies.[1-2] No study has been conducted yet to find the prevalence of dermatoses in the naxal infested tribal areas where access to primary health care is very poor.

Materials and Methods

A cross sectional, community based study was conducted over a period of eight months (June, 2016 to January, 2017) in eight naxal affected tribal villages of Dantewada district, Chhattisgarh. The villages were selected in consultation with the district police and necessary security cover was provided by the security forces in view of naxal problem. The monthly health camp was organized at a prominent place in the village with the help of village sarpanch and other village officials by the team of four doctors including a skin specialist. A total of 5,346 villagers were enrolled in the study after taking their informed consent. All the villagers were screened for the basic medical ailments and specifically for dermatological complaints. Diagnosis was made on the basis of history taking, clinical examination and relevant tests like sensation testing, Gram stain, KOH test, Tzank smear and Wood's lamp. The results were recorded in the study Performa. Statistical analysis was done by chi-square test using SPSS version 21.0. The ethical clearance for the study was obtained from the institutional ethical committee prior to study.

Results

In our study 5346 villagers were examined, out of which 2333 (43.6%) were males and 3013(56.4%) were females. [Table1]. Among the study population, 1122 (21.0%) [Males: 539 (10.1%) & females: 583(10.9%)] were less than twenty years old. While 2995 (56.0%) [Males: 1226(23.1%) & females: 1759(32.9%)] were in the age group of twenty one to sixty years. There were total 1229 (23.0%) villagers who were older than sixty years, out of which 558 (10.4%) were males and 671 (12.6%) were females. [Table2]

Table 1: Gender wise distribution of study population

Study population	Frequency	Percentage
Male	2333	43.6%
Female	3013	56.4%
Total	5346	

Table2: Age- sex wise distribution of study population

Age (in years)	Gender		Total
	Male	Female	
<20 years	539 (10.1%)	583 (10.9%)	1122 (21.0%)
20-60 years	1236 (23.1%)	1759 (32.9%)	2995 (56.0%)
>60 years	558 (10.4%)	671 (12.6%)	1229 (23.0%)
Total	2333 (43.6%)	3013 (56.4%)	5346 (100%)

In our study prevalence of dermatoses was 26.7% as 1425 villagers suffered from at least one dermatoses . Most of the people (n= 912, 17.1%) suffered from single skin ailment whereas 434 (8.1%) and 79 (1.5%) had two and more than two skin conditions respectively. [Table3]

Table 3: Number of dermatoses in the study population

	Number diagnosed	Point prevalence
1. At least one skin condition	1425	(26.7%)
2. Single skin condition	912	(17.1%)
3. Two skin conditions	434	(8.1%)
4. More than two skin condition	79	(1.5%)

The prevalence of infective conditions (n=1241, 23.2%) was higher than that of non - infective conditions (n=834, 15.5%). Among infective conditions point prevalence of fungal infections (n=495, 9.3%) was highest followed by bacterial infections (n=398, 7.4%), (n=49, 4.4%), scabies infestation (n=255, 4.8%) and least of viral infections (n=93, 1.7%). Amongst fungal infections the point prevalence in descending order was tinea corporis (n=284, 5.3%), tinea versicolor (n=137, 2.6%), tinea cruris (n=44, 0.8%) and tinea capitis (n= 30, 0.6%). While among bacterial infections, the point prevalence were pyoderma (n=168, 3.1%), impetigo (n=137, 2.6%) and folliculitis (n=93, 1.8%).The point prevalence of viral infections were wart (n=39, 0.7%), herpes zoster (n=27, 0.5%) and molluscum contagiosum (n=27, 0.5%). Amongst non-infective skin diseases, atopic dermatitis was most prevalent (n=402, 7.5%), acne (n=231, 4.3%), pityriasis alba (n=52, 1.0%), vitiligo (n=39, 0.7%), melasma (n=34, 0.6%), urticaria (n=29, 0.5%), psoriasis (n=28, 0.5%) and alopecia areata (n=19, 0.4%) in descending order. [Table 4]

Table4: Prevalence of various dermatosis

Type	Disease		Total
Infective	Bacterial	Pyodema	168(3.1%)
		Folliculitis	93(1.7%)
		Impetigo	137(2.6%)
	Fungal	Tinea capitis	30(0.6%)
		Tinea corporis	284(5.3%)
		Tinea cruris	44(0.8%)

		Pityriasis versicolor	137(2.6%)
	Viral	Wart	39(0.7%)
		Herpes zoster	27(0.5%)
		Molluscum contagiosum	27(0.5%)
	Infestations	Scabies	255(4.8%)
Non-Infective		Atopic dermatitis	402(7.5%)
		Urticaria	29(0.5%)
		Acne	231(4.3%)
		Pityriasis Alba	52(1.0%)
		Melasma	34(0.6%)
		Psoriasis	28(0.5%)
		Vitiligo	39(0.7%)
		Alopecia areata	19(0.4%)

The prevalence has been significantly higher in males when compared to females in tinea corporis [167 (7.2%) vs 117 (3.9%), $\chi2$= 28.6, p<0.001] and scabies [108 (4.6%) vs 91 (3.0%), $\chi2$= 9.4, p<0.001]. whereas the prevalence has been significantly higher in females when compared to males in acne [152(5.0%) vs 79(3.4%), $\chi2$= 8.7, p<0.001] and melasma [25(0.8%) vs 9(0.8%), $\chi2$= 4.1, p=0.04]. [Table 5]

Table5: Diagnosis and gender of study population

Type	Disease		Gender		Significance
			Male	Female	
Infective	Bacterial	Pyodema	85 (3.6%)	83(2.8%)	$\chi2$= 3.41, p=0.06
		Folliculitis	45(1.9%)	48(1.6%)	$\chi2$= 0.87, p=0.4
		Impetigo	67(2.9%)	70(2.3%)	$\chi2$= 1.6, p=0.2
	Fungal	Tinea capitis	14(0.6%)	16(0.5%)	$\chi2$= 0.11, p=0.7
		Tinea corporis	167(7.2%)	117(3.9%)	**$\chi2$= 28.6, p=0.00**
		Tinea cruris	25(1.1%)	19(0.6%)	$\chi2$= 3.1, p=0.07
		Pityriasis versicolor	54(2.3%)	83(2.8%)	$\chi2$= 1.0, p=0.31
	Viral	Wart	21(0.9%)	18(0.6%)	$\chi2$= 1.7, p=0.20
		Herpes zoster	13(0.6%)	14(0.5%)	$\chi2$= 0.22, p=0.64
		Molluscum cotagiosum	12(0.5%)	15(0.5%)	$\chi2$= 0.01, p=0.93
	Infestations	Scabies	108(4.6%)	91(3.0%)	**$\chi2$= 9.4, p=0.00**
Non-Infective		Atopic dermatitis	179(7.7%)	223(7.4%)	$\chi2$= 0.14, p=0.7
		Urticaria	11(0.5%)	18(0.6%)	$\chi2$= 0.39, p=0.5
		Acne	79(3.4%)	152(5.0%)	**$\chi2$=8.7, p=0.00**
		Pityriasis Alba	18(0.8%)	34(1.1%)	$\chi2$=1.7, p=0.2
		Melasma	9(0.4%)	25(0.8%)	**$\chi2$=4.1, p=0.04**
		Psoriasis	17(0.7%)	11(0.4%)	$\chi2$=3.3, p=0.06
		Vitiligo	21(0.9%)	18(0.6%)	$\chi2$=1.7, p=0.2
		Alopecia areata	11(0.5%)	8(0.3%)	$\chi2$=1.6, p=0.2

The dermatoses which were found more prevalent in children less than twenty years were scabies (n=88, 7.8%), atopic dermatitis (n=74, 6.6%), pyoderma (n=72, 6.4%), impetigo (n=71, 6.3%), pityriasis alba (n=49, 4.4%), ptyriasis versicolor (n=49, 4.4%), acne (n=34, 3.0%) and tinea capitis (n=25, 2.2%) in descending order. While among villagers more than sixty years; atopic dermatitis (n=103, 8.4%), pyoderma (n=51, 4.1%) and tinea corporis (n=48, 3.9%) were frequent. Among middle aged villagers (age: 20-60 years), the prevalence was found to be high for atopic dermatitis (n=225, 7.5%), tinera corporis (n=215, 7.2%) and acne (185, 6.2%). (Table 6)

Table6: Age wise prevalence of dermatoses

Type	Disease		Age		
			<20 years	20-60 years	>60 years
Infective	Bacterial	Pyodema	72 (6.4%)	45(1.5%)	51(4.1%)
		Folliculitis	15(1.3%)	46(1.5%)	32(2.6%)
		Impetigo	71(6.3%)	52(1.7%)	14(1.1%)
	Fungal	Tinea capitis	25(2.2%)	4(0.1%)	1(0.1%)
		Tinea corporis	21(1.9%)	215(7.2%)	48(3.9%)
		Tinea cruris	3(0.3%)	29(1.0%)	12(1.0%)
		Pityriasis versicolor	49(4.4%)	75(2.5%)	13(1.1%)
	Viral	Wart	13(1.2%)	24(0.8%)	2(0.2%)
		Herpes zoster	0(0.0%)	16(0.5%)	11(0.9%)
		Molluscum cotagiosum	12(1.1%)	13(0.4%)	2(0.2%)
	Infestations	Scabies	88(7.8%)	91(3.0%)	20(1.6%)
Non-Infective		Atopic dermatitis	74(6.6%)	225(7.5%)	103(8.4%)
		Urticaria	5(0.4%)	15(0.5%)	9(0.7%)
		Acne	34(3.0%)	185(6.2%)	12(1.0%)
		Pityriasis Alba	49(4.4%)	3(0.1%)	0(0.0%)
		Melasma	1(0.1%)	23(0.8%)	10(0.8%)
		Psoriasis	1(0.1%)	18(0.6%)	9(0.7%)
		Vitiligo	9(0.8%)	22(0.7%)	8(0.7%)
		Alopecia areata	11(1.0%)	6(0.2%)	2(0.2%)

Discussion:

In our study, prevalence of skin diseases in naxal infested tribal villages is 26.7%. Most of the previous studies have shown lower prevalence rate varying from 6.16% to 19.76%.[1-6] Higher prevalence in our study could be due to low literacy rate of the population, low awareness about skin diseases and poor access to basic healthcare, remote location and prevalent naxalite problem in the area. The prevalence of infective dermatoses (23.2%) was higher than non infective dermatoses (15.5%) which were in consonance with earlier studies on rural people.[4-5]

The prevalence of fungal infection was high (9.3%) which is similar to earlier studies[4-11] which could due to poor hygiene of tribal population, sharing of fomites, and widespread improper treatment by unqualified quacks. Among infective dermatoses, atopic dermatitis (7.5%) was most prevalent which might be due to hot and humid climatic conditions and farming work.[4-9]

The prevalence of Tinea corporis (p <.001) and Scabies (p<.001) was significantly higher in males compared to females which could be related to poor hygiene, lack of self concern, and long duration work in hot and humid condition.

In our study prevalence of Acne vulgaris (p< .001) and Melasma(p= 0.04) was significantly higher in females compared to males which can be attributed to hormones related female gender susceptibility.

CONCLUSION

Our study showed high prevalence of dermatoses in naxal infested tribal areas. Health education of tribal villagers regarding dermatological signs and symptoms, better health care by qualified dermatologists, frequent medical camps in interior areas by the team of doctors is warranted for early detection and timely intervention in remote sensitive areas.

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