

PATTERN OF SKIN DISEASES IN PATIENTS VISITING UNIVERSAL COLLEGE OF MEDICAL SCIENCES- TEACHING HOSPITAL (UCMS-TH) FROM THE THREE DISTRICTS OF TERAI REGION IN NEPAL

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ABSTRACT

INTRODUCTION: The pattern of skin disease varies from country to country and in various regions within same country due to differences in socioeconomic and geographic factors. This study aimed to determine the pattern of skin disease from the three districts of Terai region in Nepal.

MATERIAL AND METHODS: This was retrospective study done from the hospital OPD patient's record of Universal college of Medical Sciences & Teaching Hospital (UCMS-TH), from 1st September 2011 to 31st August 2012. Patients from Rupandehi, Nawalparasi and Kapilvastu districts were taken. The diagnosis were entered in 15 categories like Acne, Alopecia Areata, Dermatophytosis, Drug reaction, Eczema, Leprosy, Lichen Planus, Melasma, Psoriasis, Pyoderma, Scabies, sexually transmitted diseases (STI), Urticaria, Viral infection and Vitiligo. Any diagnosis not in these categories, was kept at "Other" category. Monthly trend of disease was also analysed.

RESULT: Total number of patients from Rupandehi, Kapilvastu and Nawalparasi districts were 12446 (89.3%), 661 (4.7%), 836 (6%) respectively. Dermatophytosis was the commonest 2003 (16.1%) in Rupandehi district, it was second in number in Nawalparasi and Kapilvastu. Eczema was the commonest in Kapilvastu and Nawalparasi district with 103 (15.6%) and 136 (16.3%) respectively. Eczema was second in number in Rupandehi district. Acne was third in number in Rupandehi and Nawalparasi but vitiligo was third common dermatosis recorded in Kapilvastu district.

CONCLUSION: Dermatophytosis and Eczema are the most common dermatologic disorders in Terai region.

KEY WORDS: Terai, Eczema, Dermatophytosis

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INTRODUCTION

Dermatological conditions account for a significant proportion of the global burden of disease in low and middle income countries.¹ Skin diseases are one of the leading cause of morbidity in Nepal. In 2010/2011 the skin diseases (Impetigo, Boils, Furunculosis) were seventh among the top ten causes of outpatient morbidity.²

The skin disease pattern in population is generally determined by different ecological factors like environment, economy, literacy and social custom. The pattern also varies from country to country and in various regions within same country.³

Nepal has three distinct ecological region. Mountain, hill and terai; pattern and prevalence of skin disease may vary according to the ecological region. The study done in population of hilly area showed eczema as commonest skin disease followed by pigmentary disorder and acne.⁴ Another study in hilly region showed papulosquamous disease to be commonest.⁵ The study done from the population in terai showed dermatophyte infection to be commonest.⁶ Studies done in India from two different ecological region showed different pattern of dermatological diseases.^{1,7}

Studying the pattern of disease has importance in building healthcare strategies according to the requirement of population in specific area. Thus, the objective of this study is to analyze the pattern of dermatological disease in three districts of Terai region in Nepal.

MATERIAL AND METHODS

This was retrospective study done from the hospital record of UCMS-TH. UCMS-TH is tertiary hospital situated in Rupandehi district, Nepal. The majority of the patients visiting in this hospital are from Rupandehi district. The patients from Nawalparasi, Kapilvastu, Palpa, Gulmi, Arghakhanchi, Pyuthan, Rolpa, Syangja districts and from the cities and villages close to border area of Rupandehi district also get service from this hospital.

Rupandehi, Kapilvastu and Nawalparasi are districts in Terai region of Nepal. Most of the land in these three districts is occupied by lowland plain and situated within an altitude between 67 to 300 meter. Tropical and subtropical climate is found in these three districts.

Department of dermatology maintains the record of all the patients visiting at OPD, in record book. The patients name, age, sex, address, diagnosis and treatment are recorded. The data used for this study was taken from this record. All the new and old cases were taken for study. All the diagnosis was made by dermatologist only. The diagnosis was made clinically and whenever required the laboratory support was taken.

We took data from 1st Sept. 2011 to 31st Aug. 2012. All the diagnosis was grouped into 15 categories. The diagnosis which does not fit into these categories was kept in "Other". The 15 categories include Acne, Alopecia Areata, Dermatophytosis, Drug reaction, Eczema, Leprosy, Lichen planus, Melasma, Psoriasis, Pyoderma, Scabies, STI, Urticaria, Viral infection and Vitiligo. Drug reaction include clinical pattern of cutaneous drug eruption.

The patients only from Rupandehi, Nawalparasi and Kapilvastu district were taken. The patients from other district and from India were excluded. The study population was grouped into four age group less than 15 years, 15 to 30 years, 31 to 45 years, and more than 45 years. Frequency of diseases according to months and gender were also recorded. MS-excel sheet was used to tabulate and analyze the data.

RESULT

There were 14926 patients in total. Among them 93.4% (13943) were from Rupandehi, Nawalparasi and Kapilvastu districts only. Out of 13943, the patients from Rupandehi, Nawalparasi and Kapilvastu districts were 12446 (89.3%), 836 (6.0%) and 661 (4.7%) respectively.

The pattern of disease according to age group and gender in Rupandehi district is shown in Table 1 and Table 2. The maximum number of case was Dermatophytosis 2003 (16.1%) followed by Eczema 1963 (15.8%) and Acne 833 (6.7%). The age group 15-30 years dominated. Acne was the most common dermatosis among this age group. Dermatophytosis was more common in male. The highest difference in distribution of disease was found in melasma with male: female ratio being more than 1: 5. Vitiligo was the fourth common disease. In total female (50.4%) outnumbered the male (49.6%).

Table 1: Pattern of disease according to age group in Rupandehi District

Disease	Age Group(years)				Total
	<15	15-30	31-45	>45	
Acne	128	613	70	22	833(6.7%)
Alopecia	36	134	38	20	228(01.8%)
Dermatophytosis	289	833	485	396	2003(16.1%)
Drug Reaction	10	9	4	6	29(00.2%)
Eczema	333	622	496	512	1963(15.8%)
Leprosy	8	28	25	28	89(00.7%)
Lichen planus	13	34	27	47	121(01.0%)
Melasma	14	161	152	24	351(02.8%)
Other	896	1670	1046	1000	4612(37.0%)
Psoriasis	8	61	41	73	183(01.5%)
Pyoderma	112	99	80	73	364(02.9%)
Scabies	127	147	74	61	409(03.3%)
STI	3	20	08	17	48(00.4%)
Urticaria	46	147	132	96	421(03.4%)
Viral infection	47	74	31	88	240(01.9%)
Vitiligo	189	165	95	103	552(04.4%)
Total	2259	4817	2804	2566	12446

Table 2: Distribution of disease by gender in Rupandehi district

Disease	Male	Female	Total
Acne	331(2.7%)	502(4.0%)	833
Alopecia	110(0.9%)	118(0.9%)	228
Dermatophytosis	1170(9.4%)	833(6.7%)	2003
Drug Reaction	17(0.1%)	12(0.1%)	29
Eczema	978(7.9%)	985(7.9%)	1963
Leprosy	71(0.6%)	18(0.1%)	89
Lichen planus	65(0.5%)	56(0.5%)	121
Melasma	58(0.5%)	293(2.4%)	351
Other	2217(17.8%)	2395(19.2%)	4612
Psoriasis	99(0.8%)	84(0.7%)	183
Pyoderma	199(1.6%)	165(1.3%)	364
Scabies	271(2.2%)	138(1.1%)	409
STI	40(0.3%)	8(0.06%)	48
Urticaria	147(1.2%)	274(2.2%)	421
Viral infection	127(1.0%)	113(0.9%)	240
Vitiligo	272(2.2%)	280(2.2%)	552
Total	6172(49.6%)	6274(50.4%)	12446

In Kapilvastu district (Table 3), Eczema was the most common dermatosis followed by Dermatophytosis 93(14%) and Vitiligo 50 (7.6%). Highest number of visits were made by

the patients from 15-30 years of age group. Acne was the most common dermatosis 20 (9.7%) in this group. Dermatophytosis and Eczema were more common in male, but vitiligo was more common in female (table 4). Melasma was more common in female.

Table 3: Pattern of disease according to age group in patients from Kapilvastu District

Disease	Age Group(years)				total
	<15	15-30	31-45	>45	
Acne	3	20	1	0	24(3.7%)
Alopecia	0	2	1	0	3(0.5%)
Dermatophytosis	17	27	28	21	93(14%)
Drug reaction	0	2	1	0	3(0.4%)
Eczema	16	27	30	30	103(15.6%)
Leprosy	2	3	4	3	12(1.8%)
Lichen planus	0	1	1	4	6(0.9%)
Melasma	1	4	5	2	12(1.8%)
Other	47	81	68	77	273(41.3%)
Psoriasis	3	7	1	12	23 (3.5%)
Pyoderma	2	1	3	2	8(1.2%)
Scabies	3	7	1	6	17(2.6%)
STI	0	4	3	3	10(1.5%)
Urticaria	2	2	8	2	14(2.1%)
Viral infection	0	4	1	5	10(1.5%)
Vitiligo	15	15	12	8	50(7.6%)
Total	111	207	168	175	661

Table 4: Distribution of diagnosis by gender in patients from Nawalparasi and Kapilvastu districts

District Gender diagnosis	Nawalparasi			Kapilvastu		
	Male	Female	Total	Male	Female	Total
Acne	34(4.1%)	31(3.7%)	65	10(1.6%)	14(2.1%)	24
Alopecia	9(1.1%)	9(1.1%)	18	3(0.5%)	0(0%)	3
Dermatophytosis	82(9.8%)	37(4.4%)	119	60(9%)	33(5%)	93
Drug reaction	3(0.4%)	0(0.0%)	3	2(0.3%)	1(0.1%)	3
Eczema	80(9.6%)	56(6.7%)	136	63(9.6%)	40(6%)	103
Leprosy	2(0.2%)	1(0.2%)	3	11(1.7%)	1(0.1%)	12
Lichen planus	4(0.5%)	5(0.6%)	9	4(0.6%)	2(0.3%)	6
Melasma	9(1.1%)	27(3.2%)	36	4(0.6%)	8(1.2%)	12
Other	153(18.3%)	134(16.0%)	287	144(21.8%)	129(19.5%)	273
Psoriasis	9(1.1%)	7(0.8%)	16	16(2.4%)	7(1.1%)	23
Pyoderma	13(1.5%)	15(1.8%)	28	4(0.6%)	4(0.6%)	8
Scabies	22(2.6%)	9(1.1%)	31	14(2.1%)	3(0.5%)	17
STI	4(0.5%)	2(0.2%)	6	6(0.9%)	4(0.6%)	10
Urticaria	12(1.4%)	16(1.9%)	28	2(0.3%)	12(1.8%)	14
Vitiligo	17(2%)	26(3.1%)	43	12(1.9%)	38(5.7%)	50
Viral infection	4(0.5%)	4(0.5%)	8	6(0.9%)	4(0.6%)	10
Total	457(54.7%)	379(45.3%)	836	361(54.6%)	300(45.4%)	661

In Nawalparasi district (Table 5) Eczema was the most commonly presented dermatosis 136(16.3%) followed by Dermatophytosis 119 (14.2%) and Acne 65 (7.8%). Vitiligo was the fourth common dermatosis. Among age group the highest number of visit was made by 15-30 years patients. Acne was the most common in this age group. Eczema, dermatophytosis and acne were found more common in male than with female (Table 4). Melasma and vitiligo was more common in female.

Table 5: Pattern of disease according to age group in patients from Nawalparasi district

Disease	Age group(years)				Total
	<15	15-30	31-45	>45	
Acne	7	54	4	0	65 (7.8%)
Alopecia	1	9	5	3	18(2.2%)
Dermatophytosis	17	50	23	29	119(2.2%)
Drug reaction	0	0	2	1	3(0.4%)
Eczema	16	32	36	52	136(16.3%)
Leprosy	0	2	0	1	3(0.4%)
Lichen planus	2	4	2	1	9(1.1%)
Melasma	2	12	18	4	36(4.3%)
Other	31	113	67	76	287(34.35%)
Psoriasis	3	3	2	8	16(1.9%)
Pyoderma	4	13	5	6	28(3.3%)
Scabies	6	15	5	5	31(3.7%)
STI	0	1	3	2	6(0.7%)
Urticaria	4	14	6	4	28(3.3%)
Viral infection	0	6	0	2	8(1.0%)
Vitiligo	9	14	10	10	43(5.1%)
Total	102	342	188	204	836

Figure I: Monthly trend of the three common disease in patients from Rupandehi

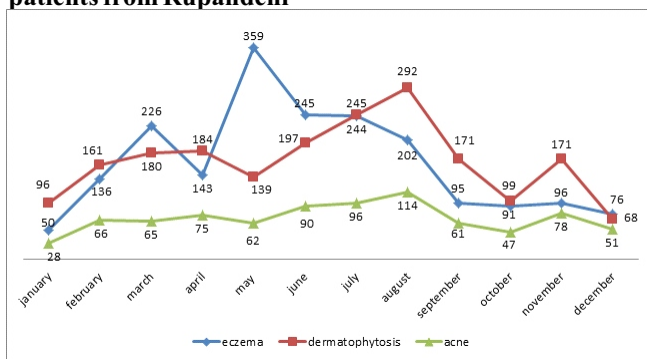


Figure II: Monthly trend of three common disease in patients from Kapilvastu

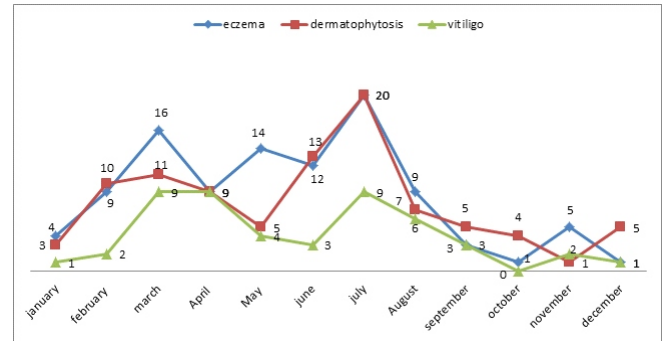
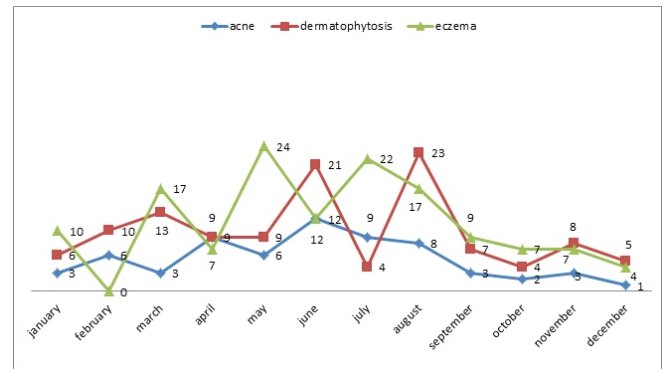


Figure III: Monthly trend of three common dermatosis in patients from Nawalparasi.



When monthly trend of three common dermatosis in each district were seen, highest number of eczema was recorded in month of May in Rupandehi and Nawalparasi and July in Kapilvastu district. Highest number of dermatophytosis was recorded in August in Rupandehi and Nawalparasi district and at July in Kapilvastu district.(Figure I, II, III)

DISCUSSION

The study shows the pattern of skin diseases in Rupandehi, Kapilvastu and Nawalparasi districts of Nepal. Number of patients from Rupandehi was significantly high in comparison to that of Kapilvastu and Nawalparasi district. Since the study was done from the secondary data, the researcher's effort in this regard was limited. The community research can avoid this problem.

Dermatophytosis was commonest in Rupandehi district. The study by SL Walker in terai region of Nepal showed the fungal infection to be the commonest.⁶ The study conducted in mountain area showed fungal infection to be the fourth

common dermatosis.⁴ Our study showed similarity showing fungal infection is commonest in Terai. The number of patient taken from Kapilvastu and Nawalparasi were very less in comparison to Rupandehi district, but Dermatophytosis was still second in number after Eczema.

This reflects the fact that warm and humid climate creates the environment for the development of fungal infection.⁸

As in other studies Eczema was also common being second in number in Rupandehi district and first in number in Kapilvastu and Nawalparasi district.^{4,6,9}

The most common age group presenting to the OPD was 15-30 years. This shows similarity with the study done by Karn D et al. who also opined that this may be due to the fact that this is most active population and the people in this age group are also self conscious about their looks, skin and personalities.⁶

When monthly trend of the dermatosis was analysed, it was seen that there was increasing trend in number of dermatosis in summer season in comparison to that in winter. This can be attributed to UVR exposure which is known to suppress cutaneous cell mediated immunity in human, contributing to skin aging process as well as development of photoeczema.¹⁰

Study by Jha AK showed the increasing trend of fungal infection in summer season. In our study in all three districts, dermatophytosis number increases in summer season and gradually decline in winter season.¹¹

Dermatophytosis and Eczema were seen more common in male than in female. Studies have shown more prevalence of dermatophytosis in male compared to female. Progesterone has been shown to prevent dermatophyte multiplication in vitro. Males may be more vulnerable to infection due to the higher exposures in the army, school and sporting activities and due to the types of shoes and socks used.^{12,13,14}

Vitiligo is more common in female in this study. Most series based on outpatient attendance shows vitiligo to be more common in female, but the frequency in population is probably the same in same sexes.¹⁵ This study may have reflected this fact.

CONCLUSION

Dermatophytosis and eczema are commonest dermatoses in

Terai region. The patient from age group 15-30 years were the most frequent visitor in dermatology OPD. The common dermatoses show seasonal trend with frequency increasing in summer. Dermatophytosis is more common in male.

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