

Burden of Skin Diseases in Western Nepal: A Hospital Based Study

Binamra Basnet^{1,*}, Saraswoti Neupane¹, Shristi Shrestha², Sujan Gautam³

¹Department of Dermatology and Venereology, Gandaki Medical College, Pokhara, Nepal

²Department of Ophthalmology, Manipal Teaching Hospital, Pokhara, Nepal

³Department of Community Medicine, Gandaki Medical College, Pokhara, Nepal

*Corresponding author: binamrabasnet@gmail.com

Abstract There is a substantial lack of data regarding the actual burden of skin diseases in Nepal. Skin diseases often account for a significant number of hospital visits specially in the rural areas of Nepal. 20-30% of the general population is affected by skin disorders at any given time. A hospital based retrospective study reviewed the medical data over a period of one year (June 2014 to May 2015). A total number of 6009 patients presented to the Department of Dermatology which accounted for 6% of the total hospital patients. There was almost equal number of males (51%) & females (49%). Cutaneous infections and dermatitis alone was responsible for more than 50% of the cases (cutaneous infection-34% & dermatitis-20%) whereas pigmentary disorders, including melasma contributed to only 6% of the cases. The occurrence of skin disease did not have significant correlation with socioeconomic class & personal hygiene (p-value>0.05). Conclusively, we need to focus more towards controlling infectious skin diseases.

Keywords: skin diseases, prevalence, Nepal

Cite This Article: Binamra Basnet, Saraswoti Neupane, Shristi Shrestha, and Sujan Gautam, "Burden of Skin Diseases in Western Nepal: A Hospital Based Study." *American Journal of Public Health Research*, vol. 3, no. 5A (2015): 64-66. doi: 10.12691/ajphr-3-5A-14.

1. Introduction

Skin diseases account for a significant public health issue in developing countries [1]. Skin disorders affect 20-30% of the general population at any given time [2]. Different studies conducted in Nepal and India have a prevalence rate ranging from 4.3% to 49.1% [3-11]. The pattern of skin disease is influenced mainly by genetics, age, gender, geographical location, climate and hygiene. Skin diseases mostly occur due to exogenous factors and its linkage to most of the systemic diseases, makes it one of the most common public health issue worldwide. In the developing countries, poor hygiene and low socio-economic status are often responsible for most of the infectious skin diseases. Identifying the prevalence of skin diseases can help educate the patients and decrease disease morbidity as most patients with dermatological problems, especially in rural areas, do not often seek medical help unless it is too late. The prevalence of skin diseases differs between different regions as a result of these factors.

There is a substantial lack of data regarding the actual prevalence of skin disease in Nepal. To the best of our knowledge, no study has yet been conducted on the prevalence of skin diseases in Western Nepal.

2. Materials and Methods

2.1. Aim and Objectives

1. To determine the pattern of skin diseases.

2. To find out the correlation between personal hygiene, socioeconomic status and occurrence of cutaneous infection.

2.2. Methods

This was a hospital based study done over a period of one year (June 2014 to May 2015) in Gandaki Medical College, Pokhara, Nepal. In this study, the outpatient clinic records of the Dermatology Department were retrospectively assessed. The patients were diagnosed based on history and clinical examination. Socioeconomic class and personal hygiene were assessed based on the questionnaire given to each patient. Laboratory tests (eg. KOH, Tzank's, Gram staining) and histo-pathological examinations were performed in the appropriate patients.

2.3. Statistical Analysis

Data were collected and analyzed using statistical software, SPSS version 21. Regression analysis was done to compare the relationship between the personal hygiene, socio-economic status and the occurrence of cutaneous infection. A p-value of <0.05 was considered significant.

3. Results

The total number of patients who visited the Dermatology OPD was 6009 which accounted for around 6% of the total hospital outpatient visit. There was almost equal number of males (51%) & females (49%). Cutaneous

infection was the commonest, comprising of 34% of the out patient visits out of which fungal infection contributed to 51%, infestation- 13%, bacterial infections- 15% and viral infections- 21% (Table 1). Sexually transmitted diseases accounted for less than 2% of total skin disease. In the non-infectious group, there was a predominance of dermatitis, consisting of 20% of the total cases followed by urticaria (11%) and adnexal diseases (9%). Pigmentary disorders were seen in 6% of cases, vasculitis in 2%, Polymorphous light eruption in 3% of the total patients. The other skin diseases forming the minority were genodermatoses (12 cases), connective tissue diseases (23 cases) and vesicobullous disorders (19 cases). Likewise, Psoriasis and other papulosquamous disorders were seen only in 4% of the total cases.

Table 1. Prevalence of Skin Diseases

Disease	Number	Prevalence(%)
Infection	2041	33.9
Fungal	1040	17.3
Bacterial	315	5.2
Viral	421	7
Infestation	265	4.4
Dermatitis	1169	19.4
Endogenous	698	11.6
Exogenous	471	7.8
Urticaria & Pruritus	662	11
Adnexal	499	8.3
Pigmentary	345	5.7
Papulosquamous	220	3.6
Photodermatoses	184	3
Vascular malformations	73	1.2
STD	98	1.6
Vasculitis	30	0.4
CTDs	23	0.3
Vesicobullous	19	0.3
Others	646	10.7
TOTAL	6009	100

Socio-demographic determinants of skin diseases

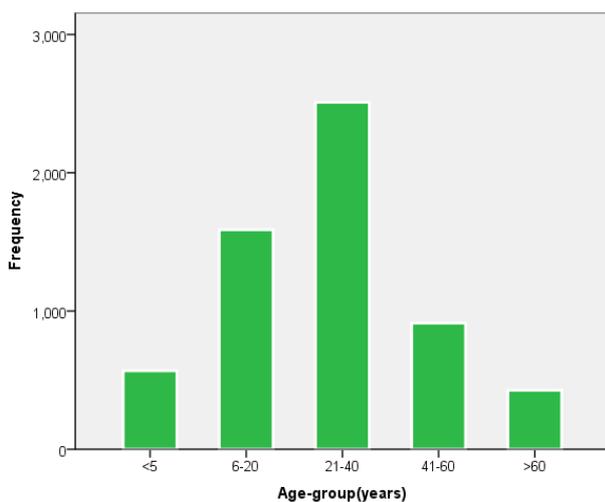


Figure 1. Disease frequency according to age-groups

Age: Age group between 20 to 40 years comprised maximum number of patients (42%), followed by age group between 5 to 20 years consisting of 26%. Under 5

children consisted of 9% of all the patients, likewise patients aged >60 years comprised 7% of the cases (Figure 1).

Personal Hygiene: On the basis of personal hygiene, there was almost similar number of unhygienic and hygienic patients. There was no significant correlation between these factors (p-value >0.05, Table 2).

Table 2. Correlation Between Personal Hygiene and Infection

Infections	p-Value	*OR	95% **CI	
			Lower	Upper
Fungal	0.83	1.01	0.856	1.212
Bacterial	0.568	0.932	0.733	1.186
Viral	0.865	1.019	0.823	1.263
Infestations	0.929	1.013	0.782	1.310

*OR-Odds-Ratio; **CI-Confidence Interval

Socio economic status: Middle class people consisted of 49.5%, higher class consisted of 5% and the remaining 45.5 % were lower class. When we compared the socioeconomic status of the patients with the occurrence of cutaneous infection, there was no significant relationship between these two groups (p-value >0.05).

Developmental area: Around 70% of the total patients belonged to rural areas and the remaining 30% from urban areas.

In addition we also found out that fungal infection, bacterial infection and contact dermatitis mostly occurred during the spring and summer season. Infestation predominantly occurred during summer. Viral infection and endogenous dermatitis mainly occurred during winter.

4. Discussions

Socio-demographic factors such as age, gender, socio-economic status play an important role in determining the pattern of skin disorders [12]. Dermato-epidemiological data from population based studies are important in planning public health strategies for controlling skin diseases. This might be a reflection of the prevalence of skin diseases in the overall population of the area. Cutaneous infections and eczema are the two major conditions accounting for the maximum number of patients in most of the published journals. In one study done in Northern India, infectious causes accounted for 29.4% of the total 4887 cases, followed by eczema (13.3%), infestations (13%) and pigmentary disorders (6.8%) which was comparable to our study (Table 3) [13]. A study done at Dhulikhel Hospital, Kavre, Nepal had a staggering number of pigmentary disorders (32.56%), followed by adnexal diseases (22%), whereas skin infections (including STD and Leprosy) only accounted for 17.77% (Table 3) [10]. On the contrary, in our study, pigmentary disorders accounted for only 5.7%, adnexal diseases- 8.3% and cutaneous infection was seen in 34% of the total patients. This difference in disease pattern in various parts of Nepal emphasizes on the diversity of disease prevalence in different geographical location of the country.

Walker *et al.* conducted a point prevalence study in Bara district of Nepal in which they found a surprisingly higher occurrence of skin diseases (62.2%) out of which cutaneous infection and infestations comprised almost 35% [14].

Table 3. Comparison between different studies

Diseases(%)	Present Study	Dogra S <i>et al.</i>	Karn D <i>et al.</i>
Male/Female	51/49	50/50	56/44
Infection	33.9	29.4	17.7
Papulosquamous	3.6	0.5	9.2
Adnexal	8.3	2.41	22
Dermatitis	19.4	13.3	0.97
Pigmentary	5.7	6.8	32.5
CTD	0.3	0.06	2
Others	28.8	47.54	15.63
Total Cases	6009	4887	7370

In another study conducted by Shrestha *et al.* the point prevalence of skin diseases accounted for 20.1% where the common conditions were eczema (12.2%), pigmentary disorders (4.1%), acne (2.7%), urticaria (2.4%) [15]. In yet another study done in one of the rural areas of Nepal, eczema comprised of 48% while cutaneous infections accounted for only 13% [16].

5. Conclusion

In the current study, more than one third of the cases consisted of cutaneous infection. So in our part of the world, we still need to focus much more on treating and preventing skin infections than the non infectious dermatoses. Our study also shows that there is no significant relationship between occurrence of cutaneous infection/infestation and personal hygiene/socioeconomic status.

Declaration of Conflicting Interests

The authors declare that there is no potential conflicts of interest with respect to the research, authorship and /or publication of this article.

Funding

The authors received no financial support for the research, authorship and/or publication of this article.

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