



# Prevalence of Skin Diseases in Rural Kashmir: A Community Based Survey

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## Abstract

**Introduction:** Skin diseases are one of the most common health problems. The objectives of this study are to determine the prevalence of skin diseases in a rural community.

**Methods:** A community survey was conducted in a rural locality with 2000 inhabitants, to obtain socio-demographic data and identify individuals with skin diseases.

**Result:** Of 600 individuals attending the health camps, had one or more Skin diseases. The overall prevalence of SDs was 22.5%. The most common SD categories were eczemas, fungal infection, pigment disorders and acne. The prevalence of the diseases was higher in females. The children were the most common group affected.

**Conclusion:** This population-based study shows that Skin diseases are very common in a rural community. Targeted training should enable health-care workers to prevent, accurately diagnose and manage these problems on site.

**Keywords:** Prevalence; Community; Skin disease

## Introduction

Skin diseases are one of the most ubiquitous health problems, affecting 1 in 5 persons in the UK and 1 in 3 in the US, but there are large differences between countries, climates and cultures. The highest prevalence has been reported from developing countries and poor areas. In the mountainous region of northern India, the overall prevalence is 45.3%, while, in rural Sumatra, it is 28.2%. In Africa, reported prevalence figures vary between 11.7% in Bamako, Mali; to 48% in rural Ethiopia. The published prevalence figures in children are also high, 32% in Kenya, 34% in Mali, 31.3% in Hong Kong and 38.8% in northern India. Figures of this kind reported from various countries are difficult to compare due to differences in study design, the seasonality of certain diseases and uncertainty in terms of census statistics [1].

A major reason for targeting skin diseases in the developing world is that the majority are transmissible and therefore potentially preventable and controllable. Most of the available statistics on the pattern of skin diseases have been based on hospital or private practice, and can provide a very crude indication of true prevalence and incidence in a community, as many social and economic factors affect the decision to seek medical advice. So, the present study was designed to determine the actual extent of the skin disease problem in rural areas [2].

## Methods

It was a community survey. All community members consulting for skin problems at the health camp were examined. The majority of diagnoses were based on the patient's history and clinical signs. Those with recurrent or long lasting SDs were interviewed about symptoms, feelings, daily activities, wearing clothes, social/leisure activities, sport, work/school, personal relationships, sexual activity and treatment. The demographic and clinical data were documented on patient record forms prepared for the study.

The study was conducted in Talku-Dudhechaur, a rural village development community (VDC) 25km south of Kathmandu. This community has a population of 3,207 (1,728 of male and 1,479 of female gender of which 838 were children, "14 years of age) and a total of 477 households. This is a poor community with all the characteristics of a rural Nepalese community in the hills, with a mainly agriculture-based economy. Baseline household survey two nurses visited all 477 households in the village, during the period March-April 2009. These nurses were trained to use a dermatology screening questionnaire, a list with the Nepalese names of the ten most commonly seen SDs: scabies, eczema and/or fungal infections, bacterial infections, pruritus, warts, loss of skin colour (vitiligo/pityriasis vesicular), urticaria, moles and birthmarks, nodules and/or cysts and acne. During the house visits, the nurses provided

information on the ongoing survey and documented the name of the head of the family, main profession of the family members, number of men, women and children, individuals in the family known to have skin problems, as well as the type of skin disorders, according to the list in the dermatology screening questionnaire. The skin problems which did not correspond to the list of SDs were recorded as other skin conditions.

All these data were recorded and household members were informed about the dates and locations of dermatologic health camps, where free examination and treatment were offered. Dermatologic examination and interviews to increase accessibility to the health camps, 4 dermatologic health camps were run at separate locations, during a period of 2 months. All community members consulting for skin problems at the health camps were examined by one of the authors, or by one of two other dermatologists (FM & MH) in closed rooms with sufficient privacy. All individuals had their whole body, apart from the genital areas and breasts in females, examined.

Patients with skin problems in those regions were examined by a dermatologist of the same gender. The majority of diagnoses were based on the patient's history and clinical signs, but 54 patients requiring biopsies to verify the diagnosis were referred to the Tribhuvan University Teaching Hospital, Kathmandu, for treatment. After examination, we tested the applicability of the DLQI15 to measure the impact of SDs on QOL in this Nepalese community. Those with recurrent or long lasting SDs were interviewed about symptoms, feelings, daily activities, wearing clothes, social/leisure activities, sport, work/school, personal relationships, sexual activity and treatment in accordance with the DLQI questionnaire. As most villagers were barely literate, an interview method had to be used and the DLQI questions were translated into Nepalese by the dermatologists participating in the health camps. The demographic and clinical data were documented on patient record forms prepared for the study.

### Data analysis

The data were entered in the SPSS 20.0 program and analyzed. The data were entered in the SPSS 13 program and analyzed. The prevalence and the impact on QOL were calculated. Fisher's exact test (two tailed) was used for significance testing.

### Ethical considerations

The study was performed according to the ethical principles Prevalence of skin diseases Shrestha et al. [1] of the Helsinki Declaration and approved by the Ethical Review Board of the Nepal Health Research Council. For the Household survey and the interviews, verbal consent was obtained. All patients were provided with free consultations and medicines. For the Household survey and the interviews, verbal consent was obtained. All patients were provided with free consultations and medicines.

### Result

Out of total 2000 community members, six hundred presented for the health survey. A total of 451 patients had one or other form

of disease yielding an overall prevalence rate of 22.5% Baseline survey. The head of the families reported a total of 411 family members known to suffer from a skin problem. The baseline survey thus indicated a very low prevalence of SDs in the community, 12.8%. Dermatologic examination and interviews in all, 735 villagers (23% of all the inhabitants in the community) attended the health camps and they were all examined. Of them, 645 (312 of male and 333 of female gender, of which 236 were children) had one or more skin problems diagnosed. The mean age was 24.9 years (0.5-90 years). The age groups most frequently represented were 5-14 (31%), 15-24 (26%) and 25-34 years (15-3%).

Occupation of the villagers with skin diseases diagnosed at the camps. N: number of individuals. The overall prevalence of SDs among the villagers of Talku-Dundhechaur was 20.1% (645/3207). The prevalence was significantly higher in children (28.2%) than adults (17.3%,  $p < 0.0001$ ). There was also a significant difference between genders with females having a higher prevalence (22.5%) than those of male sex (18.1%,  $p = 0.002$ ). Of the 645 patients with diagnosed SDs, 242 had two diagnoses and 73 had three. A total of 960 SDs were therefore recorded. The most common SD categories were eczemas (12.2%, 392/3207, followed by pigment disorders (4.1%), acne (2.7%), urticarial (2.4%) and moles and lumps (1.6%). These 5 most common categories of SDs constituted 77.2% (741/960) of all SDs diagnosed. Regarding single SDs, the most common was pityriasis Alba (4%), followed by chronic hand and foot eczema (3.1%), melisma (2.9%), acne vulgaris (2.4%) and polymorphic light eruption (1.3%).

Skin diseases and prevalence. n: number of individuals with skin problem, total population: 3207 Journal of Institute of Medicine, December, 2012; 34:3 44-49 Journal of Institute of Medicine, December, 2012; 34:347 Localized pruritus 8 0.2 Viral infections 45 1.4 Verruca vulgaris 24 0.7 Varicella 9 0.3 Other viral infections 12 0.4 Bacterial infections 37 1.2 Secondary Pyoderma 16 0.5 Impetigo 6 0.2 Other bacterial infections 15 0.5 Fungal infections 32 1.P.versicolor 10 0.3 Other fungal infections 22 0.7 Infestations-sca-bies 22 0.7 Others 36 1.1 A total of 95 patients were interviewed to test the applicability of the DLQI questionnaire for estimating QOL. The question on sexual activity was found to be too direct for the socio-cultural norms of Nepal and only 9 of the 10 DLQI questions could therefore be used. There were other difficulties during the interviews with some patients and a total of only 75 questionnaires in which these 9 questions had been answered could be evaluated. The mean DLQI score was  $10.7 \pm 3.2$  (range 7-19), indicative of a very large impact on QOL. The highest score was obtained by the question on symptoms (mean score 2), followed by the question on feelings (mean score 1.7). Despite the difficulties with the DLQI questionnaire, it was clear that the SD categories with the greatest impact on QOL were eczemas, pigment disorders, acne, urticaria and pruritus.

### Discussion

The overall prevalence of skin diseases in this study was 22.5%. As in many other studies from developing countries, children and

females were more vulnerable than males. One fifth of the inhabitants affected is a high prevalence for SDs, but it is considerably lower than what has been reported from other developing countries in Asia and Africa [3-7]. Eczemas, including photo dermatitis, were the most common SDs in our study. The similar findings were obtained by Grills et al. [3]; Saw et al. [4]. The number of infections and infestations were surprisingly low in the studied community. In northern India, infections and infestations accounted for 33% [3], in Sumatra 49.5% [4] and in Ethiopia 79% [7]. This difference might be due to the fact that our study was conducted during a relatively cool season and it is well known that there are large seasonal variations in the incidence of skin diseases, especially infectious skin diseases, which are more common in tropical and subtropical climate zones. SDs is known to have a significant impact on QOL. In Nepal, skin problems are one of the most common causes of medical consultations<sup>2</sup>. To the best of our knowledge, this is the first population-based study which has determined the prevalence and impact of SDs in a rural community in Nepal. The overall prevalence of SD in this study was 20.1%. As in many other studies from developing countries, children and females were more vulnerable than males (28%, 22.5% and 18% respectively) [5-8]. One fifth of the inhabitants affected is a fairly high prevalence for SDs, but it is considerably lower than what has been reported from other developing countries in Asia and Africa [9-14]. This difference might be due to the fact that our study was conducted during a relatively cool season and it is well known that there are large seasonal variations in the incidence of SDs, especially infectious SD, which are more common in tropical and subtropical climate zones. The number of infections and infestations were surprisingly low in the studied community, accounting for only 14.5%, as compared to what has been reported from other areas. In northern India, infections and infestations accounted for 33%, in Sumatra 49.5% and in Ethiopia 79%. Further, the inhabitants of Talku-Dudhechaur have ample access to water and their hygiene is therefore acceptable. These may all be factors that markedly affect both the number of infectious diseases and the overall prevalence of SDs. To clarify these issues, a similar study needs to be conducted for a longer period, a year or more. Community members in rural areas do not consult for minor skin problems. To facilitate attendance at the medical camps, 4 camps in separate regions of the community were run in a two-month period. In spite of this, we cannot overlook the possibility that less mobile and poor residents were unable to show up. Further, it was not possible to identify and follow each individual by name and address in this rural area and the degree of overlap between the population with SD reported during the baseline survey and those showing up at the health camp could not be analyzed. The actual prevalence of 20.1% must therefore be regarded as a minimum prevalence. A house-to-house dermatologic examination and interviews might have yielded a higher prevalence.

On the other hand, 100% of the households participated in this study and 23% (735/3207) of the total population were examined. Further, 79% more individuals than those reported to have skin problems by the head of the families were examined at the health camps and 57% more residents than reported were diagnosed with

SDs at the camp. These figures imply that the coverage of the population in this community is very high for a field survey in a rural area. Walker et al. [15] reported health-camp point prevalence of SDs of 62.2% in the terrain area, a hot and humid climate zone in Nepal. This prevalence was based on examinations of 878 individuals from 5 villages who showed up at the camps, 546 of whom were diagnosed with SDs. The corresponding camp prevalence in our study is 87.8%. One reason for this difference is probably that we had already identified and invited the residents with skin problems to the camps during the baseline survey. In the study by Walker et al. [15] there are many ambiguities that make their results difficult to interpret. They claim to have examined 39% of the population of the 5 villages, reaching a point prevalence of 24.3% (546/2249), and (community prevalence) [16-18]. This must be a severe underestimation of the total population in the five villages. The terrain is a densely populated region and, according to the 2001 census<sup>19</sup>, the village in Bara.

## Conclusion

Skin diseases are common in the rural communities. With the limited resources available and the lack of dermatologists in rural areas, we are convinced that information and training for health-care workers will be a cost-effective way to prevent, diagnose, treat or refer these most common skin problems on site.

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## References

- Shrestha D, Gurung, Inger R (2012) Prevalence of skin diseases and impact on quality of life in hilly region of Nepal. *Journal of Institute of Medicine* 34(3): 44-49.
- Abdel H, Abdel AMA, Hofny ER (2003) Prevalence of skin diseases in rural assist governorate, Upper Egypt. *Egypt International Journal of Dermatology* 42(11): 887-892.
- Grills N, Grills C, Spelman T, Stoope M, Hellard M, et al. (2012) Prevalence survey of dermatological conditions in mountainous north India. *Int J Dermatol* 51(5): 579-587.
- Saw SM, Kohl D, Adjan MR, Wong ML, Hong CY (2001) A population based prevalence survey of skin diseases in adolescents and adults in rural Sumatra, Indonesia, 1999. *Trans R Soc Trop Med Hyg* 95(4): 384-388.
- Schmeller W, Dzikus A (2001) Skin diseases in children in rural Kenya: long-term results of a dermatology project within the primary health care system. *Dermatol* 144(1): 118-24.
- Mahé A, Prual A, Konate M, Pierre B (1995) Skin diseases of children in mali: a public health problem. *Trans RSoc Trop Med Hyg* 89(5): 467-470.
- Fung WK, Lo KK (2000) Prevalence of skin disease among school children and adolescents in a student health service center in Hong Kong. *Ped Dermatol* 17(6): 440-446.

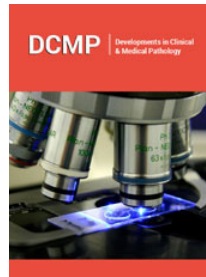
8. Dogra S, Kumar B (2003) Epidemiology of skin diseases in school children: a study from Northern India. *Ped Dermatol* 20(6): 470-473.
9. Gibbs S (1996) Skin disease and socio economic conditions in rural Africa: Tanzania. *Int J Dermatol* 35(9): 633-639.
10. Satimia FT, McBride SR, Leppard B (1998) Prevalence of skin disease in rural Tanzania and factors influencing the choice of health care, modern or traditional. *Arch Dermatol* 134(11): 1363-1366.
11. Figueroa JI, Fuller LC, Abraha A, Hay RJ (1998) Dermatology in south western Ethiopia: rationale for a community approach. *Int J Dermatol* 37(10): 752-758.
12. Rea JN, Newhouse ML, Halil T (1976) Skin disease in lambeth: a community study of prevalence and use of medical care. *Br J Prev Soc Med* 30(2): 107-114.
13. Mahe AN, Diaye HT, Bobin P (1997) The proportion of medical consultations motivated by skin diseases in the health centers of Bamako (Republic of Mali). *Int J Dermatol* 36(3): 185-186.
14. Satimia FT, McBride SR, Leppard B (1998) Prevalence of skin disease in rural Tanzania and factors influencing the choice of health care, modern or traditional. *Arch Dermatol* 134: 1363-1366.
15. Walker SL, Shah M, Hubbard VG Pradhan HM, Ghimire M (2008) Skin disease is common in rural Nepal: results of a point prevalence study. *Br J Dermatol* 158(2): 334-338.
16. Finlay AY (1993) Psychological impact of skin disease. In: Seymour CA, Heagerty AM (Eds.), *Horizons in medicine* 4 London, pp.172-179.
17. Lewis V, Finlay AY (2004) 10 years experience of the dermatology life quality index (DLQI). *J Invest Dermatol Symp Proc* 9(2): 169-180.
18. Finlay AY, Khan GK (1994) Dermatology life quality index (DLQI)-a simple practical measure for routine clinical use. *Clin Exp Dermatol* 19(3): 210-216.



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