



## ORIGINAL RESEARCH ARTICLE

### SKIN DISEASES IN A NEPALI PRISON

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#### ABSTRACT

Here we report on the pattern of dermatoses presented during a dermatological camp in Bharatpur prison. A total of 119(27.2%) inmates out of 437 inmates had dermatological problem. Most common dermatoses were skin infections (34.8%). Among the infections, fungal infections were most common (82%). In non-infectious group eczematous disorders and pigmentary disorders were common. Overcrowding in prison with three times excess could be contributing factor for the excess infections.

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Key Words: Nepal, Prison, Skin.

#### INTRODUCTION

Skin problems are the commonest reason for people accessing healthcare services in Nepal<sup>1</sup>. There is a high point prevalence of skin disease in rural Terai region of Nepal.<sup>1</sup> Skin infections occur mostly in those exposed to overcrowding with a hot and humid environment. Fungal skin infections are public health problems in many countries with high humidity<sup>2</sup>.

Skin infections and infestations are common among prisoners. Overcrowding along with sharing of personal effects and fomites, poor hygiene and lack of access to treatment results in increased skin infections inside the prison.<sup>3</sup> Infectious dermatoses are common problem in prisons of developing countries.<sup>4</sup> But there are no published data of dermatological problem in prisons from Nepal. In low resource setting like Nepal, prisoners are usually neglected from getting proper medical care. So, this study is a step towards finding the real dermatologic problem inside prison. Prisoners do not get routine medical check-ups inside prison. They are mostly taken care of by health workers with limited proficiency, and if necessary referred to second line.

#### MATERIALS AND METHODS

A cross-sectional study was conducted in central jail of Bharatpur, Chitwan. Bharatpur is located in the Terai region of central Nepal. It is located at latitude of 27° 40' 60N and longitude of 84° 25' 60E on an altitude of 205 meters. It has an average temperature of 28°C with peak temperature of 28-39° C during summer and as low as 8°C in winter. This prison houses 401 male inmates and 36 female inmates but the nominal capacity is for only 120 males and 15 females. As with most other prisons in the country, it has more than three times

the actual capacity.

Prisoners with any dermatological conditions were included in this study. All the inmates with dermatological problems were subjected to a detailed cutaneous examination. A brief history pertaining to the skin complaints was elicited. Patient's age and sex were recorded. Patients were properly counselled and appropriate treatment prescribed. For further laboratory investigations patients were sent to Chitwan Medical College Teaching Hospital.

#### RESULTS AND DISCUSSION

Out of the 437 inmates, one-hundred twenty five made the consultation. But six of them didn't had any dermatologic problem so were excluded from the study.

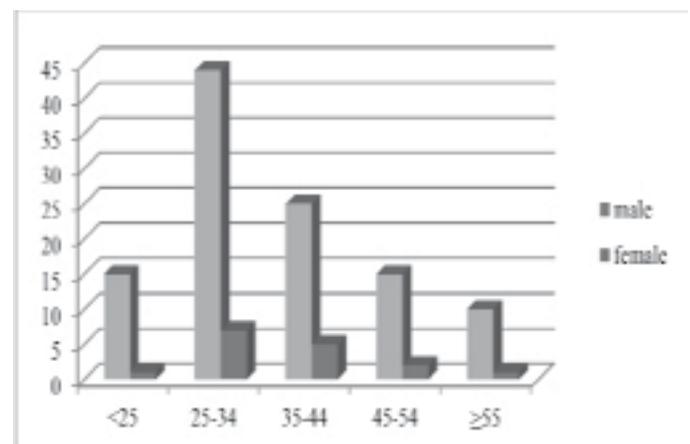


Figure 1: Distribution of skin disease according to age groups

Most of the patients were from the age group of 25-34 years (40.8 %). The mean age of patient was 36.3 with youngest being 17 and oldest 90 years old.

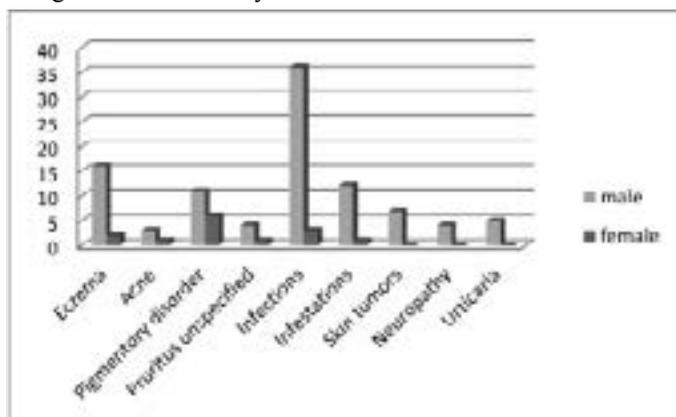


Figure 2: Distribution of different disease according to sex.

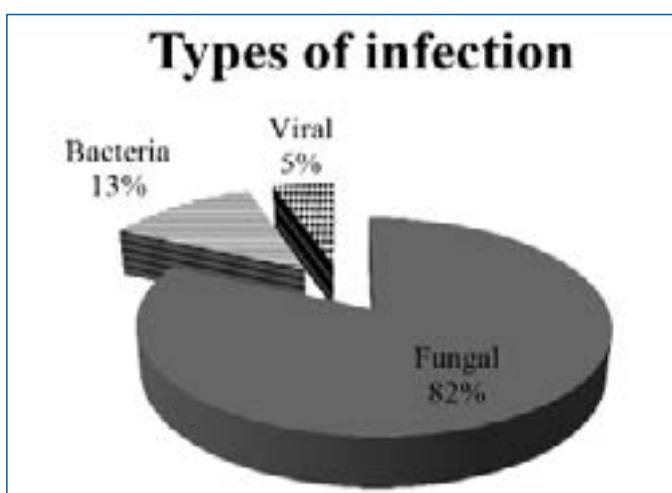


Figure 3: Distribution of different types of infections

In males, infections were most common condition (34.8%) followed by eczemas (16.3%) and infestations (12.3%). In females, pigmentary disorders were most common (42.9%). Among the infections, fungal infections were most common.

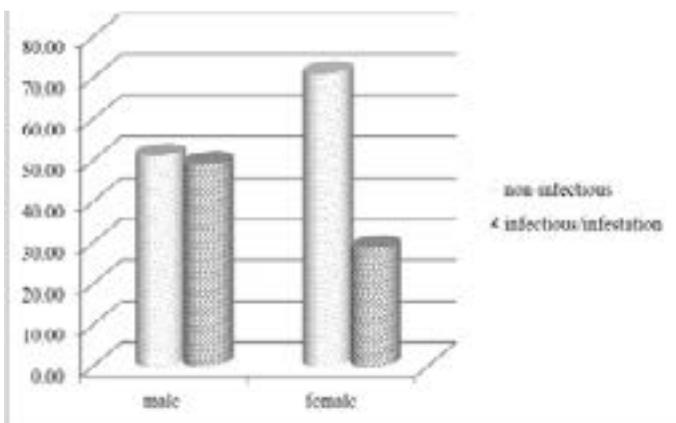


Figure 4: Comparison of non-infectious and infectious disease among sexes

In males, frequency of both infectious and non-infectious disease are almost equal whereas in females non-infectious are far more common. This might be due to the fact that fungal

infections were more common in male patients and melasma was more common in females.

A total of 119(27.2%) inmates out of 437 inmates included in our survey had dermatological problem. Most common dermatoses were skin infections (34.8%). Among the infections, fungal infections were most common (82%). Overcrowding along with the hot and humid condition of Bharatpur makes its environment suitable for the infections, especially fungal infections. Annual data from the record section of Chitwan Medical College showed that 25% of patient coming to out-patient department had fungal infection. These numbers drastically increased during the summer months. A similar study conducted in 1999 by Kurvilla et al in Mangalore, India showed the prevalence of infections to be 40.4% and among the infections, fungal infection was the commonest (51.3%). Scabies was the second commonest infectious dermatoses (16%) which was similar to our finding which was found to be 11.6%.<sup>4</sup>

In another study carried out in 2012 by Oninla and Onayemi in Nigeria, of the 305 inmates, there were 221 with skin conditions, 150 had infectious dermatoses (49.2%). The total number of dermatoses seen was 332 in the 221 inmates with skin conditions, and 178 of these dermatoses were infectious (178 of 332; 53.6%). There were 52 (52 of 178; 29.2%) cases of multiple infections in 26 inmates. Dermatophytosis made up 64% (114 of 178) of the total number of infections (332) followed by pityriasis versicolor (27%; 48 of 178).<sup>3</sup>

Maintaining personal hygiene and living condition might bring down its prevalence. Overcrowding and sharing of personal items are the major reasons for the spread of infections and infestation which was found to be more common in males. All of the male inmates are kept in 5 large dormitories where they sleep in crowded condition. It is housing more than 223% more inmates in excess. Nevertheless, the inmates kept their shared bathroom proper and clean. Among female inmates pigmentary disorders were most common and infections less prevalent than in male inmates. This might be due to slight less overcrowding and their maintenance of personal hygiene.

#### RECOMMENDATION

Overall, inmates should be educated regarding personal hygiene. It is best advisable that they get dermatological consultation on regular basis so that we can prevent any infectious outburst inside prison.

#### REFERENCES

1. Walker SL, Shah M, Hubbard VG, Pradhan HM, Ghimire M. Skin disease is common in rural Nepal: results of a point prevalence study. *Br J Dermatol* 2008;158(2): 334-8.
2. Oyeka CA, Eze, II. Fungal skin infections among prison inmates in Abakaliki, Nigeria. *Mycoses* 2008;51(1): 50-4.
3. Oninla OA, Onayemi O. Skin infections and infestations in prison inmates. *Int J Dermatol* 2012;51(2):178-81.
4. Kuruvila M, Shaikh M, Kumar P. Pattern of dermatoses among inmates of district prison- Mangalore. *Indian J Dermatol Venereol Leprol* 2002;68:16-8.