

Original Article

Prevalence of scabies and pediculosis in Ghezel Hesar prison, Iran

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Abstract *Background* Pediculosis and scabies are infectious diseases that can spread in overcrowded places like prison, and pose a lot of sanitary difficulties in public places.

Objectives To determine the prevalence of these diseases in Ghezel Hesar prison in Iran (male prison).

Patients and methods It was a descriptive study on 1404 prisoners in Ghezel Hesar prison in 2004. These prisoners were screened for scabies and pediculosis by two dermatologists.

Results Of 1404 prisoners, 31 (2.2%) were infested by scabies and 12 (0.9%) with body pediculosis. There were no cases of scalp and pubis pediculosis. All cases were male (male prison). All prisoners with scabies and 83% of the prisoners with pediculosis had intense pruritus. There was a significant relation between the duration of imprisonment and these diseases. Pediculosis and scabies were more prevalent amongst new prisoners ($p < 0.001$). Similarly, scabies was more prevalent in overcrowded cells. In pediculosis group there were more addicted prisoners ($p < 0.01$).

Conclusion We recommend that examining the new prisoners for scabies and pediculosis by a dermatologist or a trained doctor could help reduce the spread of these diseases.

Key words

Pediculosis, prisoners, scabies.

Introduction

Louse is an ectoparasite of mammals and birds.¹ Pediculosis capitis, pediculosis corporis and phthiriasis pubis are human diseases that are caused by louse.² Body louse lives on clothes, and people who do not change their clothes often are susceptible

to it. Poverty, overcrowded population and poor sanitation help the expansion and transmission of the disease.³ Itching is the main symptom.²

Scabies is another contagious disease caused by *Sarcoptes scabiei*. The routes of transmission are close physical contacts and sharing of contaminated bed. Itching is the main characteristic symptom of the disease which gets worse at night. The incubation period of the disease is one month. Burrow formation, papules and nodules are seen on the wrist, digits and genital regions especially in men.² Being contagious,

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scabies can bring lot of problems in closed communities such as prisons that have communal life, just like the scabies epidemic in a prison in the north of Tanzania.⁴ Scabies was also seen in prisoners in India with a prevalence of 1.8%.⁵ It is also the main disease of prisons in Cameron.⁶

In this study, the prevalence of scabies and pediculosis are investigated in a prison in Iran.

Patients and methods

1404 prisoners in Ghezel Hesar prison were randomly selected. All prisoners were examined for scabies and pediculosis by the investigating team including two dermatologists and a resident of dermatology. They were asked for itching as the main symptom. The Ethics Committee at Shahid Beheshti University of medical sciences approved the study.

The information gathered was entered in data forms and transferred to the main tables. The statistical analysis was done according to the statistical tests of descriptive studies (Chi-square and *t* test).

Results

From the total of 7500 prisoners of the jail, 1404(19%) prisoners were randomly selected and examined (**Table 1**). All of them were male individuals. The average age of prisoners and the average time of imprisonment were 34 ± 11.2 years and 1.9 ± 2.8 yrs, respectively. 97 individuals (7%) complained of generalized and 140 (10%) complained of localized itching. 632 (45%)

had the history of addiction. Scabies was seen in 31 prisoners (2.2%) and pediculosis corporis in 12 (0.9%). There were no cases of pediculosis capitis or phthiriasis pubis.

All patients with scabies complained of itching, 25 complained of generalized itch especially at night, 5 had pruritus in genital and femoral regions and one patient complained of itching on his wrist and between his fingers.

10 patients (83%) with pediculosis corporis had corporal pruritus. All cases of scabies and pediculosis were seen in one of the four sections of the jail which is for the new incoming prisoners.

The average time of imprisonment of the 31 patients with scabies and the uninfected ones were 0.25 ± 0.2 and 1.9 ± 2.9 years, respectively. This difference was statistically significant ($p < 0.001$). The average time of imprisonment of 12 patients with pediculosis and that of the uninfected ones were 0.5 ± 0.3 and 1.9 ± 2.8 years respectively which was also significant ($p < 0.001$). 11 prisoners with pediculosis corporis (91%) had the history of addiction, this was also statistically significant ($p < 0.01$). No relation was seen between age and scabies or pediculosis. The average numbers of roommates in infested and non-infested prisoners were 145 ± 63 and 61 ± 79 respectively, that were statistically significant ($p < 0.01$).

Discussion

Finding the patients with scabies and pediculosis in prison is very important

Table 1 The distribution of patients with scabies and pediculosis in Ghezel Hesar prison – 2004.

	<i>Cases examined</i>	<i>Pediculosis</i>	<i>Scabies</i>
Prevalence	1404	12 (0.9%)	31 (2.2%)
Age (yrs.)	34 ± 11.2	38 ± 13.8	29 ± 10.6
Duration of imprisonment	1.9 ± 2.8	0.5 ± 0.3	0.25 ± 0.2
Pruritus	17%	83%	100%
History of addiction	45%	91%	40%
Number of roommates	61 ± 79	83 ± 76	145 ± 63

primarily due to the contagious nature of the disease. They not only infest other prisoners and the personnel of the prison but also other people of the society especially after their freedom. Scabies epidemic was reported by Leppard *et al.* in a prison in north of Tanzania in 1996.⁴ All the prisoners were examined. Out of 1053 prisoners, 1014 (95%) had scabies, 16 (1.4%) had crusted scabies, 802 (69.5%) had classic scabies and 196 (24%) had severe pyoderma. From 251 personnel who worked in the prison 65 (26%) had scabies. Having scabies epidemic, all prisoners were treated with oral ivermectin and all the personnel were treated with topical lindane. All the walls and floors of the cells were disinfected with Actellic 50 EC.⁴ During 1994-1995, in Cameron, Demoures *et al.* did a study on 400 prisoners who were mostly male. Scabies was the main disease of prisoners and the average of 5 new cases were reported each month.⁶ In a study by Singh *et al.* on 249 male and female prisoners in a district jail in northern India, the prevalence of scabies was reported to be 1.8%.⁵ In our study the prevalence of scabies in Ghezel Hesar prison was 2.2% (31cases). All the cases along with their roommates were treated with lindane lotion. This was done to prevent the epidemic of scabies.⁴ Pruritus is an important symptom of scabies. All the patients with scabies complained of itching. It is essential to examine all the prisoners

with itching, especially when it is generalized or in genital regions.

The duration of imprisonment of the cases with scabies was lower than uninfected ones ($p<0.001$) and as mentioned earlier, scabies was detected in only one section that was for new incoming prisoners. This reveals the importance of primary dermatological examination for all new incoming prisoners, and in case of any doubt of scabies the relevant treatment seems logical. The number of roommates in cases with scabies were higher than others ($p<0.01$). The more the physical contacts, especially in crowded places with low sanitation, the higher is the risk of transmission of scabies.⁴

The prevalence of pediculosis corporis in Ghezel Hesar prison was 0.9% (12 cases). No similar study was found in the literature. 91% of the cases of pediculosis had a history of addiction and this relation was statistically significant ($p<0.01$). This could be due to poor sanitation and low concern of addicted people. 83% of cases complained of body itching. This complaint alongwith the history of addiction makes it necessary to examine their skin and clothes. The average time of imprisonment of the cases with pediculosis was less than others ($p<0.001$). This finding also increases the importance of primary dermatological examination of new incoming prisoners.

Recommendations

It is recommended that all prisoners should be examined thoroughly by a dermatologist before entering the prison and be placed in quarantine at least for 48 hours so that the risk of transmission of the dermatologic contagious diseases especially scabies and pediculosis is decreased.

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References

1. Maunder JW. *The appreciation of lice*. Great Britain, Proc R Inst, 1983.
2. Burns T, Breathnach S, Cox N. *Rook's Textbook of Dermatology, 7th edn*. London: Blackwell Science; 2004. p. 14-41.
3. Maunder JW. Pediculosis corporis; an updating of attitudes. *Environ Health* 1983;*: 130-2.
4. Leppard B, Naburi AE. The use of ivermectin in controlling an outbreak of scabies in a prison. *Br J Dermatol* 2000; **143**: 520-3.
5. Singh S, Prasad R, Mohanty A. High prevalence of sexually transmitted and blood-borne infections amongst the inmates of a district jail in Northern India. *Int J STD AIDS* 1999; **10**: 475-8.
6. Demoures B, Nkodo-Nkodo E, Mbam-Mbam L. Primary health care in a prison environment, the Cameroon experience. *Sante* 1998; **8**: 212-6.

