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The Prevalence of Cutaneous Leishmaniases in Patients Referred to Kermanshah Hygienic Centers

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Abstract

***Background*:** Cutaneous leishmaniases is the problem in our country. The aim of this study was determine of cutaneous leishmaniases in Kermanshah.
***Materials and Methods*:** This descriptive–analytic study was and the statical society includes individual information with diagnosis during the 2006-2008 in the county health department in combating communicable disease were registered.
***Results*:** Most cases were in age group 20-29 year. Most patients had a wound on his body (52.36%) and most of them were on hands (52%).
***Conclusion*:** The disease is not endemic in Kermanshah.

Introduction

Leishmaniasis is one of the most important parasitic disease between humans and animals that can be caused by many species of *Leishmania*. So that World Health Organization (WHO) has ranked as one of the six important infectious diseases and I group uncontrol diseases of the word [1-4]. This parasitic disease is endemic in 88 countries; 22 countries in Europe and America, and 66 countries in Asia and Africa. It's estimated 12 million people in world and 1.5-2 million new cases occur in each year. The prevalence of cutaneous leishmaniasis in Asia, Africa, Europe more than northern and southern America [5, 6].

It has 3 main clinical forms, visceral, mucocutaneous, and cutaneous. Ninety percent of cases occur in Afghanistan, Pakistan, Saudi Arabia, Syria, Algeria, Brazil, and Peru. However, the prevalence rate in Iran and Saudi Arabia is high [7-9]. Cutaneous leishmaniasis occur in 2 forms (urban and rural). Both of them reported in many parts of Iran (Lot Abad, Sarakhs, Esfarayen, Khozestan, Qom, Kashan, and Tabas) especially in Esfahan and Ilam [10, 11]. In previous studies performed in Kermanshah Sarpol Zahab and Qhasr-e-Shirin were endemic areas [12], with due attention to the neighbouring of Kermanshah to Ilam that is one of the endemic areas of the leishmaniasis, so determination of the disease is necessary.

Materials and Methods

This descriptive–analytic study was carried out during three-years period in Kermanshah province, between January 2008 until December 2010. The data collection form included information of patients (age, sex, residence area, anatomical distribution, number of lesion, transmission season, and the history of travel to endemic areas in the past year) that recorded in Kermanshah hygienic centers, Iran (2008-2010). The diagnosis of CL was made by clinical symptoms and confirmed by demonstration of amastogotes in Giemsa stained tissue smears and culture from tissue by parasitology lab of Kermanshah, Iran [1]. Statistical analysis was performed using the χ^2 test and $p<0.05$ was considered as significant.

Results

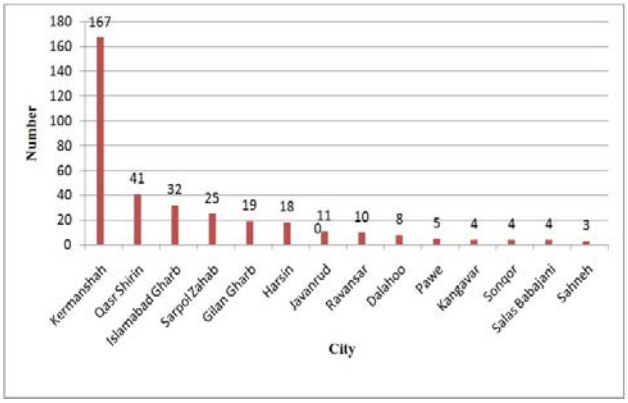
In this study 351 cases diagnosed to Cutaneous leishmaniasis between January 2008 until December 2010. Of the 351 CL cases, 285 (81%) were males and 66 (19%) were females. The mean age was 32±14 years ($p=0.000$). The prevalence rate ranged in males was 4.5 times more than females (Table 1).

The most prevalence rate of the cutaneous leishmaniasis was in Kermanshah, and then Qhasr-e-Shirin, Islamabad Gharb and Sarpol Zahab, respectively (Fig. 1). 52.36% of patients had a single lesion, 17.31% had 2 lesions, 8.4% had 3 lesions, and 21.93% had ≥ 4 lesions on different body parts. 52% of lesions were hands, 38% lesions were face and neck, 8% lesions were feet, and 2% of lesions were on the other body parts. The most (32%) cases was occurred in winter season ($p=0.000$). 27.66% of patients had the history of travel to endemic areas in the past year.

Table 1. Frequency distribution of cutaneous leishmaniasis based on variable type

Variable	Groups	Number (%)
Sex	Males	285(81)
	Females	66(19)
Residence area	Urban	235(67)
	Rural	116(33)
Age groups (years)	0-9	14(4)
	10-19	41(11.69)
	20-29	114(32.48)
	30-39	65(18.5)
	40-49	66(18.8)
	50-59	36(10.25)
	>60	15(4.28)

Figure 1. Geographical distribution of cutaneous leishmaniasis in Kermanshah province



Discussion

Lots of studies related to the prevalence of CL were done in Kermanshah, and all of these studies reported an increasing process for this disease, So that Hamzavi reported an increasing process for the prevalence of the disease in Kermanshah from 2001 until 2006 [12]. But based on the results of this study, the prevalence of the disease was 351 cases. The analysis of these cases shows a descending process for the disease, and among the probable agents regarding this issue we can refer to necessary training for prevention and also paying more attention to the vectors of the area. Like other studies [7, 12, 13] the results of this study also showed that there is a significant statistical difference between males sex and females sex, so that there were more males suffered from this disease, and the cause of this issue could be the uncovered clothing of males in contrast with females, open atmosphere of their work place, and having more contact with sandflies due to more trafficking in the evening or at night and also travel to endemic areas [5, 7, 12]. In this study 27.63% of the patients had the experience of travelling to endemic areas, and all of these patients were males and their job was driving, seasonal workers and military people.

As a result, like other studies [5, 7] one can say that travel to endemic areas is an increasing factor for the disease and these people should be absolutely trained with necessary information in this regard. Like Hamzavi's study [12], there were more patients among the 20-29 year old group, and it could be due to travelling to endemic areas, mobility and lack of information about possible ways of transferring the disease. Regarding the fact that in endemic areas CL is more prevalent among the under 14 year old group [7], so one can conclude that this disease is not endemic in Kermanshah. The prevalence of CL in different seasons of the year has obvious changes and in autumn it has the highest amount. Like other studies [12], in this study the highest amount of disease was seen in winter (32%) too.

Also in this study the residence of most the patients (67%) were in urban, so hygiene training in order to getting recognition with the disease and personal procedures to protect themselves is necessary for residents of urban areas [1]. Like Mohammadi, Nazari, Zahirnia, Hamzavi's studies [1, 5, 7, 12], the most lesions parts in this study were seen in hands (52%) too. Regarding the fact that hands are the uncovered parts of the body and also with due attention to the shortness of the oral attachments of the mouth of the sandfly that does not make bloody making available from covered parts of the host's body, so the probability of biting the uncovered parts of the body by sandfly is more, and as a result the appearance of CL lesions is more probable in these parts [7]. The more exposure to conductor sandflies of the CL, the more suffering from the disease and also the average of the number of the lesions would be more too. Usually there won't be more than one or two lesions but sometimes there could be seen numerous and plenty of lesions on stricken's skin and it may even reach to 200 lesions too [2, 14].

According to the obtained results, 52.36% of the patients had one lesion that is similar to other studies [5, 11, 12, 14, 15]. But it was seen more than one lesion in some people, and this issue could be related to the physiological features of the sandflies that make numerous biting for each step of bloody-making and in each biting some parasite enter the body of the host and numerous lesions would be made or it could be due to the high abundant of the infected sandflies in the affected place of the disease [1, 7]. With due attention to the obtained results in this study and its contrast with the previous studies in the province [12], one can say that the performance of the controlling programs has been done very greatly by relevant agents, and this disease is not endemic in Kermanshah. In spite of this, it has been suggested to have epidemiologic studies once in few years In this regard to find out the conditions of the disease in the province and also for the reason that this kind of studies are good guides for hygienic agents in order to make decisions to fight against the disease.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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