

Original Paper

Comparison of Nomadic and non-Nomadic Lifestyles in Transmission of Visceral Leishaniasis

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Abstract

Background and Objective: Epidemiology of Visceral Leishmaniasis is affected by combination quality and interaction of Parasite-Vector-Host and environmental conditions. So, disease cycle related and eco-social factors and environmental risk factors co-analyzing, help to understanding these interactions, prognosis and orientation in disease control and treatment. This study was done to determine the role of nomadic and non-nomadic lifestyle in transmission of Kala-Azar in the Northwest of Iran.

Materials and Methods: In this case-control study, firstly the prevalence of Kala-Azar among people living in selected villages were determined by both serological test (Direct Agglutination Test: DAT) and immunological test (Montenegro Skin Test: MST) in the Northwest of Iran, on the way of Shahsavan tribe travelling in summer/winter quarters villages. Then DAT was conducted on the dogs presenting in those villages during 2006. One year later Seroconversion rate was calculated through collection of the individual's negative sera and re-analyzing them via DAT. Finally, occurrence of Visceral Leishmaniasis in relation with various involving factors like dog density/abundance and nomadic and non-nomadic lifestyle using Chi-Square test were determined.

Results: Both MST and DAT were significantly higher in the nomadic lifestyle than in the non-nomadic lifestyle ($P < 0.05$). Three values of prevalence (5.5%), seropositivity (2.7%) and seroconversion (2.5%) were higher in nomads than non-nomads. The GIS studies and electronically prepared maps showed that the endemicity and the infection rate are higher in nomads than non-nomads. There were a negative correlation between general distribution of Visceral Leishmaniasis in relation with environmental conditions altitude, mean temperature and rainfall.

Conclusion: This study indicated that Nomadic lifestyle can play as a risk factor in transmission of Visceral Leishmaniasis due to nomads/dog contacting, their entering in the wild cycle of disease and travelling.

Keywords: Visceral leishmaniasis, Nomadic lifestyle, Direct Agglutination Test, Montenegro Skin Test

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Received 5 August 2009

Revised 7 July 2010

Accepted 25 July 2010