

## Seroepidemiological Study of Human Hydatidosis in Rafsanjan, Kerman

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**E**chinococcosis is one of the major zoonotic parasitic diseases that occurs throughout the world and causes considerable economic losses and public health problems in many countries. Given that sheep act as intermediate and dogs as definitive hosts of *Echinococcus granulosus*, hydatidosis poses both a human health risk and an economic loss to the country. Hydatid cysts can grow in any site of the human's body, but the most common locations are the liver (65%) and the lungs (25%) [1]. Human contamination take accidentally place through close contact with an infected dog and human is usually a "dead-end" for the parasite. Hydatid cysts are maintained in three distinct cycles in Iran, a livestock/dog domestic cycle (sheep, cattle, goats and equines), a desert cycle between dogs and camels, and a wild cycle between wild carnivores and wild ruminants [2]. Systematic information about the exact rate of hydatidosis prevalence in different regions of the country is very limited [3]. Because of the importance of disease this study was undertaken in Rafsanjan by using ELISA method to determine the prevalence rate of hydatidosis. This cross-sectional and descriptive study from April 2011 to March 2012 and they were transferred beside the ice pieces whit standard instructions into laboratory. Sera were stored in refrigerator at -20°C, and then were sent to Dept. of Medical Parasitology.

Overall, 486 serum samples were collected from 194 males and 292 females from patients referred to different health centers of the region. To select the cases, from each geographical region of the city and nearby villages, sampling was conducted using different clusters and simple sampling. An informed consent was taken from all subjects, besides; a questioner was filled out for each case including various factors such as age, sex, job, locality, literacy etc. Sera were analyzed using indirect-ELISA test. Ten microgram per milliliter antigens (Antigen B

derived from hydatid cyst fluid), serum dilutions of 1:500 and conjugate anti-human coombs with 1:10000 dilutions were utilized to perform the test. Data analysis via SPSS-17 statistical software,  $\chi^2$  test and Fisher's exact two-tailed test analysis were performed and differences were considered significant at values of  $p < 0.05$ . In this study the seroprevalence of human hydatidosis was 1.83% by ELISA test in the region. This rate for females was 1.94% and males 3.1%, respectively. There was no significant difference as regards all factors studied and the seropositivity. According to job, farmers and ranchmen had the highest rate of infection as 4.26%. The seroprevalence of infection was 2.1% in illiterate people which showed the highest rate [2]. As regards residency, urban life showed no significant difference with rural life (1.3% vs. 3.25%). Age group of 69-90 year old, with 5.23% as prevalence had the highest rate of positivity. Obtained sero-prevalence of hydatidosis shows more or less a resemblance to other cities of Iran, although due to the specific condition of the city we expected more rate of sero-positivity.

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