Letter to Editor

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Seroprevalence of Human Cystic Echinococcosis in Zahedan, Iran

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Echinococcosis is a zoonotic disease caused by echinococcus spp. tapeworms. The growth of the larvae, which form cysts in vital organs such as the liver and lungs, can lead to illness and death in intermediate hosts including human. Echinococcosis is a major public health problem in some countries. Approximately 2-3 million human cases are thought to occur worldwide [1]. Cystic echinococcosis, the most common form of the disease in people is caused by Echinococcus granulosus sensu lato. Large or multiple cysts and the rupture or puncture of the cyst may cause irreversible damage to organs, or cause anaphylactic reactions. The infection is more prevalent in rural areas, particularly sheep-raising regions [2]. Human beings can also be infected. If an intermediate host ingests the eggs, the larvae are released, penetrate the intestinal wall, and are carried in blood or lymph to the target organs. Parasites can develop into cysts in many different organs, but they are found most often in the liver and. The symptoms of echinococcosis depend on the size, number and the location of the metacestodes [1, 2]. In human, echinococcosis is diagnosed mainly with imaging techniques supported by serology including ELISAs (Enzyme-Linked Immunosorbent Assays). In endemic areas, regular testing and treatment is advisable in animals allowed outside. In Iran due to encompassing various climatic conditions, the rate of the disease is diverse in different areas [3]. Considering that no previous study was conducted in Zahedan to detect the seroprevalence of echinococcosis, this survey was accomplished. A total of 960 serum samples from volunteers referring to Reference Laboratory of Zahedan an Imam Ali Hospital were collected and tested at the department of Parasitology, Tropical and Infectious Diseases Research Center using commercially available enzyme immunoassay kits, Pishtaz Teb echinococcus IgG ELISA. All data were analyzed using SPSS-18.

Of all 960 participants 576 individuals (60%) were male and 384 individuals (40%) were female. Twenty three cases (2.4%) were positive for human echinococcosis in Zahedan using ELISA method. The rate of positivity among male individuals was calculated to be 2.1%, whereas this rate was 2.9% among female individuals. ELISA serologic results revealed the under 20 years age group with the infection rate of 3.5% to be the most infected age group. Six hundred and forty-eight individuals (67.5%) resided in urban regions and 312 individuals (32.5%) were rural residents. The infection rate among urban residents was 2.5% in comparison to 2.2% in rural residents. There were no significant association between the areas of gender, age, residency and seropositivity of echinococcosis (p>0.05). Of all positive cases, 1.6% had history of contact with dog while 2.8% did not have such contact. There was no significant association between the history of contact with dog or presence of dog in/or around the house and seropositivity of echinococcosis (p>0.05). Altogether, results of this study indicate that infection with hydatidosis is present in Zahedan and it is necessary for health policy makers to design the preventive measures. The most important of which, is teaching health measures to all people.

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