

**Research Article****Study the Epidemiologic Status of Brucellosis Disease in Referring Patients to Disease Fighting Center of Fasā City during 2006-2007**

**Vahid Avazzadeh<sup>1</sup>, Bahram Movahed Nouri<sup>2</sup>, Sahar Azadeh<sup>1</sup>,  
Mohammad Ekrahi<sup>3</sup>, Mehran Fazli<sup>4</sup> and Seyyed Abbas Hashemi<sup>5\*</sup>**

<sup>1</sup>Department of Infectious Disease,  
Mazandaran University of Medical Sciences, Sari, IRAN

<sup>2</sup>Department of Pharmacology,  
Shiraz University of Medical Sciences, Shiraz, IRAN

<sup>3</sup>Fasa University of Medical Sciences, Shiraz, IRAN

<sup>4</sup>Department of internal Medicine,  
Mazandaran University of Medical Sciences, Sari, IRAN

Corresponding author: Seyyed Abbas Hashemi  
[abbas.hashemi30@gmail.com](mailto:abbas.hashemi30@gmail.com)

**ABSTRACT**

Brucellosis is a bacterial infection between humans and animals which is transferred from animals to human. Brucellosis is native in Iran and Middle East region, its frequency and various faces of occurrence made us study the epidemiologic features of brucellosis disease in referring patients to Fasā city during 2006-2007. This research was a retrospective cross-sectional investigation. 136 patients were included in this study with definitive diagnosis of brucellosis during 2 years that 82 ones were male and 54 ones were female. According to job, the maximum prevalence was in occupational groups of ranchers, housewives and students, and the minimum prevalence was in clerks. 56.61% of patients used non-pasteurized milk, 6.61% from contaminated cheese, and 36.76% both non-pasteurized milk and contaminated cheese. We concluded that varied and nonspecific symptoms of all disease like fever and sweating, weight loss, headache, loss of appetite, joint pains, and neurological problems by brucellosis should be considered in native places.

**Keywords:** Epidemiologic, Brucellosis, Disease

**INTRODUCTION**

Brucellosis is a contagious bacterial disease between humans and animals that is transferred from animals to human. This disease has been in Iran natively, and defects many humans and subsequently disables them annually. The main transferring ways include using the contaminated raw milk and dairy products, particularly fresh cheese, cream, contamination of the used dishes while milking, direct contact with the contaminated tissues, contact with skin, disposal materials of the contaminated animal, and inhaling the dust of barn and stalls of livestock. This

disease can occur acutely, sub-acutely, and chronically. Diagnosis of malt fever is based on clinical and laboratory symptoms. (1)

According to WHO report, the prevalence of brucellosis in humans and animals has extended in the Mediterranean and the Middle East, West Asia and parts of South America, and Africa in recent two decades. Iran plus eight east Mediterranean countries have had more than 90000 human brucellosis. (2) 500000 human brucellosis disease cases are annually reported to WHO from all over the world (3). This is also a common disease in

Iran that 26307 cases are reported annually (4). Clinical symptoms of brucellosis are nonspecific, and clinical sign of brucellosis is very different. Brucellosis symptoms include fever, sweating, malaise, anorexia, headache, back pain, and depression. Brucellosis is a systematic infection that can deal with each organ or body (5).

Non-familiarity with symptoms of various disease, particularly non-specific cases confused doctors and patient receives unnecessary and improper remedy until diagnosis and spends great fortune for diagnosis and remedy.

Therefore, familiarity with various symptoms of this disease leads to timely and preventive remedy (3-5). Since this disease is native in Iran and region, its high frequency and various faces of occurrence made us study the epidemiologic status of brucellosis disease in referring patients to the disease fighting center of Fasā city during 2006-2007.

#### **METHODS AND MATERIALS**

This study is a retrospective cross-sectional study. Sampling was done by census, and sampling volume includes all infected patients to brucellosis recorded in health system of Fasā medical sciences university during two recent years. All needed data was extracted by standard questionnaire from the brucellosis office in health centers and Fasā city and extracted documents of patients, and SPSS software was used to analyze data. 136 recorded cases of brucellosis were used in this study and the unrecorded ones were omitted.

The input criterion to this study was patients with medical symptoms of brucellosis. The studied variables include demographic characteristics of age, sex, location (urban or rural), occupation, season, Wright titer test, and type of dairy. Patients were checked according to history, physical examination, and laboratory studies. Laboratory studies included serologic tests and blood cultures. Serologic studies include Coombs Wright and Wright test and 2ME.

Blood culture was also done in brucella specific culture medium called Castañeda.

#### **RESULTS**

136 patients were studied with definitive diagnosis of brucellosis during 2 years that 82 ones were male and 54 ones were female. Men were infected 1.5 times more than women. 18 patients (23/13%) lived in the city and 118 (77/86%) lived in rural areas from this population. The maximum involved age group was 50-59 years old in 2006 and 20-29 years old in 2007. The maximum prevalence of this disease was in 2006 in April and May (10 patients) and in 2007 in September (8 patients). According to job, the maximum prevalence was in occupational groups of ranchers, housewives and students, and the minimum prevalence was in clerks. 56.61% of patients used non-pasteurized milk, 6.61% from contaminated cheese, and 36.76% both non-pasteurized milk and contaminated cheese. In addition, 117 patients (86%) had direct contact with contaminated animals. 58.82% of the studied patients had positive record of Wright titer test with 1.320 to 1.3200 high concentrations which nearly had constant distribution.

#### **DISCUSSION**

Since the covered area of brucellosis by Fasā Medical Sciences University was higher than the country average amount, it is necessary to have regional plan to control this important case as one of the main priorities. This disease was more common in male, rural population, housewives, and male ranchers in ages 20-29 and 50-59. Therefore, planning to control brucellosis of these groups must be mentioned as the first priority. The maximum disease cases occur in April to September. Hence, the most effective possible time before starting this disease and the main prevention time for patients in prevention interventional planning are spring and summer months. Disease occurrence has high level in animal population which can be as result of low vaccination of animals. Therefore, executive plans to increase this coverage must be the first priority. In a research by Haj Abdolbaghi, the maximum frequency was in the second and third decades (6). In this study, brucellosis frequency was more in

male than female. In a research by Haj Abdolbaghi Rasulinezhad (6) the brucellosis frequency in male is more than female. The reason for higher frequency in male and younger people is fore their jobs, more activity in youth, and their direct contact with the disease producer organs. Results show that brucellosis can involve with all main body systems and patient's pain can be a presentation of each system involvement with another.

### CONCLUSION

According to the extension of clinical symptoms in brucellosis, varied and nonspecific symptoms of all disease such as fever and sweating, weight loss, headache, loss of appetite, joint pains, and neurological problems by brucellosis must be mentioned in native places, and necessary actions must be taken for diagnosis.

### REFERENCES

1. Michael J. Corbrl/Nicholas J. Beeching. Brucellosis in Braunwald, Eugene, et al. Harrison's Principles of internal medicine (16th ). New York: MC Graw-Hill: 2005. p. 914-917.
2. Abdon A. Brucellosis in the eastern Mediterranean Health region. proceeding on the regional conference on emerging infections disease. cario-Egypt. 1995 Nov. P: 202-207.
3. Incidence of brucellosis in the world . Available from: <http://www.Vet.Uga.Edu/vppp/NSEP/Brazil2002/brucella/Eng/incidence.Htm>
4. Moniri R, Dastegoli K. Seroepidemiology of human Brucellosis in Kashan, 1996 .Feyz. 1997; 1 (1) :35-40
5. Edward J. Young. Brucella species. In: Mandel, Gerlad and Bennett. principles and practice of infectious disease (6thed) Philadelphia: churchilllivingstone: 2005. p. 2669-2674.
6. Haj Abdolbaghi M, RasooliNejad M, YaghoobZadeh M, LootiShahrokhi B. Epidemiological, clinical, diagnostic and therapeutic survey in 505 cases with Brucellosis. Tehran Univ Med J. 2001; 59 (4) :34-46.