



Research Article

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The epidemiological situation of brucellosis in Isfahan province (2021)

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Abstract

Brucellosis is one of the most important health and economic challenges of many developing countries, including Iran. The present study was conducted in the cities covered by Isfahan University of Medical Sciences and Health Services with the aim of investigating the epidemiology of brucellosis in Isfahan province. Our research was a cross-sectional study on all people suffering from brucellosis disease who were identified in Isfahan province during 2021. Data was analyzed using appropriate statistical methods and by SPSS. In the present study, most of the brucellosis patients were men. Most of them lived in rural areas. The age groups of 30-40 years and less than 20 years included the most cases of patients. Planning to empower at-risk groups in facing risk factors and strengthening the care system are important in the prevention and control of brucellosis.

Keywords: Brucellosis, Epidemiology, Isfahan.

INTRODUCTION

Brucellosis is one of the most important common diseases between humans and animals, which has always been considered as one of the biggest health problems of animals and humans [1, 2]. This disease has always been a concern of the authorities and caused a lot of economic losses [3]. This disease is more common in spring and summer, which are the seasons of childbearing animals [4].

Some problems such as abortion in livestock and many people's disability are the result of the relatively high incidence of this disease [5]. The importance of this disease is not limited to the complications and physical problems caused by it, but it is always one of the important challenges of economic development in many countries, including our country, where agriculture and livestock fattening are still the important sources of economic development [6-8].

The current study was directed in the different parts of Isfahan province with the purpose of investigating the epidemiology of brucellosis.

MATERIALS AND METHODS

The present study was a cross-sectional research (during 2021) in which the epidemiological data of patients with brucellosis, which were collected by the health centers of the cities of the province based on the diseases current care system, were sent to the provincial health center. Sampling in this study was in the form of a census and included all registered patients with clinical and laboratory diagnosis of brucellosis who referred to university or private health centers in the cities of the Isfahan province (except Kashan, Aran and Bidgol).

This study was conducted after obtaining the code of ethics from the ethics committee of the university.

The criterion for entering the study was to have clinical symptoms of brucellosis along with Wright's test with a titer of more than 1:80 in patients who were residents of one of the cities affiliated to Isfahan.

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RESULTS

During this study, 320 patients who visited health centers due to brucellosis were examined, among them 92 were women (28.7%) and 228 were men (71.3%).

6 cases (1.9%) were non-nationals and the rest were Iranians. The age average of patients in this study was 38.8 years. 306 cases (95.6%) were new diseases and 14 cases (4.4%) were treatment failures or relapses.

165 patients (51.6%) were from people in rural areas, 149 patients (46.6%) were from urban areas, and 6 patients were from nomads.

The highest frequency of the disease was related to the cities of Golpayegan, Faridan and Chadegan with 13.1%, 10.6% and 9.1%, respectively.

The highest frequency of patients was in the age groups of 30-40 years and under 20 years with 22.5% and 20%, respectively (Table 1).

Table 1: Frequency distribution of brucellosis patients based on age group

Age group (year)	Number	%
under 20	64	20
20-30	39	12.2
30-40	72	22.5
40-50	46	14.4
50-60	56	17.5
>60	43	13.4
Total	320	100

258 cases (80.6%) had a history of contact with livestock (Table 2).

Table 2: Brucellosis frequency distribution according to history of contact with livestock

History of contact with livestock	Number	%
Yes	258	80.6
No	51	15.9
Unknown	11	3.5
Total	320	100

The highest frequency of disease was in the months of July, March and June with 16.6%, 12.5% and 10.6%, respectively.

DISCUSSION

At present study, most of the brucellosis patients were men. Most of them lived in rural areas. The age groups of 30-40 years and less than 20 years included the largest number of patients.

A study at Shahin Dezh in Iran showed that almost 52% of the cases were men and the most age group involved in this study was 25-30 years. 81% of patients were resident in rural parts [9].

Another study in Aseer Central Hospital, South Saudi Arabia determined that frequency of brucellosis was higher in males. Also, this disease was more common in summer. The highest occurrence was related to 21-40 year age group [10].

A study was conducted to investigate the frequency of brucellosis in Iran. The highest frequency of the disease was related to men and the age group of 20 to 39 years. Brucellosis was also more common in spring [11].

CONCLUSIONS

This study showed that the high prevalence of brucellosis occurred in men, rural zones and age group of 30-40 years in Isfahan province. Thus, scheduling about these parameters is vital for controlling brucellosis.

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Conflict of Interest

All of authors state that they have no conflict of interest.

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REFERENCES

1. Seleem MN, Boyle SM, Sriranganathan N. Brucellosis: a re-emerging zoonosis. *Vet Microbiol* 2010, 140:392-398.
2. Cooper CW. Risk factors in transmission of brucellosis from animals to humans in Saudi Arabia. *Trans R Soc Trop Med Hyg* 1992, 86:206-209.
3. Bamaïyi PH. The economic impact attributable to brucellosis among goat farms in Peninsula Malaysia and cost benefit analysis. 2015.
4. Entezari M, Moradpour S, Amiri M. Spatial distribution and the impact of geographical factors on brucellosis in Chaharmahal and Bakhtiari Province, Iran. *International Journal of Epidemiologic Research* 2016, 3:98-105.
5. Goodwin ZI, Pascual DW. Brucellosis vaccines for livestock. *Vet Immunol Immunopathol* 2016, 181:51-58.
6. Govindasamy K. Human brucellosis in South Africa: A review for medical practitioners. *S Afr Med J* 2020, 110:646-651.
7. Dadar M, Tiwari R, Sharun K, Dhama K. Importance of brucellosis control programs of livestock on the improvement of one health. *Vet Q* 2021, 41:137-151.
8. Ducrotoy MJ, Bertu WJ, Ocholi RA, Gusi AM, Bryssinckx W, Welburn S, et al. Brucellosis as an emerging threat in developing economies: lessons from Nigeria. *PLoS Negl Trop Dis* 2014, 8:e3008.
9. Maleki F, RafieManesh H, Abbasi-Ghahramanloo A, Ghadimi N, Kousha A, Safiri S. Epidemiological characteristics of human brucellosis in Shahin Dezh, western Azarbaijan, Iran, 2008-2012. *Archives of Clinical Infectious Diseases* 2015, 10.
10. Alkahtani AM, Assiry MM, Chandramoorthy HC, Al-Hakami AM, Hamid ME. Sero-prevalence and risk factors of brucellosis among suspected febrile patients attending a referral hospital in southern Saudi Arabia (2014-2018). *BMC Infect Dis* 2020, 20:1-8.
11. Chalabiani S, Nazari MK, Davoodi NR, Shabani M, Mardani M, Sarafnejad A, et al. The prevalence of Brucellosis in different provinces of Iran during 2013-2015. *Iranian Journal of Public Health* 2019, 48:132.