



ORIGINAL ARTICLE

Survey of Epidemiology Brucellosis in Mobarakeh, Esfahan from 2003 to 2010

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ABSTRACT

Brucellosis is one of the most common infectious diseases between human and animals that it always known as a hygiene problem for most of countries like Iran and it has lots of notability in phase of public hygiene and effect on economic-social condition. So the purpose of this study is considering the condition of epidemiology human brucellosis from 2003 to 2010 in Mobarakeh. In this study some new occasions about human brucellosis from 2003 to 2010 are analyzed by use of spss software, descriptive statistical indexes and kay test. In duration 2003 to 2010, 139 new occasions have been observed that the median of brucellosis during these years in Mobarakeh is 12 in every 100000 and the most outbreaks related to 2005. In 139 persons that they had brucellosis, 45 persons were women and 94 persons were men. 50.4 percent live in village and 49.6 percent live in city. This disease is more related to 11-20 years and it is more observed in spring and summer. 69.6 percent of patients have background of drink milk and 59.71 percent of patients have contact with animals. Brucellosis is one of the most common infectious diseases between human and animals in Mobarakeh that control this disease related to hygiene and treatment ministry and veterinary organization.

Key words: brucellosis, epidemiology, Mobarakeh city.

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INTRODUCTION

Brucellosis is one of the most common diseases between human and animals that it always pose as a hygiene problem in all over the world. In every year almost 500000 persons have given this disease. This disease control at extended countries but there is in some area like Spain, Latin America, Western Asia, Africa and Mediterranean Turkey, Iran and Saudi Arabia [30].

Brucellosis makes sicken between human and animals by *Broslla* that consist of negative hot bacillus, small, aerobic, static, without capsule and *spoor*. In usual *Broslamly tensis*, *Broslla abortoos*, *Broslasoes* make disease in human [14]. Brucellosis involves some peoples that contact with bestial products. This disease could be transferred by contact of animals and use of their products. It is a job danger for workers, veterinarians, ranchers and farmers [5].

Some variables like drink milk, dairy and ranch have a powerful contact with this disease. [11]. The hide area at this disease is 55 to 60 days and it continues until 1 or 2 month [12]. In general, disease start in a terrible way and it has some symptoms like: steady fever, lots of sweat especially at night, exhaustion, jadish, loses weight, headache, muscular pain and general pain. Those symptoms based on *Broslla* are access in different forms like terrible sub terrible, chronic and locality [15, 27]. In our country due to tradition ranch, live and direct contact of rural with animals and lack of vaccine, accession of this disease become more and more and it has lots of economic damage [1, 12, 13]. In Iran brucellosis is aborigine and accession of disease in various areas from 108 in 100000 until 1 in 100000 is different. According to some considers done by control manager, diseases are happened more in 20 to 30 years and it is more in men rather than women and also it is more in rural areas [27]. So, the purpose of this study is considering the epidemiology brucellosis from 2003 to 2010 in Mobarakeh city.

MATERIAL AND METHODS

This research is an analytical- descriptive study that it is performed on persons who have brucellosis. Patients have symptom of disease and in addition to they have positive serology test and they were

treated by doctors. All information of patients is entered and they were analyzed by helping of statistical software *spss* and by using of descriptive statistical indexes.

Discoveries: from 2003 to 2010, 139 new occasions were observed that yearly outbreak from 2003 to 2005 were increased and from 2005 outbreak occasions were decreased until in 2010, from 100000 persons 6 persons had this disease. The median of yearly outbreak during those years were 12 persons from 100000 that the more outbreaks were related to 2010.

139 brucellosis occasions were reported that 45 persons were women and 94 persons were men. 50.4 percent lived in village and 49.6 percent lived in city. This disease is more related to 11-20 years and also it is more observed in spring and summer.

69.06 percent of patients drink milk and dairy and 59.71 percent had contact with animals.

RESULTS AND DISCUSSION

The purpose of this study is describe the brucellosis epidemiology in *Mobarakeh* and results show that the most measure of brucellosis was in 2005 and it is considering that disease was increased from 1980 to 1990 and from 1989 to 1998 by starting of first and second programs the measure of patients from 170 in 100000 was described to 24 in 100000. From 2005 because of increased animal's vaccine, the measure of disease decreased [27] that according this process brucellosis in *Mobarakeh* was increased of 2003 to 2005 and has reached of 14 in 100000 to 19 in 100000 and thereupon from 2006 this disease decreased in *Mobarakeh* until in 2010, 6 persons in 100000 had this disease.

In general, according to hygiene world organization reporter outbreak of disease is developed from 0.1 to 200 persons. In England 0.3 persons in 1 million, in native areas of America 1 person in 100000 and in German 0.03 persons in 100000 and in rural areas of Greece 0.3 persons in 100000 [2, 4, 16, 26].

In different areas of our country prevalence of this disease is variable in different province from 0.5 in 100000 to 10.9 in 100000 [25]. Co-workers and partnership in Maneh and Saleghan cities gained the measure of brucellosis 25.2 and 38.6 in 1998 and 2009 [28].

Ismaili Nasab and co-workers had a research in patients of *Kordestan* in 2006. The measure of brucellosis at this area was gained 73.5 in 100000 [6]. At one study, *Moradiet alin Kordestan* reported the measure of outbreak 89 in 100000 in 2003. [20] Those studied show that the measure of outbreak in *Mobarakeh* is less than other areas. Maybe it related to prevention of hygiene net and veterinary net in *Mobarakeh*. In based on gender 67.6 percent was men and 32.4 percent was women. In research of *Zeynali* and *Shirzad* 58 percent was men and 42 percent was women [31]. Study in *kordestan* gained the distribution of disease sexual in men 51.5 percent and in women 48.5 percent. *Moradi* had a study in *kordestan*, they gained that 52.1 percent of patients were men and 47.9 percent was women [20]. We know that there is one linkage between human and contact with animals and it related to meaningful level that is less than 0.05 and the use of descriptive statistical that we considered them before.

The most patients are men who have contact with animals. This disease was common in villages of *Mobarakeh* (50.4 percent in village and 49.6 percent in city)

The study of *Zeynali* and *Shirzadi* showed that 79 percent of patients were rural and 21 percent were urban [31].

The study of *Moradi* 81.8 percent [20] and in *Babol* 60.8 [15] was inhabited in village. In *Turkey* 58.7 percent [10] and in *Saudi Arabia* 63.5 percent were inhabited in village.

We expected this issue because most of rural are rancher and they have lots of contact with animals and ranch is traditional and also urban peoples use from pasteurize milk and the trains of hygiene net was effective.

In this study the most patients were 11-20 years that they contained 45 percent of patients.

The study in *Kordestan* was reported that most patients were 11-20 years (20) and it was similar with study in *Yazd* [8]. also *Ghasemiet al* represented that most patients' were 15-19 years [9]. We can conclude that the most patients are young persons.

So this disease is more related to rural young men that their job is ranch and contact with animals.

We can justify that brucellosis is more in 11-20 years because there are lots of young people and rural have direct contact with animals, while *Zeynali* and co-workers gained that most patients were 20-30 years [31] and *Guret al* in *Turkey* reported that most patients were 15-45 years, [10]. *Perez* and co-workers reported that most patients were 15-49 years [22].

There are some studies in *Jahroom*, [23] *Yazd* and *Kashan* [21] and *Osbakestan* [7] and *Serra, Alvarez* and co-workers [29], *Perez et al*, [22] *Guret al* [10] so they showed that the most patients were in spring and summer and these results are like other studies. We can justify that the cause of disease in spring and summer related to miscarriage, birth and use of product.

There is a relation between season and consume of products and most of disease are persons who in spring and summer use lots of products but there isn't any relation between seasons and measure of contact.

This study shows that the most percent of disease is between homemakers because at this area people accustom and in addition, attendance to animals, their milk and products are related to women. So this action can increase this disease in women.

There is a meaningful relation between contact with animals and drink milk. This issue was similar to the study of in Babol and Khorasan gonobi.[32, 18] And the most important way of transferring brucellosis is contact with animals and drink milk and their products.

There isn't any meaningful relation between gender and use of animal's product. Both men and women use the animal's product and there isn't any different between them and there isn't any meaningful relation between habitat and use of animal's product.

CONCLUSION

Brucellosis is one of the common infectious diseases between human and animals in *Mobarakeh* that all years we can see some occasions but their occasions are decreased. Nevertheless, in compare of other countries and cities, this disease in *Mobarakeh* is much. So we need to prevent this disease by helping of veterinary organization and hygiene ministry and we should train people about hygiene treatments that relate to prevention of disease.

REFERENCES

- Ahmadiye M, DehghaniTafti M, Servat F. (2003). Epidemiologic survey and disease period of Malta fever during 7 years in clients to Medicene hygienic Nikpour center in Yazd. *Toloue Behdasht*, 1(2), 20-25.
- Al Mahout S, Neubauer H, Hensel A, Schöneberg L, Nöckler K, Alpers K. (2005). Changing Epidemiology of Human Brucellosis, Germany, 1962-2005.
- Bahounar A, HolakooeiNaeini K. (2002). The Survey of Effective Factors on afflictionto Brucellosis in Chaharmahal and Bakhtiyari, *Payesh Quarterly Magazine*, 1(1), 25_
- Boschirali ML, Foulougue V, Callaghan D, Brucellosis.(2007). Worldwide zoonosis. *Current Opinion in Microbiology* 4(1): 658-664. *Emerging Infectious Diseases*13(12), 1895-1900.
- Chomel BB, DeBess EE, Mangiamele DM, Reilly KF, Farver TB, Sun RK.(1994). Changing trends in the epidemiology of human brucellosis in California from 1973 to 1992: a shift toward food borne transmission. *J Infect Dis* 170(5), 1216-1223.
- Esmailnasab N, Banafshi O, Ghaderi E, Bidarpour F.(2007). Epidemiologic change investigation of brucellosis in Kurdistan province in 2006-2007. *Journal of Veterinary Medicine (Sanandaj)*; 1(3), 53-8.
- Earhart K, Vafakolov S, Yarmohamedova N, Michael A, Tjaden J, Soliman A.(2009). .Risk factors for brucellosis in Samarqand Oblast, Uzbekistan. *Int J Infect Dis*. 2009 Nov; 13(6), 749-53.
- Forghani H, NezamHoseyni SMJ. (2007). .Epidemiological Survey of brucellosis in Yazd province since 2003 until 2006.2nd National Iranian Congress ON Brucellosis- ShahidBeheshti University of Medical Sciences; 106-108. [In Persian] .
- Ghasemi B, Mohammadian B, Majidpour M.(2004). Epidemiology of human and animal brucellosis in Kurdistan province in 1997-2001. *Scientific Journal of Kurdistan University of Medical Sciences* 8(2(30)), 23-32
- Gur A, Geyik MF, Dikici B, Nas K, Cevik R, Sarac J, Hosoglu S. (2003). Complications of brucellosis in different age groups: a study of 283 cases in southeastern Anatolia of Turkey. *Yonsei Med J*. Feb44(1), 33-44.
- Husseini AS, RamlawiAM.(2004) .Brucellosis in the West Bank, Palestine. *Saudi Med J* 25, 1640-1643.
- Haji AbdolBaghi, M, Rasoli Nezhad, Loti, Shahrokh ,B(2002). Epidemiological ,clinical ,diagnosis and medical study of 505 afflicted to Brucellosis ,medical faculty 4, 34-46.
- Hoshmand B, sharifian J, Zeinali M. (1997). Prevention and preservation of Brucellosis in the country,prevention and preservation administration of diseases,Tehran,page 4. [In Persian] .
- Hatami H. (2007). Brucellosis epidemiology.2nd National Iranian Congress ON Brucellosis. 2007 May 19-21; ShahidBeheshti University of Medical Sciences, 13-36.
- HasanjaniRoushan MR, Mohrez M, Smailnejad Gangi SM, Soleimani Amiri MJ, Hajiahmadi M. (2004). Epidemiological features and clinical manifestation in 469 adult patients with brucellosis in Babol, Northern Iran. *Epidemiol Infect Dec*;132(6), 1109-14. [In Persian] .
- Jelastopulu E1, Bikas C, Petropoulos C, Leotsinidis M.(2008). Incidence of human brucellosis in a rural area in Western Greece after the implementation of a vaccination programmer against animal brucellosis. *BMC Public Health*8(241), 1-5.
- Kozukeev TB, Ajeilat S, Maes E, Favorov M. (2003). Centers for Disease Control, Prevention (CDC).Risk factors for brucellosis-Leylek and Kadamjay districts, Batken Oblast, Kyrgyzstan. *MMWR* 55(1), 31-34.
- Karami M, moudi S, Habibzadehkashani H, Ghanbari M, Khalilpur A , Malekzadeh R .(2007). Epidemiological study on brucellosis in Babol Province in past 8 years.2nd National Iranian Congress ON Brucellosis- ShahidBeheshti University of Medical Sciences; P. 201 202.
- Mendez C, Pa ez, Jime´nez A, Corte´s-Blanco M, Salmoral Chamizo E, Mohedano E. (2002). Brucellosis outbreak due to unpasteurized raw goat cheese inAndalucia (Spain). *Euro surveillance* 8(7), 164-168.

20. Moradi GH, Kanani SH, Sofimajidpur M, Ghaderi A.(2006). Epidemiologic Survey of 3880 patients with brucellosis Kurdistan. Iran Infectious and Tropical Diseases Journal 11, 28-32.
21. Mahbobi S, Dorodgar A, nematian M.(2007). . Six Years brucellosis aspect in the district of Kashan in 2000 - 2005.2nd National Iranian Congress ON Brucellosis- ShahidBeheshti University of Medical Sciences.
22. Perez-Rendon Gonzalez J, Almenara Barrios J, Rodriguez Martin A. (1997). The epidemiological characteristics of brucellosis in the primary health care district of Sierra de C diz. Aten Primaria.Apr 15, 19(6), 290-5.
23. Rahmanin K, Parvin H.(2007). An epidemiologic study of brucellosis patients referred to the Health Center Jahrom 2003-2005. 2nd National Iranian Congress ON Brucellosis- ShahidBeheshti University of Medical Sciences; p. 174-175.
24. Samar G, Neematipour A, Zoghi A. (1997). Human Brucellosis and its Characteristics in Iran, First Edition, Medical science university publication of Tehran. [In Persian] .
25. Sofian M, Aghakhani A, Velayati A, Banifazl M,Eslamifar A, Ramezani A.(2008). Risk factors for human brucellosis in Iran: a case-control study. International Journal of Infectious Disease; (12): 157-161.
26. Skalsky K, Yahav D, Bishara J, Pitlik S, Leibovici L, Paul M.(2008). Treatment of human brucellosis: systematic review and meta-analysis of randomized controlled trials. BMJ 336(7646), 701-704.
27. Shirzadi M, Zeinali M.(2010). National guideline for brucellosis control. 1st ed. Tehran, khulus, PP: 10.
28. Shoraka H, Hosseini SH, Safavizadeh A,Avaznia A, Rajabzadeh R, Hejazi A. (2010).Epidemiological study of brucellosis in Maneh & Semelghan town, north Khorasan province, in 2008-2009. Journal of North Khorasan University of Medical Sciences.;2(2-3): 65-72.
29. Serra Alvarez J, Godoy Garcia P. (2000). Incidence, etiology and epidemiology of brucellosis in a rural area of the province of Lleida. Rev ESP Salud Publica. Jan-Feb74(1), 45-53.
30. Ziad A, Memish H, Hanan H. Balkhy(2004). Brucellosis and International Travel.Journal of Travel Medicine 11(1), 49.55.
31. Zeinali M, Shirzadi MR.(2008). Effective ingredient in accretion and reduction of brucellosis incidence in human in Iran in 1985-2005.Proceedings of 15th veterinary congress.
32. Ziaei M, Hasannamaei M, AzarkarGh, (2007). Epidemiological Study of brucellosis in KhorasanJonobi province 2005-2006.2nd National Iranian Congress ON Brucellosis-ShahidBeheshti University of Medical Sciences; 172-173.

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