Short Communication
Prevalence of Brucellosis in Farm Animals in Northern State, Sudan

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أجريت هذه الدراسة في الولاية الشمالية بالسودان. جُمعْت عينات مصل، خلال الفترة من يناير إلى يونيو 2011، من 7607 رأس من الماشية: شملت الأبقار (2009) ، الأغنام (2170) ، الماعز (2203) و الإبل (1225). فُحصت العينات بواسطة إختبار الروز بنغال والمقايسة التنافسية للإمتصاص المناعي المرتبط بالإنزيم. أوضحت النتائج أن 23,8% ، 11,2% ، 16,3% و 23,6% من الأبقار ، الأغنام ، الماعز و الإبل كانت موجبة على التوالى. معدل إنتشار المرض الكلى في الولاية الشمالية 17,9٪. هناك حاجة ملحة لوضع إستراتيجية للسيطرة على الحمى المالطية ومرض البروسية على المستوى الوطني.

This study was conducted in Northern State, Sudan. Serum Samples were collected during the period from January to June 2011 from 7607 head of livestock: 2009 cattle, 2170 sheep, 2203 goats and 1225 camels. The samples were tested with Rose Bengal Plate Test and Competitive ELISA and 23.8% of cattle, 11.2% of sheep, 16.3% of goats and 23.6% of camels were found positive. The overall prevalence of the disease in Northern State was 17.9%. There is an urgent need for a brucellosis control strategy at national level.

Brucellosis is a contagious disease which affects man and different animal species including cattle, camels, small ruminants, pigs and dogs (Nicoletti, 1986). The disease is caused by *Brucella* organisms and shows different clinical manifestations, such as abortion, to a less extent orchitis and infertility in males (Solera *et al,* 1997). Brucellosis was reported in all animals worldwide and in Africa (Pandey *et al,* 1999). Several published reports, indicate that animal brucellosis is a common disease in Sudan (Musa, 1995). This study was carried out to investigate the prevalence of brucellosis in farm animals of Northern State, Sudan.

A total of 7607 serum samples was collected from adult cattle (*n*=2009), sheep (*n*=2170), goats (*n*=2303), and camels (*n*=1225) from seven localities in the state. Standardized RBPT test was provided by the Veterinary Research Institute, Soba, Sudan, and was used to screen the samples according to Alton *et al* (1975). The RBPT-positive serum samples were confirmed by the cELISA. The test was performed according to manufactures instructions using commercial kits (Savona, Sweden). The prevalence of brucellosis in different animal species is shown in Table 1. The overall prevalence was 17.9%.

Table1: The prevalence of brucellosis in the different livestock species

Animal species	No. examined	Number positive (%)
Sheep	2170	242 (11.2)
Goat	2203	359 (16.3)
Cattle	2009	478 (23.8)
Camel	1225	289 (23.6)
Total	**7607**	**1368 (17.9)**

The current study reveals a high prevalence of 23.8 % in cattle. This has indicated that brucellosis in cattle seems to be primarily associated with poor farm hygiene, unrestricted animal movement, unorganized local cattle trade and fairs, and exchange of bulls of unknown health status for natural breeding. This might be due to the system of breeding adopted in the study area that large animals were kept in small holdings. The 23.6% prevalence

of the disease in camels in the area is in agreement with that reported by Musa (1995) who found 23.8% prevalence in Darfur, Western Sudan, but is considerably higher than those recorded by several investigators from different parts of the country (Yagoub _et al,_ 1990; Majid _et al,_ 1999; Omer, 2006). The prevalence of the disease in sheep and goats was higher than that reported by Abdalla (1966). The current results show that the prevalence of ovi-caprine brucellosis is increasing when compared with the 1.7% in sheep and 1.5% in goats (Abdalla, 1966). This increase may be due upon the disease spread consequent to absence of control measures and the application of improved monitoring and surveillance procedures.

The prevalence of brucellosis in the 7607 farm animals is 17.9%. This is higher than those reported by Suliman (1987) in El Gezira and Khartoum States (11.6% and 15.8%, respectively) and lower than that reported by Musa (1995) in Darfur States (20%). This study shows that there is a high prevalence of brucellosis in animals in the Northern State and recommends that an urgent programme for monitoring and control of animal brucellosis should be adopted.

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