

Brucellosis surveillance, 1986-93

Brucellosis is the most important zoonotic disease in the Kingdom of Saudi Arabia. Human brucellosis has been part of the communicable disease surveillance system since 1986 and should be reported weekly from health centers to regional health authorities. These authorities should report monthly to the Infectious Disease Directorate of the Ministry of Health. Since surveillance began in 1986, Saudi Arabia observed an increase in the notified cases of human brucellosis, which reached a peak in 1990 (Figure 1). Thereafter, reported cases have gradually declined to 6,985 in 1993. Brucellosis patients are found throughout Saudi Arabia, with incidence rates above 100 per 100,000 per year in Bisha, Al-Jouf, Hafr al-Batin, Al-Baha and Qassim regions and lowest in the regions along the Red Sea and the Gulf (Figure 2). Over half (3,628) of the cases in 1993 came from the 15-44 age group (Table 1). However, age distribution of the population is not available and the case numbers in the 5-14 age group also represent an incidence equivalent to the 15-44 age group. This age distribution is similar to previous years.

In 1990, the Ministry of Agriculture and Water began mass animal vaccination programs against the disease in all kinds of animals. Government agencies collaborating on combating the disease from various angles include the Ministries of Health, Agriculture and Water, and Municipal Affairs, and the Saudi Arabian Standards Organization. National authorities are well aware of the seriousness of brucellosis and have published specific preventive measures, which received royal approval in 1989:

Prevention of animal importation, except from brucella-free countries

Prevention of disease introduction from outside Saudi Arabia through the establishment of veterinary quarantine (under implementation)

Application of control measures in the northern provinces

Under 1 year	31
1-4 years	581
5-14 years	1502
15-44 years	3628
45+ years	1243



Figure 1: Reported brucellosis cases, 1986-1993

Random testing of imported and slaughtered animals

Continuing random testing of milk and milk products

Implementation of compulsory vaccination program for livestock

Health education of animal owners about the importance of vaccination for the animals.

Editorial note: The principal reservoir for brucellosis in Saudi Arabia is livestock. A survey in 1977 showed an infection prevalence of 0.5% among local sheep and 2.8% among local camels compared with 1.1% and 3.5% of imported sheep and camels. Between 1977 and 1982 a nationwide animal brucellosis survey on 14,000 animals, both local and imported, yielded an infection prevalence rate of 11.6%.

Two controlled studies (1,2) have been published on risk factors for human brucellosis. Both show an increased risk of brucellosis associated

with animal contact including milking livestock, contact with placental membranes and cutting raw meat. The risk of brucellosis to people who drank raw milk or ingested dairy products made from raw milk was lower than for animal contact. Other studies from Saudi Arabia have shown that brucellosis is a significant risk to medical laboratory workers and to slaughterhouse workers (3).

Reported by the Infectious Diseases Department, Ministry of Health

References

1. Al-Sekait MA. Epidemiology of brucellosis in northern Saudi Arabia. *Saudi Med J* 1992; 13(4):296-299.
2. Cooper CW. Risk factors for transmission of brucellosis from animals to humans in Saudi Arabia. *Trans R Soc Trop Med Hyg* 1992; 86:206-209.
3. Kiel FW, Khan MY. Brucellosis among hospital employees in Saudi Arabia. *Infect Control Hosp Epidemiol* 1992; 14(5):268-272.

Figure 2: Brucellosis incidence rates by region, 1993

