

The epidemiology of brucellosis in Oman: a seven-year retrospective analysis (2017-2023)

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Background: Brucellosis is a zoonotic disease with a significant impact on Middle Eastern countries, including Oman. Its diagnosis is challenging due to non-specific symptoms and difficulty in interpreting serological test results.

Objective: This study aims to understand the epidemiology and clinical presentation of human brucellosis in Oman, and to assess the performance of brucellosis screening tests.

Methods: A retrospective cross-sectional study, conducted among patients diagnosed with brucellosis in Oman over seven years (2017–2023), using two datasets: the first included all notified cases reported to the Ministry of Health from 2017 to 2023, providing a comprehensive epidemiological profile, while the second focused on laboratory-confirmed cases from Central Public Health Laboratories and Sultan Qaboos Hospital in Salalah, comparing the cases between the northern and southern governorates of Oman. Data were analysed for trends and demographic relationships, with comparative analyses of the symptoms and diagnostic performance between the two governorates (i.e., endemic and non-endemic). Data were analysed using R project software.

Results: Among 3,383 cases, 77.2% were from the southern governorate (Dhofar) and 22.8% from northern regions. Males were predominantly affected. The 30-39 age group had the highest incidence in both regions, with young children (0-9 years) also significantly affected in Dhofar. Fever (82.3% in the south, 64% in the north) and body aches (64% vs. 52.1%) were the most common symptoms. Complications such as spondylodiscitis were more frequent in the north (14.8%) than in the south (5.4%). Diagnostic accuracy varied significantly, with serological test performance dependent on regional prevalence and cutoff thresholds.

Conclusions: The study revealed significant regional and demographic differences in brucellosis cases. These findings highlight the importance of ongoing surveillance, tailored diagnostic strategies, and targeted public health interventions to improve brucellosis management in endemic and non-endemic areas.

Biography

Dr. Ahad Al Balushi, a medical microbiology resident at the Oman Medical Specialty Board (OMSB), is the primary investigator for this study. Interested in infectious diseases, epidemiological studies and rare zoonotic diseases. Has a publication on sexually transmitted diseases.

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