

**MAKERERE**



**UNIVERSITY**

**SEROPREVALENCE AND RISK FACTORS FOR BRUCELLOSIS IN  
CATTLE AND HUMANS IN SELECTED DISTRICTS OF JIMMA  
ZONE, SOUTHWEST ETHIOPIA**

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## ABSTRACT

A cross-sectional study was carried out in two selected areas of Jimma zone from February 2014 to May 2014 to determine sero-prevalence of Brucellosis and associated risk factors in cattle and humans. A total of 348 blood samples from cattle (174 from Chora Botor district and 174 from Jimma town) and 48 human blood samples (24 from Chora Botor and 24 from Jimma town) were collected. The collected blood samples were screened using Rose Bengal Plate Test (RBPT) and positive ones were further subjected to Complement Fixation Test (CFT) for confirmation. Statistical analyses were performed using SPSS version 20 software. The overall sero-prevalence of Brucellosis and demographic characteristics of the herd owners was performed using descriptive statistics. Chi-square test was used to determine association between explanatory variables and outcome variables. Results in cattle showed overall sero-prevalence of 1.4% and 0.3% as tested by RBPT and CFT, respectively. In Chora Botor district and Jimma town, the sero-prevalence of Brucellosis in cattle was found to be 1.1% and 0.6%; and 1.7% and 0% as tested by RBPT and CFT, respectively. In humans the sero-prevalence was 2.1% and 0% by RBPT and CFT, respectively. Retained fetal membrane was significantly associated with seropositivity of Brucellosis in cattle ( $p=0.019$ ). No statistically significant variation in prevalence of Brucellosis was found among the different location, age, sex, and herd size, breed and management system of the animals. The majority (97.6%) of the respondents had no knowledge and awareness about the zoonotic importance of Brucellosis. This warrants awareness creation about the zoonotic importance of the disease and transmission modes particularly to those high risk groups to minimize contact with animals and their products. Occurrence of the disease in both humans and animals in the study area warrants effective control using the One Health approach which is the most constructive strategy embraced.

**Key words:** Brucellosis, Cattle, Human, Prevalence, Risk factors, Jimma, Ethiopia