Seroprevalence of human brucellosis in selected sites of Central Oromia, Ethiopia

Temesgen Kassa GetahunID

1*, Beksisa Urge1, Gezahegn Mamo2

1 Ethiopian Institute of Agricultural Research Holeta Animal Health Research program, Holeta, Ethiopia,

2 Addis Ababa University College of Veterinary Medicine and Agriculture, Bishoftu, Ethiopia

* teme.gete2127@gmail.com

Abstract

Brucellosis is one of the most neglected zoonotic diseases in the world. It affects all age groups and both sexes. A cross-sectional study was conducted from December 2019 to May 2020 to estimate the seroprevalence and assess the potential risk factors of brucellosis among dairy cow owners and dairy farmworkers, and assess their knowledge, attitudes, and practices in selected sites in the central highlands of Oromia, Ethiopia. A structured interview question was administered to 284 respondents, and only 166 of them volunteered to give a blood sample. Most respondents had limited knowledge of brucellosis (93.3%), zoonotic diseases transmitted by handling animal delivery (88%), and consuming raw milk and other animal products (90.0%). Accordingly, 149 blood samples from animal owners and 17 farmworkers were collected for serological testing. The serum samples collected were initially screened using the Rose Bengal Plate test, and the Complement Fixation test was used as a confirmatory test. The overall seroprevalence of zoonotic brucellosis was 1.2% (95%CI: 0.32–4.27). There was a statistically significant association of human brucellosis with human housing (OR = 1.8, p = 0.002), contact with aborted fetus (OR = 21.19, p = 0.017), drinking raw milk from non-aborted (OR = 24.99, p = 0.012), aborted (OR = 5.72, 0.019), and retained fetal membrane (OR = 4.22, p = 0.029) cows. In conclusion, the present study revealed that the seroprevalence of brucellosis in the study area was low. Public awareness among animal owners, farm and animal health workers on the transmission and health hazards of brucellosis needs to be addressed through community training. Implementing one health approach between veterinary and medical health professionals must be strengthened.

Bibliography

I am an animal health researcher in the Ethiopian Institute of Agricultural Research, Holeta

Agricultural Research Center, Animal Health Research National program. My responsibilities include project and proposal writing, field data and sample collection, field and laboratory trials, demonstration and extension of research technologies, and data analysis, farm management and report writing. In addition to this, I also serve as an advisor for MSc and DVM students from different universities in the country.