ABSTRACT

Q fever is a zoonotic disease caused by *Coxiella burnetii* which poses a substantial public health concern. The disease has potential to cause detrimental effect on human health and results to substantial economic losses in affected households. Livestock is the main source of infection to humans. The overall objective of this study was to assess the knowledge and perception of pastoralists on Q-fever infection and to estimate its economic impact at the household level to inform decision on whether there is a need for surveillance of this infection within pastoral systems by the relevant health delivery systems in Kenya. The study was undertaken between 2015-2017 with field data collection conducted in the month of August 2015 in Namanga, Mashuru and Ngong sub counties of Kajiado County. However, additional data were obtained through document review of the available literature, based on relevant studies undertaken after August 2015 to obtain the status of the disease within the affected systems.

To assess the Knowledge and perception of Q fever in the study area, seven focus group discussions were conducted with pastoralists and nine key informant interviews were held at the local health facilities with the health workers in-charge by use of interview guides. Additionally, data were collected from secondary sources on pastoralist’s knowledge and perceptions of Q fever in Kajiado County, prevalence of Q fever in Kenya and Kajiado county in particular; household monthly incomes; estimated outcomes of primary Q fever infections in humans. Based on the data collected, pairwise ranking and scoring methods were used to determine the most common diseases affecting the community. Further statistical analysis was done using Kruskal-Wallis one-way analysis of variance to determine if there was a significant difference in the mean ranks of diseases across the focus group discussions held with pastoralists/farmers and Key informant interviews held with health workers. The economic cost of Q fever infection in humans was estimated using a deterministic model which was developed in Microsoft Excel spreadsheet. The estimation of economic cost was based on the reported prevalence of Q fever infection among pastoralist households, average monthly incomes, average treatment costs and the number of days people stayed away from work due to illness with Q fever.

From the focus group discussions with pastoralists, common cold and malaria were ranked highest as the most prevalent diseases, while pneumonia, malaria, upper respiratory tract infections and typhoid fever were ranked highly by health workers as the most common diseases. Even though the presence of Q fever has been established in Kajiado County as revealed through document reviews, this study reveals inadequate awareness and knowledge among the pastoralists and heath personnel. Due to inadequacy of awareness, Q fever is most likely being diagnosed as other febrile illnesses with similar clinical symptoms such as flu, pneumonia and malaria. Based on previously estimated human prevalence of 26.7% of Q fever in Kajiado County from documented literature, the economic impact of Q fever infection in a typical pastoralist’s household was estimated to be Ksh 4,600 per month. This is a heavy economic burden on a typical pastoralist’s household. The direct costs attributed to the number of working days lost were greater than the indirect costs such as treatment and transport. The results from this study and Q fever document reviews show that there is need for creating awareness for Q
fever among health workers, veterinary practitioners and pastoralists. Since the presence of *Coxiella burnetii* has been established in previous studies conducted in Kajiado County and Kenya at large, and since it is of economic significance, there is need for surveillance of Q fever infection by the relevant health delivery systems in Kenya.