Economic burden of bovine and human brucellosis in cattle farming communities of Adjumani district, Uganda

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Abstract

Abstract This study estimated the annual economic burden of bovine and human brucellosis in Adjumani District, Uganda in the year 2016 as extension of a larger study that determined seroprevalence and risk factors for brucellosis in cattle and humans. Semi-structured questionnaires were administered to 25 households with Brucella seropositive cattle herds and 14 households with at least one Brucella seropositive person in order to capture economic burden in cattle and humans respectively. Data were analyzed using MS Excel 2007. In cattle, the total economic burden was estimated as a sum of costs associated with mortality of Brucella seropositive cows that abort and cost of morbidity of brucellosis among the cattle population. In humans, brucellosis burden was quantified in Disability Adjusted Life Years (DALYs) and monetary cost of human brucellosis episode. The total bovine brucellosis economic burden was estimated at UGX 2,692,809,443 (745,930.41). The economic burden associated with mortality of Brucella seropositive cows after abortion was UGX 23,488,155. Burden associated with morbidity was UGX 2,669,321,288 (USD 739,424) per year for the district cattle herd (131,282 cattle). The value of calves lost from abortion and perinatal mortality and milk lost from non-aborted seropositive cows accounted for 47% and 3.3% respectively of the total burden. The burden of human brucellosis was estimated at 887 DALYs, average monetary cost of human brucellosis episode was UGX 760,590 (USD 210.7) Out of which indirect cost (attributed to 14 days of lost income from not working), direct medical expenses (diagnostics, consultation and drugs), direct non-medical expenses (transport and food consumed) incurred by a human brucellosis patient amounted to 55.5% (117USD), 11.84% (USD 24.94) and 32.7% (USD 68.9), respectively. One Health approach is recommended for management of brucellosis in livestock and humans in the district. Key words; Brucellosis, economic burden

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