Preventing Bacterial Infectious Diseases: Brucellosis

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**Statement of Issue:** Brucellosis is one of the most common worldwide bacterial diseases. It poses a major threat to human health, animal health, and animal production. In humans, Brucellosis is life threatening and presents with nonspecific symptoms, including intermittent fever, weight loss and depression. Human brucellosis requires prolonged treatment, leading to considerable medical expenses in addition to diminished income due to loss of working hours. In domestic animals, *Brucella* infects part of the immune system and genital organs causing chronic infection and abortion (especially in the last trimester), stillbirth, and infertility, leading to a negative effect on farmers’ livelihoods. The distribution and determinants of this disease in both livestock and humans are poorly understood. Although the disease has a worldwide geographical distribution, it remains a major public health problem in the Mediterranean region, Western Asia, Africa and Latin America. Brucellosis remains widespread in the livestock populations and presents a great economic and public health problem in African countries

- The consumption of contaminated dairy products has been widely documented as an important route of *Brucella* transmission. In particular, unpasteurized dairy products from infected animals have been considered a source of infection for the general population, especially in developing countries where disease control infrastructure is limited.
- Veterinarians are at risk of acquiring brucellosis from assisting births in infected livestock, as well as accidental exposure to live vaccines.
- Contact with contaminated products of aborted animals influences the transmission of brucellosis to humans while airborne transmission of bacteria to humans has also been documented in clinical laboratories and abattoirs.
- Brucellosis has been eradicated in most developed countries that have implemented a tight control program like test and slaughter.
- The increase in business and leisure travel to brucellosis endemic countries has led to importation of the disease into non-endemic areas.
- The high rate of occurrence of brucellosis in some parts of Uganda in cattle and goats might be attributed to limited and poorly funded animal disease surveillance systems in the country including but not limited to lack of diagnostic laboratories.
- Lack of vaccination, presence of wild animals on the grazing land, mixed farming and use of surface water for cattle and goats have been noted as some factors that influence the presence of the disease in the area.

Considering the economic importance of livestock for Uganda, healthy animal population is crucial and safe animal products are vital to opening up international markets.
**Policy Options:**

- A set standard of hygiene must be established and maintained; Veterinarians must always wear protective gear such as gloves, gum boots and overalls before handling animals—whether dead or alive. Dead bodies of infected animals must be properly and carefully disposed off by trained personnel to avoid further infections. District Veterinary Officers should be tasked with the responsibility of sensitizing farmers on maintenance of hygiene among their animals and environment generally.
- Test and slaughter of infected animals should be enforced by the Ministry of Agriculture Animal Industries and Fisheries. This might be applicable in the case of large commercial farms but for small scale farmers who are the majority in Uganda and most developing countries, it might be difficult to enforce this.
- Measures should be put in place to ensure full vaccination of animals against brucellosis. Vaccination increases immunity to infection, thus minimizing the risk of abortion and spread of the infection. Limited vaccination in particular was determined as a major risk factor for brucellosis in cattle in a study. The fact that it is economical for most farmers; it is the trend amongst most farmers in Uganda.
- The responsible ministry and government bodies should invest in the improvement of the current veterinary services and appropriate diagnostic services. This includes standardization of quality control of diagnostic kits/reagents and vaccines.
- An efficient animal surveillance system should be put in place Identification and reporting of sick animals is necessary for risk analysis and monitoring of control programs. The surveillance and reporting system should include both domestic and wild animals.

**Policy Recommendation:**
Reducing the burden of brucellosis in both humans and animals requires a combined effort between the government, area veterinarians and wildlife conservationists. It also requires intensive sensitization of the farmers about brucellosis.

**Sources:**


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