Multiple zoonotic pathogen exposures in small ruminant flocks in Ethiopia: Call for Improved awareness and risk mitigation measures

Gezahegn Alemayehu[1], Gezahegne Mamo[2], Biruk Alemu Gemeda[1], Hiwot Desta[1], Barbara Wieland[3,4], Theodore Knight -Jones[1]

[1]International Livestock Research Institute, Gurd Shola, Addis Ababa, Ethiopia
[2]College of Veterinary Medicine and Agriculture, Addis Ababa University, Bishoftu, Ethiopia
[3]Institute of Virology and Immunology, Mittelhäusern, Switzerland
[4]Department of Infectious Diseases and Pathobiology, Vetsuisse Faculty, University of Bern, Switzerland

ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE
CGIAR
Better lives, better plan through livestock

Key messages

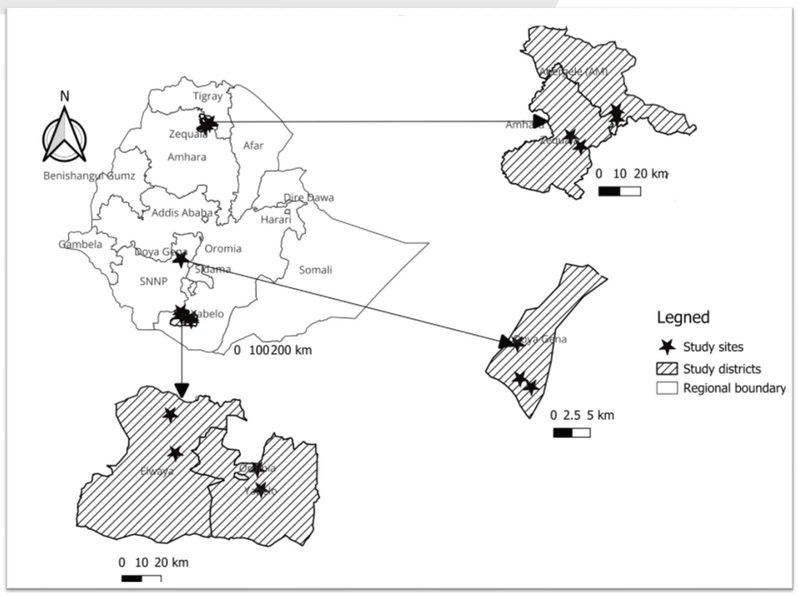
- High exposure to zoonotic agents in small ruminant flocks.
- Low awareness of zoonotic diseases among farmers.
- Risky practices and low concern for disease transmission.
- Limited information from health professionals about the risks of zoonotic diseases.
- It is essential for policies to focus on enhancing a coordinated disease surveillance system that links veterinary and public health systems.
- There is a need to strengthen community education programs regarding zoonotic diseases and promote good agricultural practices.

Background

- Zoonotic diseases are prevalent in Ethiopian livestock systems, having a significant impact on both the health and economic well-being of farmers.
- The lack of comprehensive understanding of the epidemiology of these diseases hinders policymakers' ability to make informed decisions.
- Limited awareness among community members, particularly in regions with insufficient health services, increases their susceptibility to zoonotic infections.

Human and livestock interaction a) pastoral girl milking goats to drink milk for her breakfast b) people are living with livestock. Photos by Gezahegn Alemayehu /ILRI

Methodology



327 randomly selected livestock farmers were interviewed across five districts.

3 sheep and 8 goats were examined for *Coxiella burnetii*, Brucella spp., *Toxoplasma gondii*, and *Chlamydophila abortus* in each household

- A total of **1,224** sheep and goats were tested in 154 households.

Results

Pathogen exposure

90% of households had an animal that tested seropositive for **one or more** zoonotic pathogens.

56% of the flocks in the households were exposed to multiple pathogens.

Awareness

52% of respondents were aware of the risk of zoonotic disease transmission from livestock.

46% identified raw meat consumption as a transmission method.

18% cited raw milk consumption as a means of transmission.

79% identified anthrax as a disease of concern.

2% of respondents were familiar with the disease **Brucellosis.**

Awareness

91% assisting with parturition without using protective gloves.

87% of the respondents disposed of aborted materials in the environment.

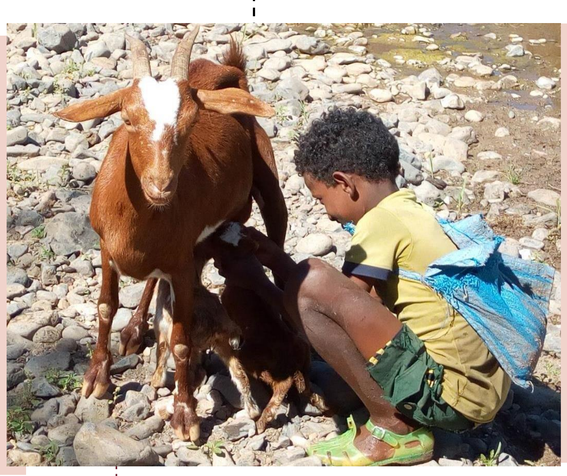
86% of the participants need more information on zoonoses.

93% prefer to receive this information through community-based education programs.

- There was a significant variation in awareness levels among the studied communities.
- Pastoralists were notably less concerned about the risk of infection from livestock.

Conclusion

- There was a high prevalence of zoonotic pathogens within household flocks and a demonstrated lack of awareness among livestock farmers about the risks posed by zoonotic diseases.
- This highlights the urgent need for comprehensive community-based education programs, such as Community Conversations, which have shown promise in developing acceptable solutions and promoting behavior change within the communities.



Contact

Gezahegn Alemayehu, ILRI
gezahegn.alemayehu@cgiar.org

Conference travel sponsored by:
COHESA Capacitating One Health in Eastern and Southern Africa
OACPS R&I
CGIAR INITIATIVE ON Sustainable Animal Productivity
ADDIS ABABA UNIVERSITY
ICARDA

ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE 50 2024 CGIAR
The International Livestock Research Institute thanks all donors & organizations which globally support its work through their contributions to the CGIAR Trust Fund. cgiar.org/funders