

Investigating the association of cattle with the development of human diarrhoea caused by bacterial zoonoses in Ethiopia

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Background: Diarrhoea is the second most important cause of mortality of children aged under-five in Ethiopia. Fragmented studies identified several zoonotic bacterial pathogens such as Salmonella, Campylobacter and pathogenic E. coli from diarrheal patients commonly from under-five children. However, epidemiological data related to food-borne diseases are limited in the country.

Objective: The overall objective of this research project is to gain insights in the relation between zoonotic bacteria in cattle, meat thereof and diarrheal diseases in humans under Ethiopian conditions.

Methodology: A cross-sectional study design will be employed. Bacteriological analysis, molecular characterization and questionnaire survey will be used to generate the desired data. A total of 240 stool samples from diarrheic patients will be aseptically collected and analysed for the occurrence of the pathogens at Addis Ababa University and molecular characterization of the isolates will be carried out at Ghent University. In addition, questionnaire will be administered to 240 diarrheic patients, 145 meat handlers at retail market, 240 heads of cattle owners and 45 abattoir workers to assess the potential risk factors. The study will be carried out after the approval of the protocol has been obtained from the Medical ethics committee from Belgium and Oromia Health Bureau, Ethiopia. Participants will be provided with informed sheet describing about the research and written consent will be obtained. In case of children (1-18 years) and other subjects are not capable of issuing their consent, assent will be obtained from the guardian or legally responsible person. This research project will provide the necessary insights on the epidemiology and control of diarrheal illness linked to cattle in the area. Through the extension of the obtained results, insights are also valuable for other zoonotic bacterial pathogens causing diarrheal illness in Ethiopia as well as other countries. The study period is four years. The result of the outcome will be disseminated through publications and

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