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Farmers’ and academia’s views”

Microbial contamination and slaughter and retail points of the pork value chain in Uganda

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Abstract

Introduction

Bacterial foodborne pathogens remain a global public health concern with a huge health burden comparable to diseases like malaria, HIV / AIDs, and tuberculosis. Animal source foods which include beef, pork, and dairy products have been implicated in the transmission of foodborne pathogens. Pigs and pork have specifically been implicated in the transmission of non-typhoidal *Salmonella* (NTS) through the pork value chain to humans. Uganda ranks top in consumption of pork in East Africa yet the safety of pork and the risks of NTS infection to meat handlers in this chain remain uninvestigated. This study, therefore, aims to establish levels of contamination at the point of slaughter and retail of the pork value chain and the factors that influence those levels. It will also establish the genetic relatedness of NTS from pigs, humans, and the slaughter and retail environments.

Materials and methods

A cross-sectional study design will be employed. Pigs presented for slaughter will be sampled, and the carcasses tracked to the point of retail and sampled too. Samples from the slaughter and retail environments which include surfaces, tools, and water used for dressing will be collected. Laboratory microbial analyses will be carried out to determine the presence and levels of bacteria i.e. NTS and total coliforms. Meat handlers along this chain will also be sampled and investigated for the presence of NTS. Data to be collected include demographic data and risk factors for infection with NTS in humans using structured questionnaires. An observational checklist will be used to collect information on factors at slaughter and retail points that influence the occurrence of contamination. In-depth interviews will also be conducted with key informants to collect more information on hygiene practices.

Results and conclusion

The findings will highlight levels of contamination at different points, providing useful data for control and mitigation of cross-contamination in the pork value chain in Uganda thus improving pork safety and occupational health. It will also highlight whether pigs in Uganda are a reservoir for zoonotic NTS.

Keywords: Microbial contamination, non-typhoidal Salmonella, pork value chain, Uganda.