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Seroprevalence of Hepatitis E Virus Genotype 3 in Backyard Raised Pigs and Its Potential Zoonotic Transmission in Maguindanao

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Abstract

Hepatitis E virus (HEV) genotype 3 is a zoonotic disease affecting humans and animals, with higher risks linked to frequent contact with infected animals, especially pigs. It causes significant morbidity and mortality worldwide, making control and prevention measures essential for reducing infection. This quantitative cross-sectional study assessed HEV genotype 3 seroprevalence in 96 serum samples from backyard pigs in Maguindanao. Eighty-eight non-hemolyzed samples were analyzed for anti-HEV antibodies using ELISA. The knowledge, attitudes, and practices (KAP) of pig handlers were also evaluated to assess zoonotic transmission risk. The results indicate a 4.5% seroprevalence rate, which is highest in weaners, with no significant difference between age groups. Even with high awareness, the KAP assessment reveals limitations in understanding transmission routes. While respondents usually implement preventive measures, differences in environmental behaviors show the need for focused community education to avoid the spread of the virus in the area. The study confirmed the presence of HEV genotype 3 antibodies among the pigs surveyed in the community. The KAP survey identified a high awareness of the residents about HEV's health impact, but misconceptions about the virus transmission are evident. Despite the implementation of sanitary and preventive measures, variations in environmental behaviors indicate the need for enhanced community education. Overall, the study provides a baseline understanding of the circulating HEV genotype in the area, which will drive future research and public health activities aimed at reducing transmission and promoting community well-being.