

Zoonotic diseases of pigs of Bangladesh: What is known?

Ausrafal Islam¹, Mohammad Mofizul Islam² and Anisuzzaman³

¹International Centre for Diarrhoeal Disease Research, Bangladesh

²Upazilla Livestock Officer, Bangladesh

³Bangladesh Agricultural University, Bangladesh

Introduction: Pigs in Bangladesh are mainly reared by non-Muslim minorities such as tribal communities, Christians and lower caste Hindus. Pigs can harbor and spread zoonotic parasites more efficiently compared to other domestic species. Our objective was to identify the zoonotic organisms of the domestic pigs of Bangladesh.

Methodology: We reviewed the published literatures to identify different zoonotic pathogens like virus, bacteria and parasites in Bangladesh. We found 12 published manuscripts from Bangladesh which has described different zoonotic diseases of pigs. Among those seven were on parasitic diseases, five on viral diseases and one on bacterial diseases.

Results: By fecal sample examination ova of seven zoonotic helminths were identified: Fasciolopsis sp. (1%-66%), Taenia sp. (8%-24%), Diphylobothrium sp. (3%-24%), Ascaris sp. (38%-62%), Gnathostoma sp. (19%), Trichuris sp. (5%-24%) and Necator sp. (2.6%). By post-mortem examination three zoonotic helminthes were reported: Fasciolopsis buski (37%-55%), Ascaris suum (60%-66%) and Trichuris suis (57%-60%). Ova of Fasciolopsis sp., and Ascaris sp. were reported in six and Trichuris sp. in five manuscripts. Seroprevalence of avian influenza (2.3-12%), hepatitis E (82%) and Japanese encephalitis virus (30%) has been detected among the pigs of Bangladesh. Antibodies against Nipah virus glycoprotein was found among pigs (82%) using luminex assay. Seroprevalence of brucella has also been reported from pigs.

Conclusion: Domestic pigs of Bangladesh can carry and shed zoonotic diseases. We do not know many pig-borne zoonotic diseases reported from other tropical countries. Further investigation needs to be carried out to determine the prevalence of different zoonotic diseases carried by pigs which will be helpful for understanding the disease epidemiology and developing strategic control measures.

Biography

Ausrafal Islam is a veterinarian by training. He has completed his DVM and MS from Bangladesh Agricultural University and MPH from American International University-Bangladesh. He joined icddr,b during 2009. He is involved in different research projects focused on various emerging diseases like Nipah and avian influenza. He has several years of working experience with wild animals. He is leading a project funded by DARPA (Defence Advanced Research Projects Agency) to look for the Nipah virus among bats of Bangladesh. He has published his work in different national and international journals.