

## Prevalence of hydatidosis and characterization of *Echinococcus granulosus* in cattle, goats and swine in Benue state

**Okoh Martina and Omudu Edward\***

*Benue State University, Nigeria*

This study investigated the level of infection *Echinococcus granulosus* in Benue State, Nigeria. Carcasses of animal were inspected carefully for the presence of hydatid cysts from three major towns (Makurdi, Otukpo and Adikpo). The organs infected and the numbers of cysts were recorded. Hydatid cysts collected were preserved in 70% ethanol and transported to the laboratory for analysis. In the laboratory, cysts size were measured, microscopic examination of hydatid fluid was performed to determine cysts fertility and Haematoxylin and eosin staining technique was performed species identification was determined following restriction digests of amplified PCR products which targeted the NADH dehydrogenase subunit 1 (nad-1) gene. Overall prevalence was 34.88% (314/900), infection rates in the sampling sites were significant ( $P < 0.05$ ), with the lungs being the most infected organ (24.11%), followed by the liver (10.78%), while mixed infections involving the liver and the lungs were detected in 3.56% of the livestock sampled. The cysts were examined under the microscope to determine fertility, out of the 350 hydatid cysts collected and examined, 41.14% of the hydatid cysts were fertile, (37.42%) were

sterile while (21.42%) were calcified. Lung cysts were found to be more fertile (66.66%) compared to liver cysts (33.33%). PCR results revealed that all strains were *E. granulosus sensu stricto* which means that the genotype is G1 (Genotype1) There was a direct relationship between age, number and size of hydatid cysts as the number and size of the cysts increase with increase in age of the animal. This study concludes that hydatidosis is prevalent in Benue State and since all strains were G1 which is particularly pathogenic to humans, it is important to control the disease to reduce its propagation.

### Keywords:

Hydatidosis, *Echinococcus granulosus*, G1 Strain.

### Biography

**Omudu Edward** is affiliated to Department of Biological Sciences, **Benue State University**, Makurdi, Nigeria.