

Risk Factors of Rotavirus infection among children Hospitalised with Acute Diarrhoea in Sabah, Malaysia Borneo

ABSTRACT

Background Diarrhoeal disease is one of the leading causes of morbidity in children under five years of age but the disease burden particularly of rotavirus and its epidemiology is currently unknown due to under reporting. Around 700-1, 000 children were admitted every year due to acute diarrhoea. These admissions can be prevented if proper vaccination is done. This study aimed to determine risk factors of rotavirus infection among young children hospitalised with acute diarrhoea in Sabah.

Method A comparative cross-sectional study was conducted in Sabah's Women and Children Hospital from April to June 2018 and investigated 66 children less than five years of age admitted with acute diarrhoea using universal sampling method. Stool samples were collected and tested for rotavirus using Enzyme Immunoassay. Positive samples for rotavirus were then analysed using PCR method. A validated questionnaire was administered to determine risk factors associated with rotavirus infection and to determine the knowledge, attitude and practice of parents or caretakers on prevention of diarrhoeal disease among young children in Sabah.

Results The response rate was 100% which give an overall proportion of rotavirus infection of 28.8%. The significant risk factors were male sex OR 4.3(95% CI 1.1–16.8), poor environmental sanitation OR 5.0 (95% CI 1.6–15.6), and poor diarrhoeal prevention practice OR 4.0 (95% CI 1.0–15.4). Rotavirus strains circulating in Sabah are comprised of G1 P(8), G4 P(8), G9, and other unknown genotypes.

Conclusion The identification of risk factors for rotavirus infection and the circulating genotype in Sabah is beneficial for a more strategic preventive effort.