

## ABSTRACT

The objectives of this work were (1) to determine the relative importance of rotavirus, cytopathic viruses, selected bacteria and faecal parasites in infantile gastroenteritis in Guyana, Trinidad and St. Vincent; (2) to study the occurrence and distribution of rotavirus gastroenteritis and the clinical course of the disease; (3) to investigate transmission of faecal micro-organisms in families; (4) to assess the influence of malnutrition and respiratory disease on the course of illness; (5) to explore the role played by maternal characteristics, environment and economic status in this continuing problem; (6) to seek for rotavirus in calves in Trinidad.

Human study subjects were 397 hospitalized gastroenteritis cases under three years of age. Healthy controls, registered at district health offices, were matched by age, sex and approximate home address. Data were collected from hospital records and by questionnaire. Weights were taken during hospitalization and on follow-up. Stool samples were tested for viruses, bacteria and parasites. Rotavirus was detected by counterimmuno electrophoresis and ELISA with confirmation by electron microscopy. Forty-seven random family pairs were used for transmission data and samples of five-year old children were screened for rotavirus antibody.

Rotavirus, the most prevalent pathogen, occurred in 21 percent of cases and  $\frac{one}{\wedge}$  percent of controls. It was found more frequently in children 6-35 months old and not in premature newborn infants.

Eighty-four percent of five-year olds had antibody. The illness was generally mild, but 5 of 30 fatal cases excreted rotavirus. Significantly increased morbidity and mortality were associated with age (<6 months), low birth weight (<2.5 kg), malnutrition (Gomez II or III) and little or no breast-feeding (<1 month).

Gastroenteritis cases had mothers with less education and interest in health services and fathers with more unskilled jobs and lower incomes. Case families were similar in size and structure to controls but had more diarrhoeal illness, more gastrointestinal infections and less pipe-borne water in the home.

Rotavirus was detected in calves with and without diarrhoea. Persistence in the environment was suspected.