

# Epidemiology of rotavirus diarrhoea in Africa: a review to assess the need for rotavirus immunization

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*Rapid progress towards the development of rotavirus vaccines has prompted a reassessment of the disease burden of rotavirus diarrhoea in developing countries and the possible impact of these vaccines in reducing diarrhoeal morbidity and mortality among infants and young children. We examined the epidemiology and disease burden of rotavirus diarrhoea among hospitalized and clinic patients in African countries through a review of 43 published studies of the etiology of diarrhoea. The studies were carried out from 1975 through 1992, and only those in which a sample of more than 100 patients with diarrhoea were specifically screened for rotavirus by using an established diagnostic test were included*

*Rotavirus was detected in a median of 24% of children hospitalized for diarrhoea and in 23% who were treated as outpatients; 38% of the hospitalized patients with rotavirus were <6 months and 81% were <1 year of age. Rotavirus was detected year-round in nearly every country and generally exhibited distinct seasonal peaks during the dry months. In 5 countries where rotavirus strains had been G-typed, 74% of strains were of one of the four common serotypes (G1 to G4), G1 was the predominant serotype, and 26% were non-typeable. This cumulative experience from 15 African countries suggests that rotavirus is the most important cause of severe diarrhoea in African children and that most strains in circulation today belong to common G types that are included in reassortant vaccines. Wherever large numbers of cases of rotavirus diarrhoea occur early in infancy, immunization at birth may protect the children before their first symptomatic infection.*

## Introduction

In developing countries, diarrhoea is a major cause of disease among under-5-year-olds, with an estimated 2.4–3.3 million deaths each year (1, 2). Rotavirus is the single most important etiological agent implicated in severe dehydrating diarrhoea, and is responsible each year for an estimated 600 000 to 870 000 childhood deaths (3, 4). Improvements in water supplies and excreta disposal may reduce the

transmission of enteric bacteria and parasites, but are unlikely to reduce the incidence of rotavirus diarrhoea. Vaccines are therefore being developed as the primary public health intervention to reduce the burden of diarrhoea caused by rotavirus (5, 6).

Gastroenteritis is a major cause of childhood morbidity and mortality in Africa (1, 7). Although many studies have documented the high prevalence of rotavirus among African children with mild or severe diarrhoea, these have never been analysed to

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