

Students' Corner

Letter to the Editor

“Rota virus mortality: a dilemma for the developing world”

Madam, in the present era of declining infant mortality rate across the globe, developing countries still face a multitude of problems which hamper their efforts in reducing the burden of diseases in Paediatric age group. Foremost among these is the Rota Virus infection.

Rota virus ranks first as a causative agent of gastro-enteritis, the leading cause of morbidity and mortality in children under five years of age.¹ It is estimated to cause approximately 110 million episodes of diarrhoea, 25 million hospital visits and two million hospitalisations per annum.

The mortality in 2004 alone was estimated by the World Health Organisation (WHO) to approach 527,000.² This image is exceedingly dismal in the developing countries which account for 90-98% of the total loss. Of these, around 65% of all deaths take place in 11 countries of Asia and Africa, which includes Pakistan also. This is in immense contrast to Europe, where the 25 countries collectively caused 90,000 hospital admissions and mere 231 deaths in 2006.³ Further astonishing are the US figures with just 40 fatalities reported on average per year.⁴

The disease effects the rural population and the lower socio-economic class in particular, and this scenario closely mimics that of the Pakistani population. The burden of disease in our country is approaching 20,000 deaths of children under five years per year. The mortality of this preventable calamity is 95 children per 100,000 of this age group per year. Khan et al reported the prevalence of Rota Virus in Pakistan as 38% in stool samples of children under 5 years of age tested for Rota Virus Group A.⁵ Large scale clinical trials have demonstrated the efficacy of Rota virus vaccine in reducing the hospital admissions by 85-96%.⁶ It has further been estimated that around 200,000 deaths in South-Asian and Sub-Saharan

African countries per year could be reduced by the large scale use of this Vaccine.

In Pakistan, where an estimated 24% population lives below poverty line and per capita government expenditure of health approximates 10 US dollars in striking disparity of an international average of 434 US dollars, unswerving large scale studies should be undertaken to assess the local burden of this menace. This would facilitate the policy makers in prioritization of the national health problems. Allocation of funds and subsidization of the health sector to at least the major health issues can address the problem before thousands of more lives are lost.

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References

1. Cunliffe N, Nakagomi O. Introduction of rotavirus vaccines in developing countries: remaining challenges. *Ann Trop Paediatr* 2007; 27: 157-67.
2. World Health Organization. Estimated rotavirus deaths for children under 5 years of age: 2004. Online 2009. Cited 2009 April 22. Available from URL: <http://www.who.int/immunization_monitoring/burden/rotavirus_estimates/en/index.html>.
3. Soriano-Gabarro M, Mrukowks J, Vesikari T, Versfraeten T, et al. Burden of rotavirus disease in European Union countries. *Pediat Infect Dis J* 2006; 25: S7-S11.
4. Naghipour M, Nakagomi T, Nakagomi O. Issues with reducing the rota virus-associated mortality by vaccination in developing countries. *Vaccine* 2008; 26: 3236-41.
5. Fischer TK, Viboud C, Parashar U, Malek M, Steiner C, Glass R, et al. Hospitalizations and deaths from diarrhea and rotavirus among children <5 years of age in the United States, 1993-2003. *J Infect Dis* 2007; 195: 1117-25.
6. Khan ZT, Hayat A, Asim S, Ehsan IA, Piracha UG, Javed I, et al. Burden of rota virus gastroenteritis in children less than 5 years of age in Rawalpindi, Pakistan. *J Rawal Med Coll* 2006; 10: 61-5.