

## State of the Globe: Hepatitis A Virus - Return of a Water Devil

The first description of hepatitis (epidemic jaundice) is generally attributed to Hippocrates. Outbreaks of jaundice, probably hepatitis A, were reported in the 17<sup>th</sup> and 18<sup>th</sup> centuries, particularly in association with military campaigns. Hepatitis A is an acute, self-limiting infection caused by the hepatitis A virus (HAV), member of *Picornaviridae* in a unique genus, *Hepatovirus*, transmission occurring through the feco-oral route. HAV infection contributes to 10 million infections world-wide each year<sup>[1]</sup> accounting for 20-25% of clinically apparent hepatitis cases. The clinical spectrum of the Hepatitis A varies from an asymptomatic infection to a fulminant fatal disease. Age is the major factor that influences the clinical course of the primary HAV infection; it is symptomatic in only 4-16% of children compared with 75-95% of adults. The degree of endemicity is closely related to the prevailing hygiene and sanitary conditions, socio-economic level and other development indicators. In areas of high endemicity such as Asia, Africa, Latin America and the Middle East, the seroprevalence of HAV immunoglobulin G antibodies reaches 90% in adults and most of the children have been infected by 10 years of age.

Over the past few decades, significant changes in the epidemiology of this infection have been noticed.<sup>[2,3]</sup> The population profile of HAV infection has transitioned from that of high to intermediate endemicity in several Asian countries in the last 20-30 years, due to socio-economic growth and sanitary improvement leading to lower prevalence among children. This has resulted in an increased average age of infection and consequent increased morbidity.<sup>[2,3]</sup> Moreover, because most older children, adolescents and adults remain susceptible, there is an increased risk for outbreak potential for HAV. In China and India, the two most populous countries in the world that have shown a very rapid socioeconomic development in the last years, many high endemicity areas for HAV infection coexist with low and intermediate endemicity areas, thus creating more potential for outbreaks.<sup>[4,5]</sup>

The HAV antibody seroprevalence rates in India are lowest in Kerala; two studies have reported the seroprevalence rates of 4.5% and 10.3% respectively in children under 5 year.<sup>[6,7]</sup> Two epidemics of hepatitis A have occurred in the past; in central Kerala, Koothattukulam (1998)<sup>[8]</sup> and in Kottayam District of Kerala (2004).<sup>[9]</sup> Both these epidemics predominantly involved adolescents and young adults. This makes it evident that certain geographic regions in our country show features of intermediate HAV endemicity and have a potential for outbreaks of this infection.

Rakesh *et al.*<sup>[10]</sup> in their study have reported an outbreak of hepatitis A in Mylapore, Kerala, from March to July 2013 affecting a total of 129 cases due to drinking water contamination. The age group most affected in this outbreak was 16-25 years, again reflecting the epidemiological shift. Preparedness and preventive planning for such outbreaks in the future is required. Practical strategies for execution of safe water supply must be incorporated in the less developed areas of the country.

The importance of HAV surveillance and in particular the need to collect both age-specific prevalence and incidence data is thus highlighted. The value of age-specific prevalence data, collected every 5 or 10 years, is required to estimate changes in endemicity by assessing population immunity and susceptibility. Importance of incidence data is also stressed to assess the burden of disease, identify and control outbreaks, as well as identify infected people at risk. World Health Organization recommends that in countries with intermediate endemicity, where a relatively large proportion of the adult population is susceptible to HAV and where hepatitis A represents a significant public health burden, large-scale childhood vaccination may be considered as a supplement to health education and improved sanitation.

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DOI:  
10.4103/0974-777X.132036

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**How to cite this article:** Gupta E, Ballani N. State of the globe: Hepatitis A virus - return of a water devil. *J Global Infect Dis* 2014;6:57-8.