The Global Prevalence of Hepatitis AVirus Infection and Susceptibility: A Systematic Review

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Summary Age-Prevalence Estimates

The summary age-prevalence estimates provided for each of the 21 world regions in the following chapters are based on a curve-fitting procedure. For each region, all data points from each eligible study that provided seroprevalence rates for two or more age groups were plotted. The x-axis value for each point was the median age of the age group or, if the median was not provided, the midpoint of the age range. This is not an ideal method since it does not adjust for differences in sample size and study quality, but it avoids the potential bias that could be introduced into the regional estimates when there is one or more large study from one country within a region and only a few smaller sample size studies from other countries in the region.

Two very simple unweighted curve fitting approaches were then used. First, a logarithmic curve was fit to all the data points. In other words, all of the age-seroprevalence coordinates used for the interpolated plots described below (in the paragraph on "Plot of Age-Seroprevalence Data from Included Studies") were plotted using a scatterplot, and a logarithmic curve was fit to the points. (This creates curves similar to 'a' and 'c' in the figures above.) Second, because a logistic curve clearly did not capture the shape of the data for some countries and regions that had experienced a rapid decrease in the incidence rate, a polynomial curve was also fitted to all data sets. (This creates a curve similar to 'b' in the figures above.) The final curve used for the regional estimates was the curve that had the highest correlation to the data. In some cases, this required fitting a separate curve for different parts of the graph. The table of "Summary Age-Prevalence Estimates" provides the estimated prevalence for each age range for each region.

Reference

Tandon BN, Gandhi BM, Joshi YK. Etiological spectrum of viral hepatitis and prevalence of markers of hepatitis A and B virus infection in north India. Bull World Health Organ 1984; 62: 67-73.