Brazil

Localization: South America
Territory extension: 8,517,876 km²
Total population 2007: 191,791,000
Urban population: 84.2%
Language: portuguese
Brazil: Federation Units

Housing sanitary conditions:
- 89% piped water
- 75% sewerage system

Source: IBGE, Instituto Brasileiro de Geografia e Estatística, 2007
Epidemiology of hepatitis A in Brazil

Seroprevalence data

- Decreasing of HAV prevalence rates in several South American countries: shift from high to medium endemicity
- Brazil: analysis of data on HAV seroprevalence available in scientific databases
Seroprevalence studies of hepatitis A in Brazil

Epidemiology of hepatitis A in Brazil

Seroprevalence data

- Changes in HAV seroprevalence have been observed in population groups with low and middle-high socioeconomic levels living in metropolitan regions.

- Data from two studies carried out in Rio de Janeiro, Southeast of Brazil (serum samples collected 17 and 21 years apart).
Age-specific prevalence of anti-HAV in children and adolescents, Southeast of Brazil, 1978-1995

720 children and adolescents, low socioeconomic status: 1978

98.1%

520 neonates and children, low socioeconomic status: 1995

19.7%

Vitral et al. Mem Inst Oswaldo Cruz, 93: 1-5, 1998
Seroprevalence of hepatitis A in health care students, Southeast of Brazil, 1986 - 2007

Vitral et al. Virus Reviews and Research, 12: 192, 2007
Demographic and serological characteristics of reported outbreaks of HAV in Brazil

<table>
<thead>
<tr>
<th>City/State</th>
<th>Type of institution</th>
<th>Year of outbreak</th>
<th>Age group (years old)</th>
<th>Type of sample</th>
<th>n</th>
<th>anti-HAV IgG (%)</th>
<th>anti-HAV IgM (%)</th>
<th>HAV immune before outbreak (%)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio de Janeiro/RJ</td>
<td>Brazilian oil company</td>
<td>1980</td>
<td>20-30</td>
<td>Employees</td>
<td>73</td>
<td>59 (80.8)</td>
<td>14 (19.2)</td>
<td>45 (61.6)</td>
<td>Sutmoller et al. 1982</td>
</tr>
<tr>
<td>Rio de Janeiro/RJ</td>
<td>Public school</td>
<td>1999</td>
<td>10-18</td>
<td>Students</td>
<td>509</td>
<td>274 (54)</td>
<td>25 (4.9)</td>
<td>249 (48.9)</td>
<td>Villar et al. 2002</td>
</tr>
<tr>
<td>Rio de Janeiro/RJ</td>
<td>Orphanage</td>
<td>1999</td>
<td>0-12</td>
<td>Children b</td>
<td>331</td>
<td>201 (61)</td>
<td>45 (14)</td>
<td>156 (47.1)</td>
<td>de Paula et al. 2002</td>
</tr>
<tr>
<td>Paracambi/RJ</td>
<td>Public school</td>
<td>2000</td>
<td>5-15</td>
<td>Students</td>
<td>299</td>
<td>142 (47.5)</td>
<td>93 (31.1)</td>
<td>49 (16.4)</td>
<td>Villar et al. 2004</td>
</tr>
<tr>
<td>Rio de Janeiro/RJ</td>
<td>Day care center</td>
<td>2004</td>
<td>0-42</td>
<td>Children d</td>
<td>66</td>
<td>54 (81.8)</td>
<td>43 (65.1)</td>
<td>11 (16.7)</td>
<td>Amado et al. 2005</td>
</tr>
<tr>
<td>Altamira/PA</td>
<td>Xicrin village</td>
<td>2004</td>
<td>-</td>
<td>Amerindians</td>
<td>352</td>
<td>345 (98)</td>
<td>107 (38)</td>
<td>238 (67.6)</td>
<td>Nunes et al. 2004</td>
</tr>
</tbody>
</table>

Results of seroepidemiological studies and reported hepatitis A outbreaks indicate a change in the epidemiological pattern of hepatitis A in Brazil. Those same results indicate that the youngest individuals, especially those under 10 years of age, are mostly unprotected from HAV infection, regardless of their socioeconomic status.
Incidence of hepatitis A in Brazil

• Surveillance data on the incidence of hepatitis A in Brazil are lacking

No pre-1994 data available

Underreporting of hepatitis A cases 1994/1999

Several reported cases still classified as “acute hepatitis due to unknown cause”
Reported hepatitis A cases, Brazil, 1994-2005

During 2000-2005, 14,000-21,000 cases of hepatitis A reported annually

Rate of 7.5 to 11 cases/100,000

Source: National Reportable Diseases Surveillance System, Health Ministry
Mortality rates of hepatitis A in Brazil

- Hepatitis A mortality rates over the last 20 years were evaluated in order to generate reliable information on the trends seen in hepatitis A incidence in Brazil.

Fatal cases correspond to individuals that were hospitalized and generally well investigated and properly diagnosed.
Hepatitis A mortality rates per 100,000 population of Brazil and of each region individually, 1980 - 2002

Source: National Reportable Diseases Surveillance System, Health Ministry
A progressive decline in the incidence of fatal cases related to HAV infection in Brazil might be occurring.

Since these cases constitute a small, but predictable portion of all acute hepatitis A cases...

...which are in turn part of the total number of HAV infections...

These data suggest a possible decline in HAV circulation in all Brazilian regions over the last decades.
Controlling of hepatitis A in Brazil

Major aspects to be improved:

- Obtention of more solid data about the epidemiology of the disease in the country: a population-based seroprevalence study coordinated by the Ministry of Health is under course in four Brazilian regions

- Provide better standards of sanitary conditions at the poorest Brazilian regions