

## HEPATITIS A ANTIBODIES IN TWO SOCIOECONOMICALLY DISTINCT POPULATIONS OF SÃO PAULO, BRAZIL

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### S U M M A R Y

To evaluate the prevalence of antibody against hepatitis A in two socioeconomically distinct populations of a developing country, 540 serum specimens from children and adults living in São Paulo, Brazil, were tested for IgG anti-HAV by a commercial radioimmunoassay (Havab, Abbott Laboratories). The prevalence of anti-HAV in low socioeconomic level subjects was 75.0% in children 2-11 years old and 100.0% in adults, whereas in middle socioeconomic level significantly lower prevalences were observed (40.3% in children 2-11 years old and 91.9% in adults). Voluntary blood donors of middle socioeconomic level showed a prevalence of 90.4%. These data suggest that hepatitis A infection remains a highly endemic disease in São Paulo, Brazil.

### I N T R O D U C T I O N

Seroepidemiological studies have demonstrated that the prevalence of antibody to hepatitis A virus (anti-HAV) varies greatly from country to country<sup>7</sup> and correlates strongly with socioeconomic status<sup>6,2</sup>. In industrial countries, hepatitis A infection seems to be disappearing, probably as a result of improved sanitation<sup>5</sup>. On the other hand, in developing countries, hepatitis A remains a highly endemic disease<sup>3,4</sup>. The following study was undertaken to evaluate the prevalence of antibody against hepatitis A in two socioeconomically distinct populations of a developing country.

### M A T E R I A L A N D M E T H O D S

Sampling was made up of 540 sera from São Paulo, Brazil. Of these 285 were from 16 years and older and 255 were from children 2 to 11 years old. Sixty-four of these sera were collected in 1972 from children belonging to a low socioeconomic level, living in a slum area

of the city and 191 were collected in 1981 and 1982, from children with an average socioeconomic level who seek Hospital do Servidor Público Estadual de São Paulo for immunization procedures.

The adult sera were collected in 1981 and 1982 and this sample was represented by 202 cord sera from term neonates of mothers with ages ranging between 16 and 30 years and 83 sera from voluntary blood donors from Hospital do Servidor Público Estadual de São Paulo with ages ranging between 18 and 30 years, belonging to middle socioeconomic level. Among the cord sera group, 103 were from low socioeconomic level mothers (Hospital Maternidade Escola Vila Nova Cachoeirinha) and 99 from middle socioeconomic level (Hospital do Servidor Público Estadual de São Paulo).

The socioeconomic background of the two groups was evaluated through a interview schedule developed by BELIZAN et al., from PAHO<sup>1</sup>, in which the occupation and educational level were determined.

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Chi square test corrected for continuity and Exact Fisher's test were used to determine statistical significance.

Anti-HAV was measured by a commercial radioimmunoassay, Havab (Abbott Laboratories, USA).

## RESULTS AND DISCUSSION

The anti-HAV prevalence in different age groups, according to socioeconomic level, are shown in Fig. 1 and Table I.

T A B L E I  
Prevalence of anti-HAV in São Paulo, Brazil, according to age and socioeconomic level

Age group (years)	Socioeconomic level					
	Middle		Low		Total	
	No. tested	(%) positive	No. tested	(%) positive	No. tested	(%) positive
2 — 11	191	40.3	64	75.0	255	49.0*
16 — 30+	99	91.9	103	100.0	202	93.0**
18 — 30§	83	90.4				

+ Anti-HAV tested in cord serum

§ Voluntary blood donors

\*  $p < 0.001$  ( $\chi^2$  corrected for continuity)

\*\*  $p = 0.003$  (Exact Fisher's test)

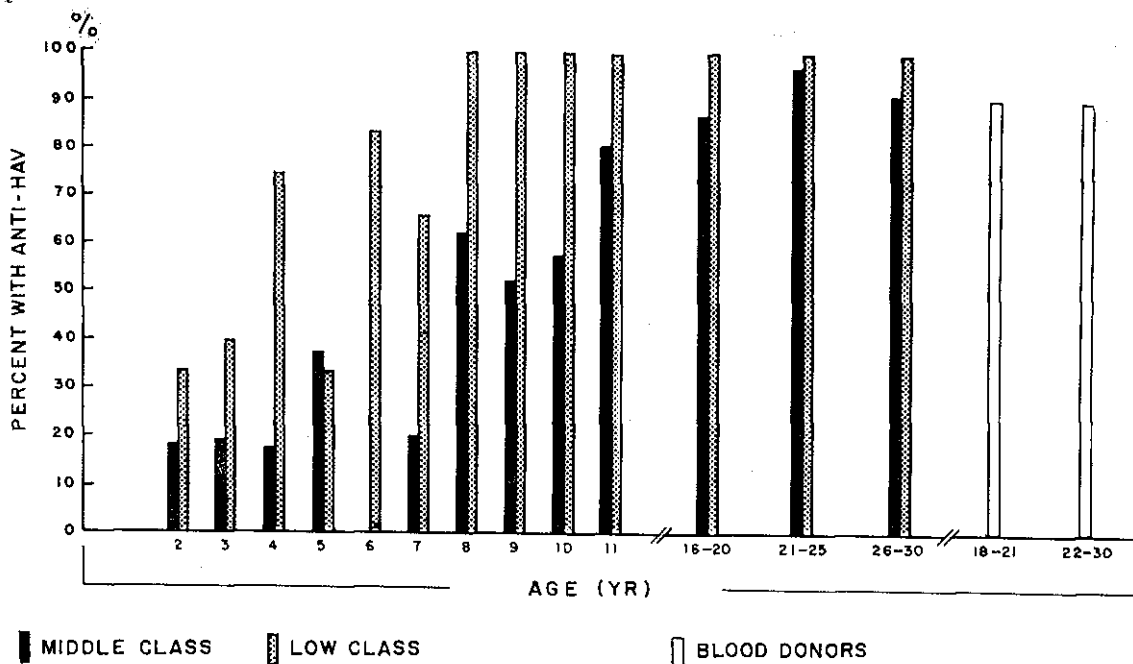


Fig. 1 — Prevalence of anti-HAV in São Paulo, Brazil, according to age and socioeconomic level

Anti-HAV frequencies varied according to the socioeconomic level considered. In the low level, 100.0% of the 8 years and older group were positive whereas in the middle socioeconomic level we found a steady increase in positivity according to age groups, reaching 87.1% in the 16-20 years. In adults, a very high prevalence of anti-HAV was found irrespective of the socioeconomic level. Voluntary blood donors from middle socioeconomic level also showed a high prevalence of anti-HAV (90.4%).

These seroepidemiological findings are closely related to what was observed in clinical

cases of sporadic acute viral hepatitis in São Paulo<sup>2,3</sup>, where hepatitis A responded for the majority of the total cases, and was prevalent mainly among children, with very few cases being diagnosed in the age group of 18 years or older.

## RESUMO

Prevalência de anticorpos para o vírus da hepatite A em duas populações de diferente nível sócio-econômico de São Paulo, Brasil

Para avaliar a prevalência de anticorpos para o vírus da hepatite A em um país em desenvolvimento, os Autores analisaram 540 amostras de soro de crianças e adultos colhidas em São Paulo, pertencente a duas populações distintas sob o ponto de vista socio-econômico. Os anticorpos IgG anti-VHA foram testados através de radioimunoensaio disponível comercialmente (Havab, Laboratorios Abbott).

A prevalência de anticorpos IgG anti-HVA no grupo de baixo nível sócio-econômico foi de 75,0% em crianças de 2-11 anos e 100,0% nos adultos, enquanto que no grupo de nível sócio-econômico médio observaram-se prevalências acentuadamente mais baixas (40,3% nas crianças de 2 a 11 anos e 91,9% nos adultos).

Doadores de sangue voluntários, de nível sócio-econômico médio, apresentaram prevalência de anticorpos de 90,4%.

Estes achados sugerem que a infecção pelo vírus da hepatite A continua sendo uma infecção altamente endêmica em São Paulo, Brasil.

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