

SEROPREVALENCE OF PROTECTIVE ANTIBODIES AGAINST VARICELLA, HEPATITIS-A AND DENGUE AMONG INDIAN CHILDREN, ADOLESCENTS AND ADULTS

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BACKGROUND

- Varicella, Hepatitis-A, and Dengue cause significant disease burden in our country.
- Estimation of age-wise seroprevalence of antibodies against these diseases not only help us in understanding age-specific incidence rates and susceptibility but also help policymakers in deciding the need and timing of vaccination
- None of these vaccines are part of the current National Immunization program in India, yet. However Hepatitis-A and Varicella vaccine are being used in private setups.

MATERIAL AND METHODS

- Cross-sectional, observational study having a study period from July 17 – June 19 (2 years)
- Apparently healthy children (9-12 years), adolescents (15-18 years), and adults (25-30 years) attending OPD of a tertiary care hospital in Northern India were enrolled after taking informed written consent; and a 3-ml venous blood sample was collected.
- Serum was tested for IgG antibodies using specific commercial ELISA kits. Those who received Hepatitis-A or Varicella vaccination in past were excluded from enrollment.

RESULTS

- Out of a total of 240 subjects (M:F = 117:123) enrolled, 75 were children, 75 adolescents, and 90 adults in specified age groups. The mean age of these groups were 11.04, 16.52, and 26.53 years respectively.

(I) Varicella:

Table-1: Varicella IgG antibodies

Age groups	Number of subjects Seroprotective for Varicella : Ratio (%) (IgG antibodies >12 U/ml)
Children (9-12 years)	27/75 (36%)
Adolescents (15-18 years)	56/75 (74.6%)
Adults (25-30 years)	58/90 (64.5%)

RESULTS

(II) Hepatitis-A :

Table-2: Hepatitis-A IgG antibodies

Age groups	Number of subjects Seroprotective for Hepatitis-A : Ratio (%) (IgG antibodies >10 U/ml)
Children (9-12 years)	51/75 (68%)
Adolescents (15-18 years)	64/75 (85.3%)
Adults (25-30 years)	86/90 (95.5%)

(III): Dengue:

Table-4: Dengue IgG antibodies

Age groups	Number of subjects Seroprotective for Varicella N (%) (IgG antibodies >12 U/ml)
Children (9-12 years)	28/75 (37.3%)
Adolescents (15-18 years)	47/75 (62.7%)
Adults (25-30 years)	48/90 (53.3%)

CONCLUSIONS

- Large proportion of children remain susceptible to Varicella and Hepatitis-A infection in India before entering into adolescence and adulthood, which have a potential to cause outbreaks.
- Early childhood vaccination with Varicella and Hepatitis-A vaccines should be a part of the National Immunization Programme in India, as a part of a preventive strategy.
- Our study also showed a large proportion of children, adolescents and adults remain seronegative for Dengue antibodies in various age groups.
- Therefore, if currently available Dengue vaccine (Dengvaxia) has to be introduced into our population it has to be used only after individual screening, as per WHO recommendations.

ACKNOWLEDGEMENT: PGI Intramural Research Grant

