IMMUNE STATUS OF FIRST YEAR MEDICAL UNDERGRADUATES TO HEPATITIS A AND CHICKEN POX - A PRELIMINARY REPORT

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Outbreaks of chicken pox and hepatitis A occur regularly among university students. Previous studies have shown that approximately 40% and 20% of urban and rural youth were sero-positive for Varicella Zoster virus antibody (IgG). In contrast, a nationwide survey in 1976 showed that 88.7% of adults were immune to Hepatitis A by the age of 20 years. Acquired immunity to Hepatitis A and chickenpox lasts for life. Those who are non-immune to chicken pox and Hepatitis A are at risk of infection during adult life.

Health care workers are at occupational risk of chickenpox. Although Hepatitis B vaccination is advocated for medical students, there is no policy with regard to Hepatitis A and chickenpox vaccination of susceptible students. We therefore studied the prevalence of antibodies to Hepatitis A (HAV) and Varicella zoster (VZV) viruses (IgG) among new entrant 1st year medical students for two reasons. Firstly, to investigate immune status of the students to these two viruses. Second, to provide information which would assist in decision making regarding immunization and following exposure to a patient with the disease during the medical course or thereafter.

A cross sectional study was carried out on 174 new entrant 1st year medical students of the 2002 intake to the Faculty of Medicine, University of Peradeniya, Sri Lanka. After obtaining informed consent, the students were given a pre-tested questionnaire and 5ml of venous blood were obtained from each student. IgG antibody to HAV (DRG diagnostics, Germany) and VZV (Human diagnostics, Germany) were detected using commercial ELISA kits.

The mean age of students was 20.5yrs (SD=0.8) with 43% females and 57% males respectively. 76 (44.4 %) students gave a past history of having had chicken pox and three gave a history of jaundice but were not certain of the cause. Of 90 students without a history of chickenpox, 12 (6.9%) were seropositive, indicating previous infection. 78 students (44.8%) were therefore susceptible to chickenpox. 34 of 162 sera tested for hepatitis A antibody were positive. A leaving 73.6% of this group susceptible to Hepatitis A.

Approximately 44.8% of a cohort of medical students are susceptible to chickenpox. The build up of susceptibles in successive cohorts within a closed community would explain the recurrent outbreaks observed by the University Health service. Non immune individuals are at risk of disease of increased severity, complications and chickenpox during an important examination or undergraduate programme. Health care workers who get chickenpox could also be a risk to the patients as this disease is infective for 48 hours prior to the onset of rash. Serious consideration should be given to immunity testing and immunization of susceptible students. The immunity status to Hepatitis A contrasts sharply with the results of the nationwide study in 1976. Improved sanitation leading to reduced exposure is one possible, though unlikely explanation. These results need to be confirmed.