

Cost-Benefit Analysis of General Immunization Against Hepatitis A in Croatia

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Aim. Commercial availability of the "first" and "second" generations of inactivated vaccines against hepatitis A stimulated a cost-benefit analysis of medical and economic aspects of immunization against hepatitis A as a possible general immunization in the Republic of Croatia.

Method. A computerized model of hepatitis A and cost-benefit analysis of the respective immunization were based on the 20-year routine statistics of reported hepatitis cases in Croatia, and a seroepidemiologic study of hepatitis A virus infection in 305 children under 15 years of age from the Ivani}-Grad area.

Results. Between 1970 and 1991, a total of 65,309 cases of hepatitis A, or 7.0 per 10,000, were reported in Croatia. The majority of subjects (57,803; 88.5%) were under 30 years of age. In 1989, the rate of hepatitis A virus infection in children aged 15 in the Ivani}-Grad area amounted to 18.7%.

Almost a half (47.4%) of the children under 2 years of age were actively or passively immunized with the hepatitis A virus. In other age groups there were 8.3% (at the age of 2-3 years) and 29.0% (at the age of 14-15 years) infected children. Cost-benefit ratios of vaccination against hepatitis A, calculated by a computerized model, were between 0.78 and 5.60. Unless immunization is introduced, two epidemic peaks of hepatitis A may be expected in the next 50 years, with 760,790 persons affected (652,920 of them developing the disease during the first 30 years). On the other hand, immunization may prevent at least 610,536 cases of the disease in a 30-year period.

Conclusions. Cost-benefit of a general immunization against hepatitis A with the available vaccine appears to be economically feasible under present conditions. Since school age children are the earliest age group in which infection with hepatitis A develops in a significant number, the age of 5 seems to be the best age to start vaccination. In the first campaign, all children between 5 and 14 years of age (i.e., 5.562,000 persons) should be vaccinated or re-vaccinated.

Key words: cost-benefit analysis; hepatitis A; immunization