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Hepatitis B Immunity Status among Healthcare Sciences Students, 20 Years after the Infantile Vaccination: The Most Appropriate Policy to Confer Full Protection.

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Running title: Hepatitis B infection markers among matriculated students to Mazandaran University of Medical Sciences, who had been vaccinated since birth. year 2019: Implication for the most appropriate preventative method.

Abstract

Background. During recent years, an increasing number of previously vaccinated children against hepatitis B (HBV) may begin activities as healthcare sciences students (HSS), so, at the higher risk of HBV infection. Therefore, documenting their immunity at before training was recommended. To evaluate their immunity status, as well as measuring the presence of immunological memory and protection through administering 1-to-3 additional doses of HBV vaccine among HSS who have been immunized at childhood, this study was conducted.

Subjects and Methods. The vaccination status of the accepted HSS was documented by reviewing their vaccination record card. HBV infection markers at before, and following 1-to3 dose of HBV vaccine were measured using ELISA. Simple descriptive statistical methods were used to analyze collected data.

Results. Totally, 274 HSS, 59.1% female, with mean age 23.8 years were included. Of those, 228 in infancy, and 46 within last 12-years have been immunized. From 228 infantile immunized students,103 with 1-to-3 doses of HBV vaccine were vaccinated. Of 125 non-boosted HSS, 64 preserved their protective antibody titers. The proportion of protected students and their antibody levels were increased significantly and approached to 96.8% following 3-doses of booster injection.

Conclusion. Nearly half of the vaccinated students had lost their protective antibody titers, but, the majority of them preserved their immunological memory, detected through anamnestic response to booster vaccination. To provide appropriate protection, universal vaccination with one-doses of HBV vaccine followed by serological monitoring to identify non-protected students for further management seems reasonable.

Key words. Hepatitis B, Healthcare sciences students, immunization, Long-term protection.

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