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Status of Hepatitis B in Children of Nepal after Introduction of Hepatitis B vaccine in Immunization Program

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Editorial

According to WHO estimate 240 million people globally are chronically infected with hepatitis B (defined as hepatitis B surface antigen positive for at least 6 months) [1]. This magnitude must be viewed from the perspective of availability of an effective vaccine against hepatitis B for all age groups. With the first hepatitis B vaccine approval in the United States in 1981 [2] and introduction of recombinant hepatitis B vaccine in 1986 and availability of hepatitis B vaccine as monovalent formulations or in fixed combination with other vaccines the success in achieving the goals comparable to that achieved by the polio vaccine would not be too far. There cannot be any better evidence than the inclusion of hepatitis B vaccine on the World Health Organizations's list of Essential Medicines [3] to denote its place in the basic health system of any country.

The endemicity of hepatitis B is described by the prevalence of HBsAg in the general population of a defined geographical area, and it varies considerably globally. In the highly endemic areas HBsAg prevalence's are >8% and prevalence's of 2-7% are found in areas of intermediate endemicity. In low endemicity areas <2% of the population is HBsAg-positive [4]. Nepal lies in the low to intermediate endemicity geographical area of chronic HBV infection, with an estimated HBsAg population seroprevalence of 2-4% [5].

Estimates from review of data from published reports between 1965 and 2013 [6] (has shown a decreasing trend in the prevalence estimates (%; 95% CI) of 0.82% (0.80-0.84). This figure is significantly less as compared to the worldwide status of HBsAg seroprevalence of 3.61% (95% CI 3.61-3.61) derived in the same study. This decreasing tendency of HBsAg seroprevalence in Nepalese population has been emphasized in the study by Upreti et al [7]. With the active participation of the National Public Health Laboratory, Department of Health Services, Ministry of Health and Population, Kathmandu, Nepal in the study it is increasingly realized that this downhill trend in the HBsAg seroprevalence persisted in the laboratory's subsequent post-study ongoing test results. Introduction of the hepatitis B vaccine initially as a single antigen in 2002 for infants

and later as a combination tetravalent vaccine and then as a pentavalent DTP-HepB-Hib combination vaccine as intervention for protection against hepatitis B has been efficacious. By demonstrating a significant decrease in anti-HBc from 5% in the pre-vaccination cohort to 0.6% in the post-vaccination cohort the study has reiterated the recommendations by the WHO Strategic Advisory Group of Experts on Immunization [8] to continue including the hepatitis B vaccine in the routine immunization program. Moreover, the presences of pockets of high seroprevalence areas in the certain geographical locations of the country produce an attenuating effect on the impact of hepatitis B vaccine intervention. Besides, the initial lower but progressively increasing vaccine coverage for hepatitis B in the country needs to be taken into account while interpreting the data of the post-vaccination cohort in the above study. So from the data extrapolation of the trend observed in the study the beneficial effects of the hepatitis B immunization may be expected to continue and be further enhanced in the next decades.

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