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Hepatitis B antibody formation in Korean later preterm infants

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Introduction & Aim: Late preterm infants are defined as those born at 34-0/7 to 36-6/7 week's gestational age. There is accumulation evidence of higher risks for health complications in these infants including serious morbidity and three fold higher mortality rate compared with term infants due to immaturity. Main causes of morbidity in newborn period are hyperbilirubinemia, poor feeding and infection. Hapatitis B vaccine induces high rate of immunization in infants but there are no study in late preterm infants. Therefore we conducted this study to evaluate the status of antibody formation for Hapatitis B in Korean late preterm infants.

Methods: Late preterm infants admitted to Kyungpook National University Children's Hospital were included. They were immunized with 0, 1 and 6 mo schedule with Hepatis B vaccine (Euvax B inj, LG Life Sciences, Korea). Blood were obtained at 9 corrected months to evaluate antibody titer for hepatitis B. Infant of HBs antigen positive mother was excluded.

Results: Total of 178 infants (85 male and 93 female) were evaluated. Their birth weight was 2181.7+367.2 g. At 9 corrected months, all of them cached their weight, height and head circumferences (>10 percentile). 25 infant (14.0%) showed low anti-HBs antibody titer (<10 IU/L). In infant who had <10 IU/L anti-HBs antibody titer, mean was 698.2+237.1. Infants with low titer showed more antibiotics usage and maternal chorioamnionitis (P<0.05), lower 25-hydroxyvitamin D level at birth (P<0.01), higher ferritin level at birth and 9 corrected month (P<0.05).

Conclusion: Late preterm infant showed poor immune response to regular hepatitis B immunization schedule, especially in the infants with maternal chorioamnionitis, antibiotics used low vitamin D and ferritin level.

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Predictors of incompletion of immunization among the children residing in the slums of Kathmandu Valley, Nepal

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Background: Around two-thirds of early child deaths are attributed to vaccine preventable diseases. In Nepal, infants are immunized with standard WHO recommended vaccines. However, 16.4% of children had not received complete immunization by 12 months of age. Studies have revealed that partial immunization is even higher in slums.

Aim: The objective of this study was to identify the predictors of incompletion of immunization among children aged 12-23 months in slums of capital city of Nepal.

Methods: Unmatched case control study was conducted in randomly selected 22 slums of Kathmandu Valley. Sampling frame was first identified by screening from which 59 incompletely immunized children as cases and 177 completely immunized children as controls were chosen randomly in 1:3 ratio. Data were collected with primary care-taker of the child using standard screening questionnaire and pre-tested structured questionnaire. Backward logistic regression with adjusted odds ratio (AOR) and 95% confidence interval was performed to identify the independent predictors.

Result: 26% of the children were found incompletely vaccinated during screening survey. The independent predictors of incomplete immunization were teenage primary care-taker, those living on rent, primary care-taker with poor knowledge on benefit and schedule of vaccination and negative perception towards vaccinating sick child, delayed vaccine schedule and lost immunization card. Birth in health institution was found to be the factor that leads to complete vaccination.

Conclusion: Incompletion of immunization should be addressed by increasing awareness about immunization and retention of card through educational and communication channels focusing especially among teenage care-takers and those living on rent.

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