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DELHI

# 'Hep B vaccination at birth may not be necessary'

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## ICMR-funded study lends support to govt's approach to vaccinate babies born at home starting at 6 weeks

A multi-centre study in north India has shown that many newborns are protected at birth by natural antibodies to Hepatitis B and that the vaccination is not necessary at birth.

The study, funded by the Indian Council of Medical Research (ICMR), lends support to the government's approach to vaccinate babies born at home starting at six weeks instead of at birth.

### Naturally immune

The study, whose findings have been published in the Indian Journal of Paediatrics, was done to look at whether Hepatitis B vaccination at birth was crucial for India.

"We found birth dose was not needed as infection rates were the same," said Jacob Puliyeel, the study's primary author and a paediatrician at St. Stephen's Hospital in Delhi.

Hepatitis B virus (HBV) can cause chronic hepatitis, liver cirrhosis and lead to hepatocellular carcinoma (HCC) in susceptible persons. Most babies are

naturally immune to Hepatitis B infection due to passive transfer of antibodies from the mother.

India started vaccinating children against Hepatitis-B in 2011.

It is given at birth to babies born in hospitals. However, since many babies are delivered at home, the government introduced the programme schedule of HBV vaccination, wherein the vaccine is given starting at six weeks to children born outside such healthcare settings.

The ICMR had launched this study to look at Hepatitis B infection rates in children vaccinated at birth compared to those vaccinated starting at six weeks.

The study involved 2,671 children from participating centres in Delhi, Rajasthan, Uttar Pradesh, Uttarakhand, and Gujarat. Of these, 880 were fully immunised starting at birth and 686 were fully immunised but without the birth dose.

The study found that infection rate was similar even in those babies not given the birth dose, thereby supporting the government's programme.

The researchers also found high protective antibodies in children before vaccination, indicating that missing the birth dose does not cause much problem.

"These natural antibodies may also be the reason why HCC rate in India is very low," said Dr. Puliyeel who is also a member of the government's technical advisory board on immunisation.

### **Antibodies in children**

The conclusion of the study in north India supports another large ICMR study conducted in Andhra Pradesh in 2014, which also reported the presence of Hepatitis-B antibodies in children before vaccination.

The fact that a good number of unvaccinated babies had high levels of antibody suggest it could be protecting some babies early in life, at a time when they are vulnerable to develop chronic hepatitis.

"However mothers in highly immunised communities have lower Hepatitis B antibody levels as the vaccine induces lower antibody levels than natural infection and the antibody levels of vaccinated cohorts are no longer boosted by exposure to wild-type infection. Babies born to these mothers will correspondingly have lower levels of antibodies," added Dr. Puliyeel.

"Therefore, paradoxically, nationwide Hepatitis B vaccination may reduce natural antibody transfer to newborns and there is a possibility it may increase incidence of HCC instead of reducing it," he said. However, he cautioned that more studies are needed to confirm this before changes in immunisation practice can be recommended.