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## **EFFECT OF POSITIONING ON THE PAIN RESPONSE OF INFANTS VACCINATED WITH IPV AND PENTAVALENT (dtpw-HEPATITIS B- HEMOPHILUS INFLUENZA B) VACCINES**

Sontosh Reddy

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## **TITLE**

EFFECT OF POSITIONING ON THE PAIN RESPONSE OF INFANTS VACCINATED WITH IPV AND PENTAVALENT (dtpw-HEPATITIS B-HEMOPHILUS INFLUENZA B) VACCINES

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## **ABSTRACT**

### **Background:**

Parental distress associated with painful vaccine administration is one of the key reasons behind vaccine hesitancy. Several procedural interventions have been reported to reduce pain during vaccine administration. As per the position paper issued by World Health Organization, it has been recommended that children <3 years should be held by caregiver during vaccination to reduce pain. However in this position, parents are responsible for restraint and it is possible that secure restraint may not occur during administration of 2 injections. The objective of this study was to compare acute pain response in infants during the sequential administration of Inactivated Polio Vaccine followed by Pentavalent vaccine (DTwP-Hepatitis B-Hemophilus Influenza B) in two different positions: being held on lap by the parent (cuddle position) versus conventional supine position in bed (bed position).

### **Findings:**

This cross-sectional analytical study was conducted in an Indian public hospital between February 2019 and April 2019. 34 infants, aged 0-6 months were included in each of the two groups of vaccination positions based on parental choice. Pain was scored using the neonatal infant pain scale (NIPS). There were no differences between the pain scores of the groups 'cuddle position' vs. 'bed position': baseline, pre-vaccination, Median (IQR), {0 (0-1) vs. 0 (0-2); P=.609} and post-vaccination, Median (IQR), {7 (7-7) vs. 7 (7-7); P=.438}. There was also no statistically significant difference in the increase in post- vaccination pain scores from the baseline pre-vaccination scores for the groups {Increase in score from baseline, Median (IQR), 6 (5-7) vs. 6.5 (2-7); P=.34}. The pain scores of infants were not affected by the 2 different positions during vaccination.

### **Conclusions:**

Our findings suggest that the parent held 'cuddle position' did not benefit the infants in terms of reducing pain response to vaccine injections (sequential administration of Inactivated Polio Vaccine followed by Pentavalent vaccine) as compared to the supine position in bed (bed position). Besides, it is possible that better restraint could be ensured in 'bed position' as the vaccinating team is responsible for restraint unlike in cuddle position where parent is restraining the infant.

**Key words:** pain, Inactivated Polio Vaccine, Pentavalent vaccine, position