
Letters to the Editor

Immunization Status of Severely Malnourished Children in Two ICDS Projects of Rajasthan State -A Pilot Study

Severely malnourished (SMN) subjects i.e., grades III and IV, constitute a vulnerable group in any community as they contribute to majority of morbidity and mortality amongst the under five children. Immunization of this target group therefore becomes a priority in order to prevent morbidity and reduce mortality. Inadequate information is available specifically on the receipt of immunization services by the SMN children. This study was therefore conducted with the objective to assess the status of receipt of immunization services by SMN children in two ICDS projects of Rajasthan.

The study was conducted in district Alwar and Bharatpur, Rajasthan. In each district one project was selected and subsequently 25 anganwadi centers (AWCs) in each district were selected for the detailed study using purposive sampling. A total of 1588 children in less than 6 years age group were registered in the 50 AWCs. Nutritional status of all these children was assessed, by utilizing weight for age criteria. Fourty three SMN children were present in the age group of 12-23 months. Immunization status of these SMN children was assessed by interviewing the parents. This data was further verified by the records available with Multipurpose Worker at the health subcenter, AWC and by the immunization cards available with the family.

Results showed that 81.4%, 43%, 43% and 47.6% SMN children had received BCG, DPT (3 doses), OPV (3 doses) and measles vaccine, respectively. Out of 43 severely malnourished children, only 32.5% had basic (BCG+DPTIII+PolioIII) vaccination and only 18.6% had complete immunization (Basic + Measles) as per the vaccination schedule recommended by the Government of India(1).

A study conducted in Rajasthan state in 1992 revealed that the percentage of children immunized were: BCG - 45.7%, OPV - 32.8%, DPT - 29.7% and measles - 31.2%(2). The Government of India for the year 1996 has reported that the immunization coverage of all children for BCG, OPV, DPT and measles was 83.7%, 76.8%, 76.4% and 67.8%, respectively(3). In the present study, the immunization coverage of SMN children was found to be low for all preventable diseases as compared to the Government of India data and higher than the coverage reported for Rajasthan state in 1992.

The low coverage of SMN children could be because the SMN children may not be taken to AWC and possibly belonged to families who were less aware and less motivated. The socio-economic and cultural reasons could have also played some role.

The findings of the present pilot study indicate that there is a need of targeted efforts to deliver immunization services to SMN children to reduce early childhood mortality and morbidity. A detailed study with a larger sample size is however required to further confirm our findings.

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Phototherapy Induced Hypocalcemia

Phototherapy is one of the routine method for management of hyperbilirubinemia the world over. However, it has some side effects including possible hypocalcemia. There are only a few studies on hypocalcemic effect of phototherapy with controversial results(1-3). We, therefore, evaluated the effect of phototherapy on serum calcium.

Twenty preterm and twenty term babies with jaundice having 50-75% of the total serum bilirubin levels recommended for exchange transfusion were included in the study to find the incidence of hypocalcemia in preterm and term babies receiving phototherapy. Ten preterm and ten term babies matched for age, sex and type of feeding with bilirubin levels not high enough to warrant the start of phototherapy were taken as controls. It was planned that whenever bilirubin of controls would reach 75% of exchange levels they would be changed over to other group or

deleted. All those babies who were at known risk of developing hypocalcemia (IUGR, infants of diabetic mothers, prolonged and difficult labor, respiratory distress, sodium bicarbonate therapy and septicemia) were excluded. The study group received continuous phototherapy for 24 hours with a spectral irradiance of $4 \text{ \mu W/sq cm}^2/\text{nm}$ at 450 nm keeping a distance of 45 cm.

The controls were not given phototherapy. Serum calcium levels were estimated in both the groups at 0 hours and at 48 hours of the study by O-cresolphthalein complexon (OCPC) method.

The mean gestational age, birth weight and postnatal age in preterm babies in study group was 34.30 ± 1.16 weeks, 2.15 ± 0.15 kg and 4.00 ± 1.38 days, respectively as compared to 35.00 ± 0.67 weeks, ± 0.09 kg, and 3.50 ± 0.53 days in the controls. In the term babies in the study group, mean gestational age, birth weight and postnatal age were 37.55 ± 0.69 weeks, 2.80 ± 0.22 kg and 5.40 ± 2.06 days as compared to 37.60 ± 0.84 weeks, 2.81 ± 0.18 kg