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A Study of Role of Zinc in the Treatment of Low Birth Weight Neonates

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Abstract

Background: Low Birth Weight (LBW) is one of the main causes of neonatal mortality and morbidity in developing countries. There is evidence of the positive effect of zinc supplementation on growth in children with low birth weight. Aim: we in this study tried to measure the effect of zinc supplementation on LBW neonates during the first month of life and to observe the growth pattern of supplemented (Zn) with the non-supplemented group. **Materials and Methods:** It is a randomized, double-blind placebo-controlled (RCT) study of the effect of zinc on weight gain in low birth weight neonates. The study was carried on LBW neonates who were admitted to NICU, Prathima Institute of Medical Sciences, Karimnagar. BW babies' 1501-2499 gms with a gestation period between 30 – 42 weeks were selected. **Results:** In our study, 52% were male and 48% were female. And 56% were pre-terms and 44% were term IUGR babies. The mean (±SD) birth weight was 1850.4± 302.59 gm, 1813± 271.25gm for zinc and placebo groups respectively. Weight gain was more in the zinc group than the placebo group when observed after 7 days of birth. Highly significant weight gain was noted after 21 days (2236.4 ± 407.25 gms) in zinc group than the placebo group (2089 ± 394.57gm) and by 28 days it was 2595 ± 503.32 gms in zinc group and in the placebo group it was 2322.4 ± 472.12 gm. It was found that the increment of effectiveness in the Zinc group was higher than that of the placebo group. Problems like infection, jaundice were less in the zinc group compared to the placebo group. **Conclusions:** One of the important causes of neonatal mortality in our country is LBW. Zinc supplementation in low birth weight babies produced greater weight and length gain and fewer problems like sepsis, duration of hospital stay, and jaundice, when compared to non-zinc, supplemented group. Therefore, we conclude that zinc supplementation in LBW neonates is found to be beneficial and is a cost-effective measure to enhance growth.