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Oral Presentation - 02

Iodine nutritional status among newborns; a preliminary study in Galle District

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Introduction

Iodine deficiency (ID) during pregnancy and infancy impairs growth and cognitive development of the offspring. Urine Iodine (UI) estimation has been the gold standard employed for the assessment of iodine nutrition. Recent studies in Sri Lanka revealed that more than two third of pregnant women in their third trimester were having UI levels below the WHO recommendation (150 µg/L).

Methods

320 neonates from Galle were enrolled. Their UI level was assessed using a fresh urine sample by ammonium persulfate method recommended by WHO, within a week after the delivery. The blood spot neonatal thyroid stimulating hormone (nTSH) levels were also assessed using DELFIA neonatal TSH kits.

Results

The median (IQR) UI level of the study sample was 105.20 (81.25; 142.00) µg/L and only 35 babies (10.9%) had insufficient (<100 µg/L) urine iodine levels. The median (IQR) nTSH level was 3.55 (2.50; 6.50) mIU/L and 37.7% of neonates had nTSH>5.0 mIU/L. The neonatal UI had a positive correlation with nTSH ($r^2=0.03$; $p=0.6$). A regression model was fitted with neonatal UI as the dependent variable and nTSH as the independent variable and it was revealed that the initiation of decline in neonatal UI in this study sample was seen at nTSH level of 5.03mIU/mL.

Conclusions

Prevalence of iodine deficiency among newborn babies in this study sample is relatively low based on UI status. nTSH values for these newborns were mostly within acceptable limits. Ongoing surveillance of the iodine status of regional community to establish trends over time is recommended.