

Neonatal thyroid screening in a mild iodine deficiency endemic area in Iran

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Abstract

Background: Evaluated serum thyroid-stimulating hormone (TSH), as an early index for diagnosis of neonatal hypothyroidism, indicates insufficient supply of thyroid hormones. **Objective:** The aim of the study was to estimate the incidence of neonatal hypothyroidism and assessment of iodine deficiency in the eastern part of Iran. **Settings and Design:** A cross-sectional study was conducted in a pilot screening. **Materials and Methods:** The measurement of blood TSH spotted on filter paper was performed by ELISA method in 9436 neonates. TSH value equal to 0 mU/L was considered cut off point. The diagnosis of hypothyroidism in neonates with the blood TSH higher than the cut off point was based on clinical examinations and laboratory tests (serum TSH and T₄). **Statistical Analysis:** The groups were compared using chi-square and ANOVA tests. **Results:** In our study, the recall rate and incidence of hypothyroidism were 7.6% and 2 per 1000 neonates respectively. Based on the proposal made by WHO/UNICEF/ICCIDD, the results of our study showed a mild iodine deficiency in the area. **Conclusions:** A comprehensive policy should be developed for control of iodine deficiency and treatment of hypothyroidism in the studied population and neighboring countries.

Author keywords

Filter paper; Neonatal hypothyroidism; Thyroid-stimulating hormone

Indexed Keywords

EMTREE drug terms: thyrotropin; thyroxine

EMTREE medical terms: analysis of variance; article; chi square test; clinical examination; congenital hypothyroidism; disease severity; enzyme linked immunosorbent assay; human; incidence; iodine deficiency; Iran; laboratory test; major clinical study; newborn; newborn screening; thyroid gland; thyrotropin blood level; thyroxine blood level

MeSH: Congenital Hypothyroidism; Humans; Hypothyroidism; Incidence; Infant, Newborn; Iodine; Iran; Neonatal Screening; Thyrotropin

Medline is the source for the MeSH terms of this document.

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