Maternal Iodine Supplementation:
Clinical Trials and Assessment of Outcomes
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PRESENTATION ABSTRACT

Randomized Controlled Trials of Iodine Supplementation in Pregnant Women in Thailand and India and Lactating Women in Morocco

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Abstract

Iodine supplementation of mildly iodine deficient pregnant women is often recommended worldwide; however, long-term benefit and safety of iodine supplementation in this group is uncertain. The objective of two recent randomized controlled trials (RCTs) in mildly iodine deficient women in India and Thailand was to investigate the effects of iodine supplementation on maternal thyroid function, pregnancy and birth outcomes, and newborn development. Healthy pregnant women aged 18 to 40 years with a gestational age <12 weeks were recruited and received either 200 µg KI/day or placebo until delivery. Preliminary data will be presented at the conference. During lactation, recommendations state that oral iodized oil should be given to breastfeeding mothers to correct iodine deficiency in infancy when iodized salt is not available and that direct supplementation should be given to infants who are not being breastfed or receiving iodine-fortified complimentary foods. However, there is little evidence for these recommendations. We assessed the safety and efficacy of direct versus indirect supplementation of the infant in a double-blind, randomized, placebo-controlled trial in Morocco. Healthy breastfeeding mothers and their term newborn babies (aged ≤8 weeks) were block randomized to receive either one dose of 400 mg iodine to the mother and placebo to the infant (indirect infant supplementation) or one dose of about 100 mg iodine to the infant and placebo to the mother (direct infant supplementation). The results show that in regions of moderate-to-severe iodine deficiency without effective salt iodization, lactating women who receive one dose of 400 mg iodine as oral iodized oil soon after delivery can provide adequate iodine to their infants through breast milk for at least 6 months, enabling the infants to achieve euthyroidism. Direct supplementation is less effective in improving infant iodine status.

References

1. Zimmermann MB. Nutrition: Are mild maternal iodine deficiency and child IQ linked? *Nat Rev Endocrinol*. 2013;9(9):505-6.
2. Bouhouch RR, Bouhouch S, Cherkaoui M, Aboussad A, Stinca S, Haldimann M, Andersson M, Zimmermann MB. Direct iodine supplementation of infants versus supplementation of their breastfeeding mothers: a double-blind, randomised, placebo-controlled trial. *Lancet Diabetes Endocrinol*. 2014;2(3):197-209.