

Urinary iodine concentration in preeclamptic pregnant women – results of meta-analysis

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Background: Recommendations by the International Council for the Control of Iodine Deficiency Disorders and World Health Organization (WHO) set the minimal urinary iodine concentration (UIC) on the level 10 µg/dL, which corresponds to the recommended consumption of iodine in the amount of 150 µg/day. The WHO recommends a dietary containing at least 250 µg/day of iodine for pregnant women. Pregnancy increases iodine deficiency due to increased renal iodine clearance and additional fetal requirements. Since more than 90% of iodine is excreted in urine, spot urine iodine concentration has been recommended as a good measure of iodine intake. The purpose of the present study was to compare urine iodine concentrations in women with severe preeclampsia vs pregnant women (control group). **Methods:** We used PubMed/MEDLINE and EMBASE from 2010 to March 2018. We searched articles by using "iodine", "urine iodine levels", "preeclampsia" and "pregnancy". Effects were summarized using standardized mean differences (SMD). The analysis included studies that evaluated the level of urine iodine in preeclamptic pregnant patients. This case-control study involved 240 participants with preeclampsia. The controls were 218 pregnant women without preeclampsia. All the works qualified for the meta-analysis were assessed qualitatively. Fixed-effects model meta-analyses were performed using MedCalc software version 13.7. **Results:** We found an association between urine iodine levels in pregnant women and the occurrence of preeclamptic. Iodine levels were significantly lower in preeclamptic pregnant patients than those in controls group (SMD -7.625 µg/dL, 95% CI -8.475 to -6.776; p <0.001). **Conclusions:** The results suggest that iodine deficiency is a risk factor for preeclampsia. Measurement of urinary iodine concentration can be an important element of prevention of preeclampsia and iodine supplementation may be effective therapy in preeclamptic in pregnant patients