

# Iodine deficiency in pregnant women impairs embryonic brain development

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Pregnant women in Austria commonly suffer from an iodine deficiency. This may have a negative impact on the development of their unborn child's brain. These are the key findings of a joint study by the Endocrinology and Metabolism Unit at the University Department of Internal Medicine III together with the University Department of Gynaecology at the MedUni Vienna and AGES, which have now been published in the *European Journal of Clinical Nutrition*.

This lack of iodine can also occur in Austrian women after they have started taking the iodine preparations prescribed by their doctors during [pregnancy](#). "This leads to the conclusion that women need to take higher quantities of iodine if they are planning to become pregnant," say the study authors Heidelinde Lindorfer and Alois Gessl from the University Department of Internal Medicine III at the MedUni Vienna. "Once they are pregnant, it is too late. By this point, iodine stores are clearly so empty that they cannot be adequately topped up during pregnancy due to the approximately 50 per cent higher demand for iodine."

This invites the conclusion that an iodine deficiency was already present. Generally speaking, say the scientists at the MedUni Vienna, the Austrian population is already susceptible to a certain deficiency of this important trace element. According to regulations, Austria has one of the lowest levels of salt iodination in the world at just 15 to no more than 20 milligrams per kilogram of salt; over the years, this figure has actually fallen in Austria. By contrast, the World Health Organisation (WHO) recommends 20 - 40 milligrams per kilogram of salt.

## **Migrants have higher iodine levels**

Urine measurements using mass spectrometry revealed higher concentrations of iodine in women with a migration background - regardless of the week of pregnancy and the presence of gestational diabetes.

"According to the WHO, every pregnant woman should take around 250 micrograms of iodine a day, and this should be continued until she stops breast feeding," say the study authors. Iodine, which is primarily consumed via table salt, tends to be viewed negatively in some cases by the general population. Doctors also recommend reducing salt intake generally. "Before, during and after pregnancy, however, iodine is extremely important for embryonic brain development. Even a mild iodine deficiency can impair the child's intellectual development; recent studies in the UK and Australia have shown that IQs are in fact reduced by a few points."

The most extreme form of [iodine deficiency](#) presents itself in the form of a condition known as cretinism, which includes metabolic changes, deformities of the skeleton and underactivity of the thyroid gland. This condition has been eradicated in Austria, however.

## **Pregnant women in Austria are prevention sceptics**

The overall interest in trace elements and vitamins during pregnancy needs to be improved among mothers to be (and their attending doctors), as the current study also shows: out of the 246 women interviewed in the diabetic outpatient clinic at the University Department of Internal Medicine III and the antenatal clinic at the MedUni Vienna's University Department of Gynaecology, a third stated that they did not take any vitamins or supportive preparations such as folic acid, and of the remaining two-thirds, only fifty per cent took a preparation containing

iodine. Say Lindorfer and Gessl: "Most [women](#) are not adequately aware of the importance of [iodine](#) during pregnancy. But the health authorities need to play their part in this too."

**More information:** "Iodine deficiency in pregnant women in Austria." H. Lindorfer, M. Krebs, A. Kautzky-Willer, D. Bancher-Todesca, M. Sager, A. Gessl. *European Journal of Clinical Nutrition*, 10 December 2014, [DOI: 10.1038/ejcn.2014.253](https://doi.org/10.1038/ejcn.2014.253)

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