

## Policy Extract

### [Proper Maternal Nutrition during Pregnancy planning and Pregnancy: A Healthy Start in Life Recommendations for health care professionals – the experience from Latvia](#)

#### **Effect of maternal diet before and after pregnancy on the life-long health of the child**

Fetal development depends on a proper supply of nutrients, including micronutrients in the mother's bloodstream. Maternal nutrition has a direct impact on their child's health during adulthood, which may be a major factor in the global epidemics of obesity and NCDs. Furthermore, there are direct relations between low birth weight and susceptibility to a number of diseases in later life, including insulin-related metabolic disorders, type II diabetes, central adiposity, abnormal lipid metabolism, obesity, arterial hypertension, cardiovascular diseases, fatal ischaemic diseases and renal disorders.

Obesity before and after conception increases the risks for a range of complications in pregnancy. Being overweight or obese before conception increases the risks for arterial hypertension and gestational diabetes mellitus during pregnancy, with corresponding negative consequences for health, and is a direct cause of macrosomia, which may alter the child's glucose and lipid metabolism and trigger hypertension.

#### **Maternal obesity with deficiency of multiple micronutrients**

Obese expectant mothers may be deficient in nutrients, as their diets tend to be unbalanced, with a low micronutrient content. This may have long-term effects on the health of the mother and trigger a risk for NCDs in the child. Excess maternal body weight during pregnancy and lactation requires an intake of more micronutrients to counteract the changes, including inflammation and oxidative stress, caused by obesity.

#### **Summary of recommendations**

- The BMI should be normal before conception
- During pregnancy, the energy requirements increase by as little as 10-15%, but the increased requirement for micronutrients is much higher. The diet should be comprehensive and balanced, with healthy foods.
- Meals should be distributed regularly throughout the day, although the number of meals may vary according to needs.
- The amount of protein should be slightly increased.
- The daily calcium intake should be 1000 mg, preferably with food.
- Minerals and vitamins should be sufficient in a comprehensive diet.
- Vegetables, fruit, wholegrain products, dairy products with low fat, lean meat and oily fish should be part of the regular diet. The diet should contain many products of plant origin and moderate quantities of products of animal origin.
- Water intake should be sufficient.
- Foods containing large amounts of saturated fats and high-calorie sweets and snacks should be eaten only infrequently and in limited quantities.
- Iodized salt should be preferred, but consumption should not exceed 5 g/day.

- The following supplements should be considered:
  - Iodine formulations at 150 µg/day, starting from pregnancy planning and continuing throughout pregnancy and lactation;
  - Folic acid at 400 µg until the end of the twelfth week of pregnancy;
  - Vitamin D at 20 µg/day during winter;
  - Iron-containing supplements only if indicated; and
  - Ω-3 fatty acids if the expectant mother does not eat fish.
- Alcohol, drugs, psychotropic substances, tobacco and electronic cigarettes should be avoided during pregnancy planning and throughout gestation and breastfeeding.
- Care should be taken to exclude toxins that may enter the body from food processing technology, water or the environment.
- Regular moderate physical activity is advised.