

Most expectant mothers miss out on vitamins important for their health and their baby's, study finds

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Our bodies require many important vitamins and minerals in order to function well. [B vitamins](#), for example, are particularly important for many of our everyday functions—including energy levels, cell health and

nerve function.

These vitamins become even more important when a mother is pregnant, as low levels of some vitamins (such as [folic acid](#), also known as vitamin B9) are associated with [poor health outcomes](#) during pregnancy and for the infant after birth.

Since our body only makes many of these micronutrients in small amounts (if at all), we get the bulk of them from our diet. But [our recent study](#) showed that the majority of expectant mothers are missing out on many important vitamins—which could potentially have an affect on, not only their health, but their infant's too.

We conducted a large study of over 1,700 [women](#) aged 18–38 in the UK, Singapore and New Zealand. We studied their health before, during and after pregnancy.

Before pregnancy, we found that nine in ten of the women had low blood levels of many important vitamins, including folic acid, riboflavin, vitamin B12 and vitamin D. [These vitamins are needed](#) to support the mother's health during pregnancy, and are important for the unborn baby's development.

For the next part of the study, we randomly placed participants into two different groups. One group received a standard pregnancy vitamin supplement, which contained folic acid. The other group received an "enhanced" supplement, which contained folic acid, as well as riboflavin, vitamins B6, B12 and D. The amount of vitamins in the enhanced supplement was similar to what you can buy from pharmacies and supermarkets without a prescription.

Both groups took these supplements daily starting from when they were trying to get pregnant and throughout their pregnancy. They stopped

taking them after delivering the baby.

We found that the enhanced supplement helped improve blood vitamin levels and reduced the prevalence of vitamin deficiency during pregnancy—especially when it came to riboflavin, vitamin B6 and vitamin D. The standard supplement increased levels of folic acid, but levels of other vitamins worsened during pregnancy. This was probably because of the increased needs during this time.

Riboflavin is important during pregnancy as low levels can mean a higher chance of having a [low blood count and anemia](#).

For vitamin B6, the group taking the standard supplement had lower levels in the later part of pregnancy, meaning they might not have enough of this vitamin. Previous research has suggested vitamin B6 may [provide some relief](#) from pregnancy-related nausea and vomiting.

In both groups we saw a drop in homocysteine levels, with this being particularly marked in those taking the enhanced supplement. A lower homocysteine level is actually a good thing as it indicates a lower likelihood of vitamin deficiency. [High homocysteine levels](#) are linked with early pregnancy loss and a range of pregnancy complications, including preeclampsia.

The benefits of the enhanced supplement on the participants' vitamin B12 levels lasted six months after having a baby. This is probably important for the mother's ability to supply her baby with vitamin B12 if she breastfeeds. B12 helps children's [brain development and growth](#).

Important micronutrients

Though our study included women from three different countries and various ethnic backgrounds, few black and American Indian women

were included in the research. This means the results might not represent the experiences of women from these specific ethnic groups. It will be important for future studies to investigate vitamin levels in these groups.

The precise benefits of the improved vitamin levels will also need to be investigated further in future studies. But, we might speculate that the supplements will have additional benefits, based on what previous studies have shown.

For example, our [previous research](#) has shown that women taking the same enhanced supplement had lower rates of pre-term delivery, and also a lower risk of major hemorrhage after delivery of the baby.

It's also well-known that [folic acid](#) is important during pregnancy, as it can help prevent major defects to the developing baby's brain and spine. Taking a folic acid supplement before conception and in the first part of pregnancy is routinely recommended.

But many pregnancies are unplanned and a significant number of women do not take folic acid supplements in early pregnancy. This is why around 80 countries have introduced mandatory fortification of staple foods. But many experts feel that the level of fortification in foods [may not be enough](#) for [pregnant women](#), which is why a [supplement](#) will still be important.

Taking vitamin D supplements before and during [pregnancy](#) may also have benefits, including reducing the chances of [infantile atopic eczema](#) (a condition which causes patches of itchy, cracked and sore skin) and [improving bone health](#) in children.

Overall, our study showed that most women living in high-income countries don't get enough essential vitamins in their diet—even before they get pregnant. Several of these vitamins are [crucial for the infant's](#)

[development](#) in the womb.

Although some of these vitamins can be found in meat and dairy products, it's clear that the majority of women still aren't getting enough of them regardless of what sort of diet they follow. As more people choose to eat more plant-based foods, better advice about [vitamin](#)-rich foods will be needed. Many women may probably need to start taking supplements to ensure they get the vitamins they and their baby need.

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