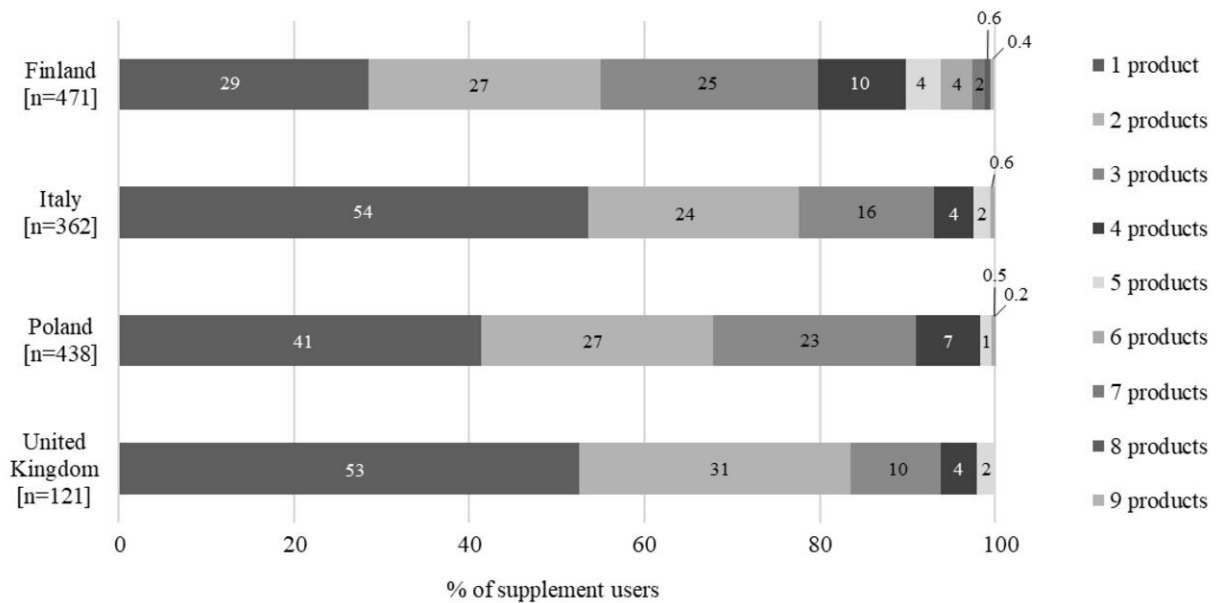


Food supplement use during pregnancy differs from recommendations

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Proportion of supplement users using one or more food supplement products. Credit: *Nutrients* (2022). DOI: 10.3390/nu14142909

Although a majority of pregnant women believed that they were aware of the recommendations on food supplement use, the recommendations were not always adhered to in practice, shows a study conducted at the University of Turku, Finland. The comparison of four countries shows that the use of food supplements was most common in Finland and least common in Italy.

A questionnaire survey conducted in [international collaboration](#) between the four countries of Finland, Italy, Great Britain, and Poland assessed food [supplement](#) use among pregnant women, women's attitudes towards [food supplements](#), and their understanding of food supplement needs and possible health impacts during [pregnancy](#).

Of the women who participated in the study, 91% used food supplements, and the number of simultaneously used products varied between one and nine.

"Particularly in Finland, it was common to use more than one product simultaneously—as many as a fifth of the supplement-users used more than three products at the same time," says Doctoral Researcher Ella Koivuniemi from the Institute of Biomedicine at the University of Turku.

The use of food supplements was most common in Finland, where 98 percent of the participants used food supplements, and least common in Italy, where around 83 percent of the participants used food supplements. A prenatal multivitamin product was the most commonly used supplement type (76–91% of users in different countries). First-time mothers and non-smokers used food supplements more likely than women who had given birth before and women who had smoked frequently before the pregnancy.

During pregnancy, the need for energy and nutrients increases to support the growth and development of the fetus and the mother's increased tissue growth and the growth of the placenta. A diet with variety will meet most additional nutritional needs during pregnancy. In most countries, vitamin D and [folic acid supplements](#) are recommended to be used during pregnancy to secure sufficient nutrient intake.

In addition to these, some food supplements, such as calcium, iron, and

iodine supplements are recommended to special groups of pregnant women who are at risk of deficient intakes from their food. Excessive use of food supplements at higher than recommended doses might also have an adverse effect on both the mother and the fetus.

Exceeding recommended food supplement doses relatively common

In Finland, Great Britain, and Poland, the recommended vitamin D supplement was used by 91–97 percent of the supplement users, but for example in Finland, only about a half of the vitamin D supplement users used it at the recommended doses and a third of them exceeded the recommended dose.

Folic acid supplement, which is recommended to be used during pregnancy, was also used by almost all of the women who used food supplements (93–98% of the users in different countries). In Finland, only about a half of the folic acid supplement users used it at the recommended doses during pregnancy, and a third of them exceeded the recommended intake.

Exceeding the recommended food supplement intake was relatively common: in Finland, a third of the pregnant women exceeded the recommended intake of at least one food supplement. Moreover, the daily safe upper intake limit was exceeded in one or more nutrients by an average of 19% of the food supplement users. In particular, magnesium supplements were used at doses that exceeded the daily safe upper intake in all of the countries.

Varying awareness of food supplement recommendations during pregnancy

Most of the participants of the study answered that they knew which food supplements (91%) and what doses of supplements (87%) they need to consume during pregnancy. Nonetheless, three quarters of the participants thought that multivitamin supplements are generally recommended during pregnancy, although this is not true.

The majority of the participants (81%) knew that folic acid is recommended during pregnancy. Only about 60% of the participants in Finland, Poland, and Great Britain were aware that vitamin D supplementation is recommended during pregnancy in their home country, whereas in Italy, a third of them mistakenly thought that vitamin D supplement is recommended to be used during pregnancy in Italy.

"Although most of the [pregnant women](#) in all of the countries believed that they were aware of the food supplement recommendations, in practice, the recommendations were not always adhered to. In terms of nutrients that are recommended to be supplemented, the intake was mostly sufficient, but even excessive for a significant portion of the women," says Associate Professor Kirsi Laitinen, who leads the Early Nutrition and Health research group of the University of Turku that implemented the study.

The data of the survey was collected using an online questionnaire. The data includes photos sent by the participants on the food supplement products they use and specific information about their doses and frequency of use. The daily intake of vitamins and minerals from food supplements was calculated based on the reported food supplement use.

The results show the importance of discussing food supplement use in antenatal care so that the excessive use of food supplements can be addressed when needed. The results also enable the development of dietary guidance so that it supports food supplement use compliant with

the recommendations during pregnancy.

The study has been published in *Nutrients*.

More information: Ella Koivuniemi et al, Food Supplement Use Differs from the Recommendations in Pregnant Women: A Multinational Survey, *Nutrients* (2022). [DOI: 10.3390/nu14142909](https://doi.org/10.3390/nu14142909)

Provided by University of Turku

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