

Before Conception the Link between Fish and Pregnancy Hypertension may Start

A Japanese study published found that higher maternal fish intake before pregnancy was associated with a lower risk of early-onset hypertensive disorders of [pregnancy](#) (HDP), while higher fish intake during pregnancy was associated with a lower risk of late-onset HDP in some intake groups among women having their first child. These associations were more evident among women who had not previously given birth.



Study

The analysis included 86,009 women with singleton pregnancies who participated in the JECS. Of these, 85,581 women provided information on dietary intake during pregnancy. Women with hypertension before pregnancy, [diabetes](#), cardiovascular disease, or renal disease were excluded, as were pregnancies ending in miscarriage or stillbirth before 22 weeks, and records with incomplete dietary data. Dietary intake was assessed using a validated food-frequency questionnaire.

The first questionnaire was completed at a median [gestational age](#) of 15 weeks, assessed dietary intake over the preceding year, and was used to estimate pre-pregnancy fish and PUFA intake. A second questionnaire was completed at a median of 27 weeks to assess intake during pregnancy.

After adjusting for total energy intake, [fish intake](#), and dietary n-3 and n-6 PUFA intake, the variables were classified into quintiles. The researchers examined associations with overall HDP, early-onset HDP (Eo-HDP; onset before 32 weeks), and late-onset HDP (Lo-HDP; onset at or after 32 weeks).

The analyses adjusted for multiple potential confounding factors, including demographic and socioeconomic (maternal age, education, household income, employment, marital status, and dietary patterns), lifestyle-related (smoking and drinking status, pre-pregnancy BMI, physical activity, the use of [fatty acid supplements](#)), and health-related (parity, assisted reproductive technology, gestational diabetes, previous HDP) factors.

The mean fish intake ranged from 8.6 g/day to 52.1 g/day in the lowest and [highest quintiles](#), respectively. Average n-3 PUFA intake ranged from 1.1 g/day to 4.7 g/day in the lowest and highest quintiles, respectively.

Women in the higher quintiles of fish, n-3, and n-6 PUFA intake were more likely to be older, to have previously given birth, to be more educated, to have a higher household income, and to be less likely to drink or smoke. They had higher rates of ART and [gestational diabetes mellitus](#)">GDM in the index pregnancy.

Findings

[Pre-pregnancy](#) fish intake was not significantly associated with overall HDP or Lo-HDP. However, it was linked to 34% lower odds of Eo-HDP in the highest quintile.

When only women who had not previously given [birth](#) were included, the odds of Eo-HDP were approximately 43% lower in the fourth and fifth quintiles.

Fish intake during pregnancy was associated with 14% lower odds of overall HDP in the fourth quintile. For women expecting their first child, [higher intake](#) in pregnancy was linked to lower odds of HDP across the third, fourth, and fifth quintiles, and 21% lower odds of Lo-HDP in the third and fourth quintiles.

A significant trend in overall HDP was observed with increasing fish intake among women having their first child, although the corresponding trend for Lo-HDP did not reach [statistical significance](#).

The pattern of associations therefore differed according to when [dietary intake](#) was assessed: pre-pregnancy intake was more strongly associated with Eo-HDP, whereas intake during pregnancy was associated mainly with Lo-HDP, particularly among women having their first child.

Less consistent associations were observed between [PUFA intake](#) and HDP.

Higher pre-pregnancy n-3 PUFA intake was associated with 37% lower odds of Eo-HDP in the highest intake group overall, although there was no significant trend across increasing intake. Conversely, [n-6 PUFA intake](#) was linked to an 87% increase in Eo-HDP odds among women who had previously given birth, but only in the second intake quintile. The n-6/n-3 PUFA ratio was associated with higher odds of HDP and Eo-HDP only in the third quintile.

Thus, significant associations were not consistently observed across quintiles of pre-pregnancy intake. Moreover, [fish](#) intake declined during pregnancy in this cohort, which may have affected the analysis.

When onset before 34 (rather than 32) weeks of [gestation](#) was used as the cutoff for Eo-HDP, the main findings remained similar.

Conclusion

This study showed lower odds of certain forms of HDP associated with fish intake before and during pregnancy. The associations were more evident among [women](#) who had not previously given birth.

Higher fish intake during pregnancy was associated with a lower risk of Lo-HDP in some intake groups among women having their first child, while pre-pregnancy fish intake was linked to a reduced risk of Eo-HDP. Associations with total [dietary n-3](#) and n-6 PUFA intake were considerably less consistent.

The findings suggest that maintaining consistent fish intake from before conception through pregnancy may be associated with a lower risk of HDP. Future research should examine causality and distinguish the effects associated with specific types and amounts of fish or [fatty acids](#).

Source:

<https://www.news-medical.net/news/20260909/The-link-between-fish-and-pregnancy-hypertension-may-start-before-conception.aspx>