



Nutrition Society Congress 2024, 2–5 July 2024

Association between predicted hsCRP score and hyperlipidemia among women: the Korea Nurses' Health study

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Hyperlipidemia is known to be closely associated with diet and inflammation.⁽¹⁾ This study aimed to examine the relationship between predicted hsCRP score and hyperlipidemia among women in the Korea Nurses' Health Study.

In this prospective cohort study, a total of 6,921 women aged 21–50 years were included from the Korea Nurses' Health Study (KNHS)⁽²⁾ module 1 to 11. The predicted hsCRP score was derived from demographic, lifestyle, dietary, and anthropometric factors.⁽³⁾ Dietary factors were derived based on a validated food frequency questionnaire (FFQ).

Hyperlipidemia was defined as the presence of any one of the following: 1) total cholesterol ≥ 240 mg/dl, 2) HDL-cholesterol < 50 mg/dl, or 3) triacylglycerol ≥ 200 mg/dl.⁽⁴⁾ We also considered participants with a history of diagnosed hyperlipidemia or current use of hyperlipidemia medication as having hyperlipidemia. Cox proportional hazard regression analysis was used to calculate relative risk (RRs) and 95% confidence intervals (CIs) with adjustment for potential confounding factors.

During a mean follow-up of 5.81 person-years, 1,862 cases of hyperlipidemia were identified. After multivariable adjustment, the RRs (95% CIs) for hyperlipidemia comparing the highest predicted hsCRP score with the lowest predicted hsCRP score were 1.22 (1.04–1.43), 1.12 (0.96–1.32), 1.27 (1.08–1.49), and 1.61 (1.37–1.89), respectively (P for trend < 0.001).

Our results support that increasing predicted hsCRP scores were associated with increased risk of hyperlipidemia. These findings suggest that dietary and lifestyle changes aimed at reducing inflammation may help prevent hyperlipidemia.

Acknowledgments

This research was supported by the “Korea National Institute of Health” (KNIH) research project (project No.2013-E63006-00, 2016-ER6305-00, 2019-ER7101-00, 2022-ER0602-00).

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