

Blood pressure, cholesterol before age 55 years impact risk for heart disease

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Genetically-predicted systolic blood pressure (SBP) and low-density lipoprotein cholesterol (LDL-C) increase the risk for coronary heart disease (CHD), independent of age, according to a study published

online Dec. 20 in *PLOS ONE*.

Nelson Wang, M.D., Ph.D., from the University of New South Wales in Sydney, and colleagues investigated whether genetically mediated SBP/LDL-C is associated with the risk for CHD. The analysis included data from U.K. Biobank participants (136,648 for LDL-C; 135,431 for SBP; and 24,052 for CHD).

The researchers observed a consistent association between exposure to higher LDL-C and SBP, with increased odds of incident CHD in individuals aged 55 years and younger, 60 years years and younger, and 65 years and younger.

Exposure to elevated LDL-C/SBP early in life (age 55 years or younger) was associated with a higher risk for CHD independent of later-life levels (age older than 55 years; odds ratio, 1.68 per 1mmol/L LDL-C; odds ratio, 1.33 per 10 mm Hg SBP) in multivariable Mendelian randomization analyses.

"These findings support the importance of lifelong risk factor monitoring, and treatment should not be withheld in the elderly based on age alone," the authors write. "Greater emphasis is needed on the [treatment](#) of young individuals with elevated SBP and LDL-C, whose risk of CHD accumulates throughout life."

More information: Nelson Wang et al, Association between systolic blood pressure and low-density lipoprotein cholesterol with coronary heart disease according to age, *PLOS ONE* (2023). [DOI: 10.1371/journal.pone.0295004](https://doi.org/10.1371/journal.pone.0295004)

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