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Fetal and infant exposure to severe Chinese famine increases the risk of adult dyslipidemia: Results from the China Health and Retirement Longitudinal Study

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Although studies have observed that early life famine exposure linked with hypertension, metabolic syndrome in adulthood, the association with dyslipidemia was unclear. To explore the association between fetal-stage exposed famine and risk of dyslipidemia in adults. 2,752 subjects were selected from the China Health and Retirement Longitudinal Study (CHARLS) 2011-2012 baseline survey to assess the association of fetal-stage famine exposure with dyslipidemia risk in adults aged 50 years. Dyslipidemia was diagnosed as TG/HDLc>5.0 or self-reported dyslipidemia. Birthdates of subjects were used to categorize famine exposure groups. Logistics regression model was used to examine association of famine exposure with dyslipidemia risk. We observed that the prevalence of dyslipidemia among adults in non-exposed, fetus, infant, and preschool stage-exposed cohorts were 15.7%, 23.1%, 22.0% and 18.6%, respectively. The early life famine exposure significantly increased LDL cholesterol concentrations after adjusting for age. The risks of dyslipidemia in fetal (OR 1.58; 95% CI: 1.23-2.03; P<0.001) and infant (OR 1.52; 95% CI: 1.15-2.00; P=0.003) stage exposure cohorts were significantly higher than the non-exposed cohort after adjusting for gender and current family economic status. Following gender stratification, we found that fetal (OR=1.80; 95% CI: 1.26-2.57; P=0.001), infant (OR=1.75; 95% CI: 1.17-2.62; P=0.006) and preschool (OR=1.63; 95% CI: 1.10-2.42; P=0.038) -stage exposed to severe famine aggravated the risk of dyslipidemia in female adulthood, however, various associations were not observed for male adulthood. Therefore, early-life exposure to severe Chinese famine was associated with the higher risk of dyslipidemia in female adulthood, but not in male adulthood. This gender-specific might be due to son preference hypothesis.

Biography

Zhiyong Zou has received his Doctor of Medicine degree in Nutrition and Food Health from Peking University. Presently, he is working as a Lecturer at the Institute of Child and Adolescent Health, Peking University Health Science Center. His research interests are famine exposed and the risk of cardiovascular disease in adulthood; the population intervention of obesity and hypertension in school students. He had participated in Chinese national survey on students' constitution and health in 2014 as a Member of National Research group and as Co-Investigator to finish the final report of Chinese students' common diseases and health risk behavior surveillance in 2016.

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