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Associations of processed meat and unprocessed red meat intake with incident diabetes: the Strong Heart Family Study^{1,2,3,4}

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Abstract

Background: Fifty percent of American Indians (AIs) develop diabetes by age 55 y. Whether processed meat is associated with the risk of diabetes in AIs, a rural population with a high intake of processed meat (eg, spam) and a high rate of diabetes, is unknown.

Objective: We examined the associations of usual intake of processed meat with incident diabetes in AIs.

Design: This prospective cohort study included AI participants from the Strong Heart Family Study who were free of diabetes and cardiovascular disease at baseline and who participated in a 5-y follow-up examination ($n = 2001$). Dietary intake was ascertained by using a Block food-frequency questionnaire at baseline. Incident diabetes was defined on the basis of 2003 American Diabetes Association criteria. Generalized estimating equations were used to examine the associations of dietary intake with incident diabetes.

Results: We identified 243 incident cases of diabetes. In a comparison of upper and lower quartiles, intake of processed meat was associated with a higher risk of incident diabetes (OR: 1.63; 95% CI: 1.21, 2.63), after adjustment for potential confounders. The relation was particularly strong for spam (OR for the comparison of upper and lower quartiles: 2.06; 95% CI: 1.30, 3.27). Intake of unprocessed red meat was not associated with incident diabetes (OR for the comparison of upper and lower quartiles: 0.90; 95% CI: 0.59, 1.37).

Conclusion: The consumption of processed meat, such as spam, but not unprocessed red meat, was associated with higher risk of diabetes in AIs, a rural population at high risk of diabetes and with limited access to healthy foods.

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