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Title

Positive Health Outcomes Associated with Live Microbe Intake from Foods, Including Fermented Foods, Assessed using the NHANES

Priority 1 (Research Category)

Population health and epidemiology

Presenters

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Abstract

Context: Live dietary microbes are thought to promote health, but evidence is lacking. Objective: Determine associations between dietary consumption of live microbes and health outcomes. Study Design: Pooled cross-sectional survey data. Dataset: 2001-18 National Health and Nutrition Examination Survey (NHANES). Instrument: Using our previously published live-microbes dietary intake classification system (PMID: 35583208), we quantified grams consumed of foods with medium or high microbial content. Outcome Measures: Selected physiological parameters Results: In survey-weighted multiple regression models that adjusted for confounders, an additional 100-g intake of microbe-containing foods was associated with a lower systolic blood pressure (regression coefficient: -0.331 ; 95% CI: -0.447 , -0.215 mm Hg), C-reactive protein (-0.013 ; 95% CI: -0.019 , -0.008 mg/dL), plasma glucose -0.347 ; 95% CI: -0.570 , -0.124 mg/dL), plasma insulin (-0.201 ; 95% CI: -0.304 , -0.099 μ U/mL), triglyceride (-1.389 ; 95% CI: -2.672 , -0.106 mg/dL), waist circumference (-0.554 ; 95% CI: -0.679 , -0.428 cm), and BMI -0.217 ; 95% CI: -0.273 , -0.160 kg/m²) levels and a higher level of high density lipoprotein cholesterol (0.432 ; 95% CI: 0.289 , 0.574 mg/dL). Patterns were broadly similar when microbial intake was assessed categorically and when fermented foods were assessed separately. Conclusions: In this pioneering analysis of nationally representative data, consumption of microbe-containing foods was associated with modest improvements across a range of health outcomes.

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