

Paper Category:	9. Nutrition
Paper Title: (Arial Font; 14 Pt Size)	Dietary fatty acid fractions and healthy life expectancy: a 9-year longitudinal study using an international database
Abstract Body: (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> • Background • Objectives • Method • Results • Discussions and Conclusions
<p>Background: Prevention of frailty is crucial for extending healthy life expectancy (HALE). Intake of saturated fatty acids is known to be associated with the development of atherosclerotic diseases such as ischemic heart disease, while intake of unsaturated fatty acids, especially n-3 polyunsaturated fatty acids (n3-PUFAs), is associated with the prevention of these diseases, which may be related to HALE.</p> <p>Objectives: To clarify the relationship between fatty acid fractions (FAs) in the diet and HALE.</p> <p>Method: HALE for countries worldwide from 2010 to 2019 was obtained from the Global Burden of Disease Study 2019 database; FAs intakes (g/day) were obtained from the Global Dietary Database. As covariates, Gross Domestic Product (GDP) per capita, aging rate, years of education, smoking rate, physical activity, average Body Mass Index (BMI), and energy intake were obtained from the World Bank database and other sources. Longitudinal associations of intakes of FAs in 2010 (baseline) with HALE from 2010 to 2019, controlling for covariates at baseline were examined using linear mixed models in 151 countries with populations of 1 million or more for which all data were available. The analysis was performed using R 4.3.1 with explanatory variables and covariates centralized.</p> <p>Results: The fixed effects (standard error) of FAs on HALE were 2.32 (0.63) $p < 0.001$ for total n-3 PUFAs, 2.68 (0.83) $p < 0.01$ for plant n-3 PUFAs, and 2.64 (1.81) $p < 0.05$ for seafood n-3 PUFAs. Interactions of these FAs with year were significant except for seafood n-3 PUFAs. The fixed effects of saturated fatty acid, total unsaturated fatty acid, monounsaturated fatty acid, and total n-6 PUFAs were not significant.</p> <p>Discussions and Conclusions: Dietary n-3 PUFAs are associated with increased HALE in both plant and animal sources, indicating that intake of these fatty acids may prevent frailty.</p>	

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