

Coffee and Sweetened Beverage Consumption and the Risk of Type 2 Diabetes Mellitus

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Abstract

The authors analyzed data from a prospective, community-based cohort to assess the risk of incident type 2 diabetes mellitus associated with coffee and sweetened beverage consumption. They included 12,204 nondiabetic, middle-aged men and women in the Atherosclerosis Risk in Communities (ARIC) Study (1987-1999). Consumption of each beverage was assessed by food frequency questionnaire and classified into categories of cups per day. They found an inverse association, after adjusting for potential confounders, between increased coffee consumption and risk of type 2 diabetes mellitus in men (for 4 cups (0.95 liter)/day compared with almost never: hazard ratio = 0.77, p trend = 0.02) with no significant association in women (hazard ratio = 0.89, p trend = 0.32) using a combination of self-report of physician-diagnosed diabetes, diabetes treatment, and a fasting or nonfasting blood glucose test. When self-reported diabetes or diabetes treatment alone was used, a stronger and significant inverse association was seen in men and women. Sweetened beverage consumption (men: hazard ratio = 1.03, p trend = 0.94; women: hazard ratio = 1.01, p trend = 0.58) showed no consistent association with the incidence of type 2 diabetes mellitus. In summary, increased coffee consumption was significantly associated with a decreased risk of diagnosed type 2 diabetes mellitus in community-based US adults.

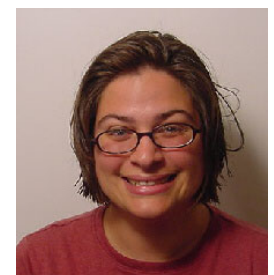
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Risk of incident type 2 diabetes mellitus by level of coffee consumption at baseline, Atherosclerosis Risk in Communities Study, 1987-1999

Covariate Adjustment	Cups of Coffee per Day									<i>P</i> for Trend
	Almost Never	<1		1		2-3		≥4		
	HR	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	
Men										
Minimal*	1 (Ref)	0.99	0.78, 1.26	1.09	0.87, 1.36	0.85	0.69, 1.06	0.83	0.65, 1.05	0.06
Full†	1 (Ref)	0.94	0.74, 1.20	1.04	0.83, 1.30	0.82	0.66, 1.03	0.77	0.61, 0.98	0.02
Full† - BMI, WHR	1 (Ref)	0.98	0.78, 1.26	1.01	0.81, 1.27	0.82	0.66, 1.02	0.77	0.61, 0.99	0.02
Full† + Serum Mg	1 (Ref)	0.94	0.74, 1.20	1.04	0.83, 1.30	0.83	0.66, 1.03	0.77	0.61, 0.99	0.02
Full† using Dx/Meds‡	1 (Ref)	1.02	0.76, 1.38	1.01	0.76, 1.34	0.93	0.70, 1.22	0.69	0.50, 0.96	0.04
Women										
Minimal*	1 (Ref)	0.90	0.70, 1.14	0.94	0.76, 1.15	0.88	0.72, 1.08	0.85	0.66, 1.09	0.16
Full†	1 (Ref)	0.91	0.71, 1.16	0.90	0.73, 1.10	0.92	0.75, 1.14	0.89	0.69, 1.15	0.32
Full† - BMI, WHR	1 (Ref)	0.91	0.71, 1.16	0.94	0.77, 1.15	0.88	0.71, 1.08	0.83	0.64, 1.08	0.14
Full† + Serum Mg	1 (Ref)	0.91	0.71, 1.15	0.90	0.73, 1.11	0.92	0.75, 1.14	0.91	0.70, 1.18	0.38
Full† using Dx/Meds‡	1 (Ref)	1.23	0.93, 1.62	1.06	0.83, 1.36	0.89	0.68, 1.16	0.66	0.45, 0.96	0.046



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