

Supplementary material

Simple nutrient-based rules vs a nutritionally-rich plant-centered diet in prediction of future coronary heart disease and stroke: Prospective Observational Study in the US

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Supplementary Tables

Supplementary Table S1. Multivariable-adjusted HRs^a (95% CIs) of incident CHD and stroke according to quintiles of the time-varying average APDQS, Keys Score, LDL-C, and non-HDL-C^b in mutually-adjusted models

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Per 1 SD change ^c	P for trend ^d
CHD (Y0-Y32)							
Both APDQS and LDL-C were mutually adjusted^e							
LDL-C							
Unadjusted cumulative incidence % (n/N)	0.5 (5/940)	1.4 (13/942)	2.1 (20/939)	3.2 (30/940)	5.1 (48/940)		
Adjusted HR	1.00 (ref)	2.40 (0.85–6.77)	3.50 (1.31–9.37)	4.89 (1.88–12.7)	6.27 (2.46–15.98)	1.68 (1.40–2.01)	<0.001
APDQS							
Unadjusted cumulative incidence % (n/N)	3.6 (34/934)	3.2 (30/950)	2.4 (23/961)	2.2 (20/902)	0.9 (9/954)		
Adjusted HR	1.00 (ref)	0.67 (0.4–1.13)	0.63 (0.36–1.09)	0.63 (0.34–1.17)	0.39 (0.18–0.88)	0.73 (0.56–0.97)	0.03
Both APDQS and Keys Score were mutually adjusted^e							
Keys Score							
Unadjusted cumulative incidence % (n/N)	1.7 (16/940)	1.1 (10/940)	3.1 (29/941)	2.7 (25/940)	3.8 (36/940)		
Adjusted HR	0.77 (0.41–1.46)	0.59 (0.31–1.12)	0.99 (0.59–1.66)	0.84 (0.49–1.41)	1.00 (ref)	0.93 (0.73–1.18)	0.53
APDQS							
Unadjusted cumulative incidence % (n/N)	3.6 (34/934)	3.2 (30/950)	2.4 (23/961)	2.2 (20/902)	0.9 (9/954)		
Adjusted HR	1.00 (ref)	0.69 (0.41–1.15)	0.71 (0.40–1.24)	0.69 (0.37–1.29)	0.43 (0.19–1.00)	0.75 (0.56–0.99)	0.05
Both APDQS and Non-HDL-C were mutually adjusted^e							
Non-HDL-C							
Unadjusted cumulative incidence % (n/N)	0.4 (4/940)	1.1 (10/940)	1.9 (18/941)	3.2 (30/940)	5.7 (54/940)		
Adjusted HR	1.00 (ref)	2.37 (0.74–7.58)	3.57 (1.19–10.7)	6.18 (2.16–17.68)	8.39 (2.97–23.71)	1.72 (1.45–2.06)	<0.001
APDQS							

Unadjusted cumulative incidence % (n/N)	3.6 (34/934)	3.2 (30/950)	2.4 (23/961)	2.2 (20/902)	0.9 (9/954)		
Adjusted HR	1.00 (ref)	0.68 (0.41–1.13)	0.63 (0.36–1.11)	0.63 (0.34–1.17)	0.40 (0.18–0.90)	0.73 (0.56–0.97)	0.03
Stroke (Y0-Y32)							
Both APDQS and LDL-C were mutually adjusted^e							
LDL-C							
Unadjusted cumulative incidence % (n/N)	1.5 (14/940)	1.7 (16/941)	1.4 (13/940)	1.9 (18/940)	2.0 (19/940)		
Adjusted HR	1.00 (ref)	1.45 (0.69–3.06)	1.12 (0.51–2.48)	1.43 (0.68–3.01)	1.29 (0.61–2.74)	1.15 (0.91–1.46)	0.25
APDQS							
Unadjusted cumulative incidence % (n/N)	3.5 (33/935)	1.7 (16/948)	1.4 (13/961)	1.2 (11/902)	0.7 (7/955)		
Adjusted HR	1.00 (ref)	0.44 (0.24–0.82)	0.42 (0.21–0.83)	0.61 (0.29–1.27)	0.55 (0.21–1.44)	0.70 (0.50–0.99)	0.043
Both APDQS and Keys Score were mutually adjusted^e							
Keys Score							
Unadjusted cumulative incidence % (n/N)	1.3 (12/940)	1.8 (17/940)	1.3 (12/941)	2.1 (20/940)	2.0 (19/940)		
Adjusted HR	0.90 (0.41–1.97)	1.36 (0.70–2.66)	0.63 (0.29–1.37)	1.15 (0.60–2.19)	1.00 (ref)	1.01 (0.75–1.35)	0.97
APDQS							
Unadjusted cumulative incidence % (n/N)	3.5 (33/935)	1.7 (16/948)	1.4 (13/961)	1.2 (11/902)	0.7 (7/955)		
Adjusted HR	1.00 (ref)	0.44 (0.23–0.82)	0.41 (0.20–0.83)	0.60 (0.28–1.26)	0.54 (0.20–1.45)	0.70 (0.49–1.00)	0.050
Both APDQS and Non-HDL-C were mutually adjusted^e							
Non-HDL-C							
Unadjusted cumulative incidence % (n/N)	1.4 (13/940)	1.5 (14/940)	1.5 (14/941)	1.9 (18/940)	2.2 (21/940)		
Adjusted HR	1.00 (ref)	1.46 (0.67–3.20)	1.27 (0.57–2.81)	1.56 (0.72–3.35)	1.59 (0.74–3.45)	1.23 (0.97–1.57)	0.08
APDQS							
Unadjusted cumulative incidence % (n/N)	3.5 (33/935)	1.7 (16/948)	1.4 (13/961)	1.2 (11/902)	0.7 (7/955)		
Adjusted HR	1.00 (ref)	0.44 (0.24–0.82)	0.42 (0.21–0.84)	0.61 (0.29–1.27)	0.55 (0.21–1.44)	0.70 (0.50–0.99)	0.044

APDQS, A Priori Diet Quality Score; CHD, coronary heart disease; CI, confidence interval; HR, hazard ratio; LDL-C, low-density lipoprotein cholesterol; non-HDL-C, non-high-density lipoprotein cholesterol; SD, standard deviation.

^aModel was adjusted for Y0 age, sex, race (White or Black), total energy intake (time-varying average), maximal educational attainment, parental history of CVD (yes or no), pack-years of smoking (time-varying), physical activity level (time-varying average), use of lipid-lowering medications (yes or no), and BMI (time-varying average).

^bTime-varying variables that were cumulatively averaged over follow-up at Y0, Y7, and Y20. Y0 predicted events from Y0 to Y7, average of Y0 and Y7 APDQS (average of Y0, Y2, Y5, and Y7 LDL-C) predicted events from after Y7 to Y20, and average of Y0, Y7, and Y20 (average of Y0, Y2, Y5, Y7, Y10, Y15, and Y20 LDL-C) predicted events from after Y20 to Y32.

^c1 SD changes were +0.80 mmol/L for LDL-C, +0.87 mmol/L for Non-HDL-C, +13 for APDQS, and -11 for Keys Score.

^dStatistical significance was estimated by modeling APDQS as a continuous variable in the model.

^eThe two predictors were simultaneously included in the model.

Supplementary Table S2. Association between change in % energy from total fat and carbohydrate and concurrent changes in LDL-C and Non-HDL-C^a

	Adjusted mean change for each 1 SD increment ^b					
	% Energy from total fat change			% Energy from carbohydrate change		
	β	SE	P-value	β	SE	P-value
LDL-C, mmol/L						
7-year change (mean age from 25 y to 32 y), n=3495	-0.013	0.009	0.15	-0.009	0.009	0.35
13-year change (mean age from 32 y to 45 y), n=2360	-0.021	0.009	0.025	0.019	0.010	0.05
20-year change (mean age from 25 y to 45 y), n=2824	-0.019	0.010	0.043	0.011	0.010	0.26
Non-HDL-C, mmol/L						
7-year change (mean age from 25 y to 32 y), n=3495	-0.010	0.010	0.31	-0.011	0.010	0.29
13-year change (mean age from 32 y to 45 y), n=2360	-0.012	0.023	0.25	0.007	0.011	0.53
20-year change (mean age from 25 y to 45 y), n=2824	-0.010	0.011	0.36	-0.002	0.011	0.86

APDQS, A Priori Diet Quality Score; LDL-C, low-density lipoprotein cholesterol; non-HDL-C, non-high-density lipoprotein cholesterol.

^aEach row is a separate linear regression. Model was adjusted for baseline LDL-C (or Non-HDL-C), baseline age, sex, race (White or Black), total energy intake (baseline and change), maximal educational attainment, parental history of CVD (yes or no), pack-years of smoking (baseline and change), physical activity level (baseline and change), use of lipid-lowering medications (yes or no), and BMI (baseline and change).

^b1 SD changes were -6 for % energy from total fat and -7.4 for % energy from carbohydrate.