

Table 1. Drinking patterns by sociodemographic and lifestyle variables. N=10,356

	Drinking pattern					
	Non-drinkers n=3,754	Ex-drinkers n=516	Moderate drinkers with no binge drinking n=4,950	Moderate drinkers with binge drinking n=518	Heavy drinkers with no binge drinking n=510	Heavy drinking with binge drinking n=108
Men, %	31.3	49.3	59.0	69.6	67.7	80.2
Age (years), mean (SD)	45.8 (17.1)	51.1 (17.7)	45.9 (15.3)	32.0 (11.1)	51.2 (15.2)	41.4 (17.2)
Educational level, %						
Primary or less	32.2	39.3	24.9	13.0	29.1	23.9
Secondary	41.3	40.7	42.5	58.2	41.3	50.9
University	26.5	20.0	32.6	28.8	29.6	25.1
Occupation, %						
Manual work	37.6	45.5	31.0	44.1	31.2	30.0
Non-manual work	62.4	54.5	69.0	55.9	68.8	70.0
Saturated fat intake (g/day), mean (SD)	27.4 (13.5)	28.5 (14.5)	30.4 (13.0)	33.2 (14.8)	30.0 (14.5)	34.1 (17.7)
Monounsaturated fat intake,(g/day), mean	35.9 (15.4)	38.0 (15.9)	40.7 (14.8)	43.4 (16.7)	39.2 (15.7)	44.2 (18.2)
Polyunsaturated fat intake, (g/day), mean (SD)	14.1 (7.6)	15.3 (8.1)	16.1 (7.5)	17.9 (9.2)	14.6 (7.3)	17.2 (9.1)
Total energy intake (kcal/day), mean (SD)	2,045 (851)	2,208 (1,014)	2,282 (714)	2,522 (1,117)	2,512 (674)	2,902 (1,269)
Mediterranean diet score, mean (SD)	3.8 (1.7)	4.1 (1.7)	4.0 (1.6)	3.4 (1.7)	3.5 (1.7)	3.5 (1.8)
Physical activity at leisure time (METs-h/week), mean (SD)	26.1 (21.0)	26.3 (21.5)	30.2 (22.8)	38.9 (29.1)	27.8 (21.6)	30.7 (22.9)
Physical activity at home (METs-h/week), mean (SD)	47.9 (40.6)	42.7 (41.5)	37.3 (36.2)	24.0 (28.3)	33.5 (33.3)	24.9 (26.0)
Tobacco consumption, %						
Never smoker	58.4	43.9	43.3	34.2	30.3	26.0
Ex-smoker	18.8	27.4	27.8	18.7	34.4	26.9
Current smoker	22.7	28.7	28.9	47.1	35.3	47.1
Body mass index (kg/m ²), mean (SD)	26.7 (5.0)	27.4 (5.1)	26.7 (4.4)	25.4 (4.3)	28.2 (4.5)	27.4 (4.9)
Diagnosed morbidity, %						
Hypertension	24.3	27.2	22.2	13.8	29.4	21.3
Hypercholesterolemia	27.5	34.6	29.1	18.3	37.8	24.4
Diabetes	9.0	14.8	6.9	2.5	9.3	7.1
Other chronic diseases*	24.2	30.0	17.2	5.3	22.8	12.4
Lipid lowering treatment, %	9.7	12.8	9.1	2.2	14.7	5.6
Physical summary of SF-12, mean (SD)	49.3 (10.6)	47.5 (11.5)	51.7 (8.6)	53.9 (6.8)	50.5 (9.2)	52.9 (9.4)
Alcohol consumption (g/day), mean (SD)	0	0	10.0 (9.3)	12.7 (11.5)	56.0 (23.3)	61.3 (28.6)

* Other chronic diseases: cancer, cirrhosis, and osteoarthritis.

Table 2. Association between alcohol drinking patterns and biomarkers of coronary heart disease in the adult population of Spain. N=10,356

	Total cholesterol (mg/dl)	LDL-cholesterol (mg/dl)	HDL-cholesterol (mg/dl)	LDL/HDL- cholesterol ratio	Triglycerides (mg/dl)	Fibrinogen (g/l)	hs-CRP (mg/l)	Leptin (ng/ml)	HbA1c %	HOMA-IR
Non-drinkers §	190.6 (ref.)	115.7 (ref.)	52.1 (ref.)	2.2 (ref.)	90.9 (ref.)	3.4 (ref.)	0.13 (ref.)	15.3 (ref.)	4.6 (ref.)	1.7 (ref.)
Ex-drinkers †	-2.3 (-4.3 to -0.2)*	-3.0 (-5.7 to -0.1)*	-1.6 (-3.9 to 0.7)	-1.3 (-4.6 to 2.0)	-0.7 (-6.1 to 5.1)	3.4 (1.3 to 5.6)*	10.3 (-3.5 to 26.1)	-0.9 (-8.2 to 7.0)	0.4 (-0.5 to 1.3)	-1.3 (-7.6 to 5.4)
Moderate drinkers with no binge drinking †	2.1 (1.1 to 3.0)**	1.2 (-0.1 to 2.6)*	4.8 (3.7 to 6.0)**	-3.4 (-5.0 to -1.8)**	-0.5 (-2.6 to 1.7)	-2.2 (-3.1 to -1.3)**	1.6 (-5.0 to 8.6)	0.9 (-2.7 to 4.6)	-0.6 (-1.0 to -0.2)*	-4.5 (-7.3 to -1.6)*
Moderate drinkers with binge drinking †	0.0 (-2.0 to 2.0)	-3.0 (-5.7 to -0.3)*	7.2 (5.0 to 9.5)**	-9.6 (-12.3 to -6.8)**	0.9 (-3.6 to 5.6)	-4.8 (-6.7 to -2.9)**	-3.1 (-15.8 to 11.5)	-9.9 (-16.4 to -2.9)*	-0.7 (-1.4 to 0.1)	-12.9 (-19.0 to -6.4)**
Heavy drinkers with no binge drinking †	4.6 (2.6 to 6.6)**	2.3 (-0.6 to 5.2)	9.7 (7.0 to 12.5)**	-6.8 (-10.2 to -3.3)*	2.9 (-1.8 to 7.8)	-5.5 (-7.4 to -3.4)**	0.3 (-12.5 to 15.0)	-4.0 (-10.8 to 3.3)	-1.6 (-2.6 to -0.6)*	-6.5 (-12.3 to -0.4)*
Heavy drinkers with binge drinking †	0.8 (-3.3 to 5.1)	-4.1 (-9.5 to 1.7)	9.6 (5.1 to 14.2)**	-12.5 (-18.5 to -6.0)*	5.9 (-2.8 to 15.4)	-5.8* (-9.4 to -2.0)	32.6 (4.8 to 67.6)*	-14.7 (-25.9 to -1.7)*	-1.7 (-3.1 to -0.3)*	-10.7 (-21.0 to 0.9)

* p<0.05 ** p<0.001

§Values are the geometric mean.

†Values are the percentage change in geometric means (95% confidence interval) with respect to never drinkers.

Analysis were adjusted for sex, age, level of education, occupation, saturated fat intake, monounsaturated fat intake, polyunsaturated fat intake, total energy intake, Mediterranean diet score, physical activity at leisure time, physical activity at home, BMI, tobacco consumption, hypertension, hypercholesterolemia lipid-lowering treatment, diabetes, cancer, cirrhosis, osteoarthritis, and the physical summary score on the SF-12.

Analyses with HbA1c and HOMA-IR were conducted with 9,533 individuals because persons with diabetes were excluded.

Table 3. Beverage preference among drinkers, by sociodemographic and lifestyle variables. N=5,590

	Beverage preference			
	No preference n=1,894	Wine n=2,032	Beer n=1,238	Spirits n=426
Men, %	31.2	44.5	38.4	40.3
Age (years), mean (SD)	42.0 (13.5)	54.1 (15.2)	41.8 (12.4)	29.1 (12.9)
Educational level, %				
Primary or less	20.6	33.3	20.1	14.2
Secondary	44.0	36.7	45.9	66.1
University	35.4	30.0	34.0	19.7
Occupation, %				
Manual work	30.4	30.9	31.2	42.4
Non-manual work	69.6	69.1	68.8	57.5
Saturated fat intake (g/day), mean (SD)	32.8 (12.4)	27.7 (12.7)	31.9 (13.3)	32.7 (13.8)
Monounsaturated fat intake,(g/day), mean (SD)	44.1 (14.2)	37.9 (14.9)	41.7 (15.1)	41.7 (14.7)
Polyunsaturated fat intake, (g/day), mean (SD)	17.8 (7.4)	14.5 (7.1)	16.3 (7.8)	17.0 (7.8)
Total energy intake (kcal/day), mean (SD)	2,528 (808)	2,175 (645)	2,328 (682)	2,444 (758)
Mediterranean diet score, mean (SD)	3.8 (1.5)	4.2 (1.7)	3.8 (1.7)	3.2 (1.6)
Physical activity at leisure time (METs-h/week), mean (SD)	31.9 (23.7)	27.3 (21.0)	31.7 (23.7)	36.9 (25.2)
Physical activity at home (METs-h/week), mean (SD)	33.2 (33.6)	39.6 (37.3)	38.8 (35.8)	20.4 (23.4)
Tobacco consumption, %				
Never smoker	33.6	22.7	35.6	40.6
Ex-smoker	27.9	32.9	26.0	12.8
Current smoker	38.5	44.3	38.4	46.6
Body mass index (kg/m ²), mean (SD)	26.9 (4.3)	27.3 (4.6)	26.4 (4.1)	25.2 (4.3)
Diagnosed morbidity, %				
Hypertension	19.9	31.0	17.0	6.1
Hypercholesterolemia	27.5	36.0	26.0	13.0
Diabetes	5.4	9.6	5.2	2.2
Other chronic diseases*	12.3	26.1	12.2	4.4
Lipid lowering treatment, %	6.9	14.1	6.5	2.0
Physical summary of SF-12, mean (SD)	52.9 (7.3)	49.8 (10.0)	52.7 (7.6)	53.3 (7.4)
Alcohol consumption (g/day), mean (SD)	20.4 (18.6)	16.1 (20.5)	10.6 (14.6)	15.5 (16.1)

* Other chronic diseases: cancer, cirrhosis, and osteoarthritis.

Table 4. Association between beverage preference among drinkers and biomarkers of coronary disease in the adult population of Spain. N=5,590

	Total cholesterol (mg/dl)	LDL-cholesterol (mg/dl)	HDL-cholesterol (mg/dl)	LDL/HDL- cholesterol ratio	Triglycerides (mg/dl)	Fibrinogen (g/l)	hs-CRP (mg/l)	Leptin (ng/ml)	HbA1c %	HOMA-IR
No beverage preference§	193.7 (ref.)	118.1 (ref.)	51.2 (ref.)	2.31 (ref.)	97.4 (ref.)	3.2 (ref.)	0.13 (ref.)	10.2 (ref.)	4.6 (ref.)	1.6 (ref.)
Wine†	-1.5 (-2.8 to -0.2)*	-2.5 (-4.3 to -0.7)*	0.9 (-0.9 to 2.7)	-3.4 (-5.6 to -1.1)*	-2.2 (-5.5 to 1.3)	-0.4 (-1.9 to 1.0)	-3.5 (-12.9 to 6.9)	4.0 (-1.5 to 9.9)	0.4 (-0.2 to 1.0)	3.4 (-1.6 to 8.6)
Beer†	-0.1 (-1.6 to 1.5)	-0.7 (-2.9 to 1.5)	-1.0 (-3.0 to 0.9)	0.3 (-2.3 to 3.0)	3.8 (-0.1 to 7.9)	0.7 (-0.9 to 2.4)	5.8 (-5.7 to 18.7)	-0.2 (-5.8 to 5.8)	-0.5 (-1.1 to 0.1)	1.3 (-4.2 to 7.1)
Spirits†	-3.5 (-5.6 to -1.3)*	-3.4 (-6.4 to -0.3)*	-3.6 (-6.3 to -0.8)*	0.2 (-3.9 to 4.5)	-3.1 (-9.1 to 3.3)	3.2 (0.4 to 6.0)*	17.8 (-3.7 to 44.2)	4.5 (-6.4 to 16.6)	-0.1 (-1.0 to 0.9)	9.9 (2.5 to 17.9)*

* p<0.05 ** p<0.001

§Values are the geometric mean.

†Values are the percentage change in geometric means (95% confidence interval) with respect to drinkers with no beverage preference.

Analysis were adjusted for sex, age, level of education, occupation, saturated fat intake, monounsaturated fat intake, polyunsaturated fat intake, total energy intake, Mediterranean diet score, physical activity at leisure time, physical activity at home, BMI, tobacco consumption, hypertension, hypercholesterolemia, lipid-lowering treatment, diabetes, cancer, cirrhosis, osteoarthritis, the physical summary score on the SF-12, binge drinking and amount of alcohol intake with meals and without.

Analyses with HbA1c and HOMA-IR were conducted with 5,219 individuals because persons with diabetes were excluded.