

Table S1. Sample characteristics according to the frequency of heavy episodic drinking (HED). Population of Spain aged ≥ 15 years

	No	<once a month	Monthly <once a week	Weekly or daily	P value
n^a	36024	4206	1863	978	
Prevalence^b	82.4	10.8	4.6	2.2	
Age, mean (SD)^b	49.4 (19.1)	38.5 (13.4)	37.2 (13.7)	40.7 (15.8)	<0.001
Sex,%^b					<0.001
Women	55.6	33.4	28.0	23.9	
Educational level,%^b					<0.001
University	16.3	22.1	21.6	19.9	
Secondary 2nd Stage	26.3	36.6	36.0	34.0	
Secondary 1st Stage	28.0	29.9	27.8	28.2	
\leq Primary	29.4	11.4	14.6	18.0	
Marital status,%^b					<0.001
Single	27.2	45.0	53.9	51.7	
Married	59.3	49.2	41.3	39.4	
Widowed	8.7	1.4	1.1	2.4	
Separated/Divorced	4.9	4.4	3.7	6.4	
Municipality size,%^b					<0.001
>500.000 inhab	32.2	34.1	33.4	33.1	
>50.000-500.000 inhab	20.7	18.4	17.6	16.2	
10.000-50.000 inhab	26.4	27.3	27.5	25.4	
<10.000 inhab	20.7	20.3	21.6	25.3	
Tobacco consumption					
Non-smokers	54.7	37.5	31.3	25.6	
Former smokers	22.7	21.9	23.4	24.0	
Smokers 1-14 cig/day	13.9	25.0	28.6	24.5	
Smokers >14 cig/day	8.6	15.6	16.7	25.9	
Leisure time physical activity,%^b					<0.001
High	9.5	18.7	16.7	16.7	
Moderate	11.5	17.9	19.8	15.1	
Occasional	36.8	30.5	33.3	30.1	
Sedentary	42.1	33.0	30.2	38.0	
Mediterranean Diet, mean (SD)^b	5.1 (1.9)	4.4 (1.9)	4.2 (1.9)	4.0 (1.9)	<0.001
Body mass index,%^b					<0.001
Underweight	2.3	2.2	1.7	2.6	
Normal weight	42.1	48.4	49.6	44.1	
Overweight	33.5	34.2	31.6	37.8	
Obesity	16.1	12.3	14.9	13.6	
Not available	6.0	2.8	2.2	1.9	
Perceived health					
Very good	19.8	27.3	31.9	27.0	
Good	49.2	56.6	51.1	53.6	
Fair	21.9	13.3	13.3	14.8	
Poor	7.0	2.3	3.5	3.9	
Very poor	2.2	0.5	0.2	0.6	
Functional limitations,%^b					<0.001
None	75.6	86.7	86.2	84.2	
Moderate	19.1	12.0	12.2	13.3	
Severe	5.2	1.3	1.7	2.3	
Chronic diseases,%^b					<0.001
None	76.9	89.0	89.3	85.8	
1	16.6	9.3	8.8	11.7	
≥ 2	6.5	1.6	1.9	2.5	

^a Unweighted; b %/Weighted means

Table S2. Association between average alcohol consumption and all-cause mortality, by sex. Population of Spain aged ≥ 15 years.

	Men			Women			p interaction ^b
	n ^a	HR	95%CI	n ^a	HR	95%CI	
Average alcohol consumption							
Never drinkers	287/2204	1.28	1.04-1.59	1289/7268	1.26	1.08-1.48	0.507
Former drinkers	638/2210	1.34	1.12-1.61	611/3516	1.28	1.07-1.53	0.754
Infrequent occasional	229/3043	1 (ref)		267/5001	1 (ref)		
Frequent occasional	96/1794	0.90	0.67-1.22	58/1905	1.06	0.77-1.48	0.671
>0-10 g/day	530/5059	1.01	0.84-1.21	247/4035	1.09	0.90-1.32	0.554
>10-20 g/day	309/3252	1.02	0.83-1.26	55/1240	0.97	0.67-1.42	0.583
>20 g/day	279/2257	1.24	1.00-1.55	20/287	1.97	1.15-3.36	0.407

Hazard ratios (HR) calculated using Cox regression models adjusting for age, education, marital status, size of municipality, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, chronic disease history, and heavy episodic drinking (HED) in the last month.

^a Deceased individuals/exposed individuals

^b p for interaction between categories of average alcohol consumption and sex

Table S3. Association between average alcohol consumption and all-cause mortality, by age. Population of Spain aged ≥ 15 years.

	15-64 years			≥ 65 years			p interaction ^b
	n ^a	HR	95%CI	n ^a	HR	95%CI	
Average alcohol consumption							
Never drinkers	134/5640	1.11	0.80-1.54	1442/3832	1.32	1.15-1.51	0.153
Former drinkers	188/3245	1.65	1.22-2.24	1061/2481	1.27	1.10-1.46	0.045
Infrequent occasional	111/6466	1 (ref)		385/1578	1 (ref)		
Frequent occasional	44/3230	0.66	0.42-1.03	110/469	1.14	0.88-1.49	0.052
>0-10 g/day	150/6931	0.89	0.66-1.21	627/2163	1.08	0.93-1.25	0.234
>10-20 g/day	82/3448	0.93	0.64-1.34	282/1044	1.07	0.89-1.28	0.411
>20 g/day	125/1930	1.42	1.00-2.00	174/614	1.25	1.00-1.57	0.434

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, education, marital status, size of municipality, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, chronic disease history, and heavy episodic drinking (HED) in the last month.

^a Deceased individuals/exposed individuals

^b p for interaction between categories of average alcohol consumption and age

Table S4. Association between average alcohol consumption and all-cause mortality, by educational level. Population of Spain aged ≥ 15 years.

	\geq Secondary 2nd Stage			\leq Secondary 1st Stage			p interaction ^b
	n ^a	HR	95% CI	n ^a	HR	95% CI	
Average alcohol consumption							
Never drinkers	113/2522	1.05	0.75-1.46	1463/6950	1.35	1.17-1.55	0.141
Former drinkers	156/1695	1.47	1.09-1.99	1093/4031	1.32	1.14-1.53	0.247
Infrequent occasional	106/3881	1 (ref)		390/4163	1 (ref)		
Frequent occasional	43/2126	0.76	0.51-1.15	111/1573	1.04	0.79-1.36	0.156
>0-10 g/day	175/4794	0.96	0.72-1.28	602/4300	1.07	0.92-1.24	0.432
>10-20 g/day	85/2245	0.89	0.63-1.25	279/2247	1.09	0.90-1.33	0.175
>20 g/day	74/1123	1.15	0.77-1.70	225/1421	1.41	1.14-1.75	0.151

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, age, marital status, size of municipality, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, chronic disease history, and heavy episodic drinking (HED) in the last month.

^a Deceased individuals/exposed individuals

^b p for interaction between categories of average alcohol consumption and educational level

Table S5. Association between average alcohol consumption and all-cause mortality, excluding the first year of follow-up. Population of Spain aged ≥ 15 years.

	n ^a	HR	95%CI
Average alcohol consumption			
Never drinkers	1394/9088	1.30	1.14-1.48
Former drinkers	1110/5461	1.33	1.16-1.52
Infrequent occasional	461/7918	1 (ref)	
Frequent occasional	146/3665	0.99	0.78-1.26
>0-10 g/day	744/9001	1.08	0.93-1.24
>10-20 g/day	355/4458	1.08	0.90-1.30
>20-40 g/day	213/2025	1.30	1.05-1.61
>40 g/day	80/501	1.49	1.07-2.09

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, age, education, marital status, size of municipality, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, chronic disease history, and heavy episodic drinking (HED) in the last month.

^a Deceased individuals/exposed individuals

Table S6. Association between average alcohol consumption and all-cause mortality, excluding individuals with poor or very poor perceived health, severe functional limitations, body mass index <18.5, and chronic disease history. Population of Spain aged ≥ 15 years.

	n ^a	HR	95%CI
Average alcohol consumption			
Never drinkers	432/5857	1.33	1.07-1.65
Former drinkers	266/3097	1.32	1.05-1.68
Infrequent occasional	183/6014	1 (ref)	
Frequent occasional	68/2967	1.12	0.80-1.55
>0-10 g/day	266/6802	1.05	0.83-1.31
>10-20 g/day	151/3365	1.06	0.80-1.40
>20-40 g/day	107/1488	1.38	1.01-1.88
>40 g/day	39/341	1.75	1.12-2.74

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, age, education, marital status, size of Municipality size, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, and heavy episodic drinking (HED) in the last month.

^a Deceased individuals/exposed individuals

Table S7. Association between heavy episodic drinking (HED) and all-cause mortality excluding the first year of follow-up. Population of Spain aged ≥ 15 years.

	n ^a	HR	95%CI
<i>Overall population excluding former drinkers</i>			
<i>HED past month</i>			
No	3259/33827	1 (ref)	
Yes	134/2829	1.21	0.95-1.54
<i>HED Frequency</i>			
Never	3132/29670	1 (ref)	
<once a month	127/4157	1.11	0.87-1.42
Monthly but <once a week	63/1856	1.14	0.81-1.61
Weekly	71/973	1.34	0.99-1.80
<i>Alcohol-drinking population</i>			
<i>HED past month</i>			
No	1275/13770	1 (ref)	
Yes	117/2215	1.25	0.96-1.63
<i>HED Frequency</i>			
Never	1186/11161	1 (ref)	
<once a month	89/2609	0.98	0.73-1.33
Monthly but <once a week	46/1242	1.17	0.78-1.76
Weekly	71/973	1.31	0.97-1.77

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, age, education, marital status, size of Municipality size, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, chronic disease history, and average alcohol consumption.

^a Deceased individuals/exposed individuals

Table S8. Association between heavy episodic drinking (HED) and all-cause mortality, excluding individuals with poor or very poor perceived health, severe functional limitations, body mass index <18.5, and chronic disease history. Population of Spain aged ≥ 15 years.

	n ^a	HR	95%CI
<i>Overall population excluding former drinkers</i>			
<i>HED past month</i>			
No	1177/24493	1 (ref)	
Yes	69/2341	1.16	0.85-1.59
<i>HED Frequency</i>			
Never	1109/21031	1 (ref)	
<once a month	68/3462	1.25	0.90-1.76
Monthly but <once a week	31/1561	0.94	0.58-1.52
Weekly	38/780	1.56	1.05-2.30
<i>Alcohol-drinking population</i>			
<i>HED past month</i>			
No	503/10177	1 (ref)	
Yes	60/1819	1.23	0.88-1.73
<i>HED Frequency</i>			
Never	455/8027	1 (ref)	
<once a month	48/2150	1.12	0.74-1.69
Monthly but <once a week	22/1039	0.96	0.54-1.69
Weekly	38/780	1.55	1.04-2.32

Hazard ratios (HR) calculated using Cox regression models adjusting for sex, age, education, marital status, size of municipality, tobacco consumption, leisure time sedentarism, adherence to the Mediterranean diet, body mass index, perceived health, functional limitations, and average alcohol consumption.

^a Deceased individuals/exposed individuals