

Supplemental Data

Table S1. Multivariable regression analysis demonstrating the positive association of an elevated Fatty Liver Index (FLI ≥ 60) with averaged 24-h sodium excretion (two collections) after adjustment for clinical and laboratory covariates in 3,100 women and in 3,032 men separately.

	Model 1		Model 2		Model 3		Model 4	
Women								
	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value
Age (years)	1.06 (1.05-1.07)	< 0.001	1.03 (1.03-1.04)	< 0.001	1.01 (1.00-1.02)	0.043	1.00 (0.98-1.01)	0.810
Sodium excretion per 24-h (1 SD increment)	1.70 (1.53-1.90)	< 0.001	1.67 (1.48-1.87)	< 0.001	1.69 (1.50-1.91)	< 0.001	1.47 (1.28-1.69)	< 0.001
Type 2 diabetes mellitus (yes/no)			5.27 (3.65-7.60)	< 0.001	5.50 (3.12-9.70)	< 0.001	0.64 (0.32-1.27)	0.199
History of cardiovascular disease (yes/no)			1.85 (1.19-2.90)	0.007	1.34 (0.81-2.22)	0.249	1.03 (0.56-1.90)	0.918
Hypertension (yes/no)			2.61 (2.10-3.23)	< 0.001	2.01 (1.47-2.74)	< 0.001	1.88 (1.31-2.70)	0.001
Alcohol intake (≥ 10 g/day vs. <10g/day)			2.08 (1.12-3.87)	0.021	2.24 (1.18-4.28)	0.014	3.44 (1.61-7.36)	0.001
Current smoking (yes/no)			0.94 (0.75-1.18)	0.593	0.89 (0.71-1.12)	0.318	0.99 (0.76-1.30)	0.956
eGFR (mL/min/1.73 m ²)					0.98 (0.97-0.98)	<0.001	0.97 (0.97-0.98)	< 0.001
UAE (mg/24-h)					1.00 (1.00-1.00)	0.562	1.00 (1.00-1.00)	0.192
Use of antihypertensive medication (yes/no)					1.28 (0.92-1.77)	0.144	0.91 (0.62-1.33)	0.616
Use of glucose lowering drugs (yes/no)					0.97 (0.46-2.04)	0.928	1.42 (0.60-3.37)	0.428
Use of lipid lowering drugs (yes/no)					1.42 (1.01-2.00)	0.043	1.15 (0.77-1.71)	0.505
HOMA-IR (mU mmol/L ² /22.5)							13.00 (10.10-16.73)	< 0.001
Men								
	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value
Age (years)	1.03 (1.02-1.03)	< 0.001	1.00 (1.00-1.01)	0.413	0.99 (0.98-1.00)	0.076	0.99 (0.98-1.00)	0.118
Sodium excretion per 24-h (1 SD increment)	1.48 (1.37-1.59)	< 0.001	1.46 (1.35-1.57)	< 0.001	1.48 (1.36-1.60)	< 0.001	1.24 (1.13-1.36)	< 0.001
Type 2 diabetes mellitus (yes/no)			2.06 (1.51-2.81)	< 0.001	2.12 (1.29-3.49)	0.003	0.36 (0.20-0.65)	0.001
History of cardiovascular disease (yes/no)			0.90 (0.69-1.19)	0.465	0.72 (0.52-1.00)	0.050	0.69 (0.48-1.00)	0.048
Hypertension (yes/no)			3.08 (2.57-3.69)	< 0.001	2.54 (2.01-3.22)	< 0.001	2.12 (1.63-2.77)	< 0.001
Alcohol intake (≥ 10 g/day vs. <10g/day)			1.43 (1.05-1.95)	0.023	1.52 (1.10-2.09)	0.011	1.87 (1.29-2.71)	0.001
Current smoking (yes/no)			1.20 (1.01-1.44)	0.038	1.19 (0.99-1.42)	0.067	1.44 (1.17-1.78)	0.001
eGFR (mL/min/1.73 m ²)					0.99 (0.99-1.00)	0.007	1.00 (0.99-1.01)	0.762
UAE (mg/24-h)					1.00 (1.00-1.00)	0.003	1.00 (1.00-1.00)	0.005
Use of antihypertensive medication (yes/no)					1.22 (0.93-1.61)	0.149	1.12 (0.82-1.54)	0.470
Use of glucose lowering drugs (yes/no)					0.90 (0.48-1.70)	0.752	2.25 (1.09-4.66)	0.029
Use of lipid lowering drugs (yes/no)					1.47 (1.10-1.97)	0.010	1.27 (0.92-1.76)	0.147
HOMA-IR (mU mmol/L ² /22.5)							7.71 (6.33-9.38)	< 0.001

OR, odds ratio; 95%CI, 95% confidence intervals. OR is given per 1 SD increase for sodium excretion. 1 SD change in urinary sodium excretion corresponds to 55.99 mmol sodium per day. HOMA-IR was log_e transformed for analyses. Abbreviations: 24-h, twenty-four hours; eGFR, estimated glomerular filtration rate; FLI, Fatty Liver Index; HOMA-IR, Homeostasis Model Assessment of Insulin Resistance; UAE; urinary albumin excretion.

Model 1: adjusted for age.

Model 2: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake and current smoking.

Model 3: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake, current smoking, estimated glomerular filtration rate, urinary albumin excretion, use of antihypertensive medication, glucose lowering drugs and lipid lowering drugs.

Model 4: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake, current smoking, estimated glomerular filtration rate, urinary albumin excretion, use of antihypertensive medication, glucose lowering drugs and lipid lowering drugs and HOMA-IR.

Table S2. Multivariable regression analysis demonstrating the positive association of an elevated Hepatic Steatosis Index (HSI > 36) with averaged 24-h sodium excretion (two collections) after adjustment for clinical and laboratory covariates in 3,100 women and in 3,032 men separately.

	Model 1		Model 2		Model 3		Model 4	
Women								
	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value
Age (years)	1.05 (1.04-1.06)	< 0.001	1.03 (1.02-1.03)	< 0.001	1.01 (1.00-1.02)	0.012	1.01 (1.00-1.02)	0.138
Sodium excretion per 24-h (1 SD increment)	1.68 (1.52-1.85)	< 0.001	1.65 (1.48-1.83)	< 0.001	1.66 (1.49-1.85)	< 0.001	1.51 (1.34-1.69)	< 0.001
Type 2 diabetes mellitus (yes/no)			7.46 (4.93-11.27)	< 0.001	8.03 (4.25-15.16)	< 0.001	3.05 (1.51-6.14)	0.002
History of cardiovascular disease (yes/no)			1.22 (0.78-1.90)	0.392	0.94 (0.57-1.53)	0.791	0.81 (0.48-1.37)	0.426
Hypertension (yes/no)			2.27 (1.86-2.77)	< 0.001	1.85 (1.39-2.47)	< 0.001	1.78 (1.32-2.41)	< 0.001
Alcohol intake (≥10 g/day vs. <10g/day)			1.04 (0.54-1.98)	0.918	1.02 (0.52-2.02)	0.951	1.11 (0.54-2.28)	0.771
Current smoking (yes/no)			0.63 (0.52-0.77)	< 0.001	0.60 (0.49-0.74)	< 0.001	0.61 (0.49-0.77)	< 0.001
eGFR (mL/min/1.73 m ²)					0.99 (0.98-1.00)	0.002	0.99 (0.98-1.00)	0.021
UAE (mg/24-h)					1.00 (1.00-1.00)	0.791	1.00 (1.00-1.00)	0.750
Use of antihypertensive medication (yes/no)					1.28 (0.94-1.74)	0.124	1.04 (0.75-1.44)	0.821
Use of glucose lowering drugs (yes/no)					0.91 (0.39-2.11)	0.821	0.96 (0.39-2.35)	0.933
Use of lipid lowering drugs (yes/no)					1.32 (0.95-1.83)	0.102	1.14 (0.80-1.61)	0.463
HOMA-IR (mU mmol/L ² /22.5)							3.17 (2.67-3.77)	< 0.001
Men								
	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value	OR (95%CI)	P value
Age (years)	1.00 (1.00-1.01)	0.598	0.98 (0.97-0.99)	< 0.001	0.97 (0.96-0.98)	< 0.001	0.97 (0.96-0.98)	< 0.001
Sodium excretion per 24-h (1 SD increment)	1.62 (1.50-1.75)	< 0.001	1.57 (1.45-1.70)	< 0.001	1.56 (1.44-1.70)	< 0.001	1.34 (1.23-1.47)	< 0.001
Type 2 diabetes mellitus (yes/no)			4.33 (3.18-5.89)	< 0.001	4.35 (2.69-7.05)	< 0.001	1.18 (0.69-2.03)	0.548
History of cardiovascular disease (yes/no)			0.84 (0.62-1.15)	0.274	0.72 (0.50-1.03)	0.068	0.69 (0.47-1.03)	0.067
Hypertension (yes/no)			2.49 (2.04-3.05)	< 0.001	2.12 (1.64-2.74)	< 0.001	1.64 (1.24-2.17)	< 0.001
Alcohol intake (≥10 g/day vs. <10g/day)			1.35 (0.97-1.90)	0.079	1.44 (1.02-2.04)	0.037	1.57 (1.07-2.29)	0.021
Current smoking (yes/no)			0.84 (0.69-1.02)	0.075	0.83 (0.68-1.02)	0.079	0.91 (0.73-1.13)	0.390
eGFR (mL/min/1.73 m ²)					0.99 (0.99-1.00)	0.120	1.00 (1.00-1.01)	0.494
UAE (mg/24-h)					1.00 (1.00-1.00)	0.285	1.00 (1.00-1.00)	0.512
Use of antihypertensive medication (yes/no)					1.20 (0.90-1.61)	0.215	1.05 (0.76-1.44)	0.783
Use of glucose lowering drugs (yes/no)					0.88 (0.48-1.60)	0.669	1.82 (0.94-3.56)	0.078
Use of lipid lowering drugs (yes/no)					1.37 (1.00-1.87)	0.046	1.23 (0.88-1.72)	0.225
HOMA-IR (mU mmol/L ² /22.5)							5.10 (4.23-6.15)	< 0.001

OR, odds ratio; 95%CI, 95% confidence intervals. OR is given per 1 SD increase for sodium excretion. 1 SD change in urinary sodium excretion corresponds to 55.99 mmol sodium per day. HOMA-IR was log_e transformed for analyses. Abbreviations: 24-h, twenty-four hours; eGFR, estimated glomerular filtration rate; HOMA-IR, Homeostasis Model Assessment of Insulin Resistance; HSI, Hepatic Steatosis Index; UAE; urinary albumin excretion.

Model 1: adjusted for age.

Model 2: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake and current smoking.

Model 3: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake, current smoking, estimated glomerular filtration rate, urinary albumin excretion, use of antihypertensive medication, glucose lowering drugs and lipid lowering drugs.

Model 4: adjusted for age, presence of type 2 diabetes, history of cardiovascular disease, presence of hypertension, alcohol intake, current smoking, estimated glomerular filtration rate, urinary albumin excretion, use of antihypertensive medication, glucose lowering drugs and lipid lowering drugs and HOMA-IR.

Table S3. Sensitivity analyses demonstrating the positive association of an elevated Fatty Liver Index (FLI ≥ 60) with 24-h sodium excretion in 3,221 subjects after excluding subjects with alcohol intake ≥ 10 g/day, a positive cardiovascular history, presence of hypertension, impaired estimated glomerular filtration rate (<60 mL/min/1.73 m²), elevated urinary albumin excretion (>30 mg/24 hr), use of antihypertensive drugs, glucose lowering drugs and lipid lowering drugs.

	Model 1		Model 2		Model 3	
	OR (95%CI)	<i>P</i> value	OR (95%CI)	<i>P</i> value	OR (95%CI)	<i>P</i> value
Age (years)	1.02 (1.02-1.03)	< 0.001	1.02 (1.01-1.03)	< 0.001	1.01 (1.00-1.02)	0.053
Sex (men <i>vs.</i> women)	2.49 (2.05-3.03)	< 0.001	2.49 (2.05-3.03)	< 0.001	2.82 (2.25-3.54)	< 0.001
Sodium excretion per 24-h (1 SD increment)	1.43 (1.30-1.58)	< 0.001	1.44 (1.31-1.59)	< 0.001	1.27 (1.13-1.42)	< 0.001
Type 2 diabetes mellitus (yes/no)			3.57 (1.87-6.81)	< 0.001	0.38 (0.17-0.83)	0.016
Current smoking (yes/no)			1.14 (0.93-1.40)	0.208	1.31 (1.04-1.66)	0.025
HOMA-IR (mU mmol/L ² /22.5)					11.79 (9.33-14.90)	< 0.001

OR, odds ratio; 95%CI, 95% confidence intervals. OR is given per 1 SD increase for sodium excretion. 1 SD change in urinary sodium excretion corresponds to 55.99 mmol sodium per day. HOMA-IR was log_e transformed for analyses. Abbreviations: 24-h, twenty-four hours; eGFR, estimated glomerular filtration rate; FLI, Fatty Liver Index; HOMA-IR, Homeostasis Model Assessment of Insulin Resistance; UAE; urinary albumin excretion.

Model 1: adjusted for age and sex.

Model 2: adjusted for age, sex, presence of type 2 diabetes and current smoking.

Model 3: adjusted for age, sex, presence of type 2 diabetes, current smoking and HOMA-IR.

Table S4. Sensitivity analyses demonstrating the positive association of an elevated Hepatic Steatosis Index (HSI > 36) with 24-h sodium excretion in 3,221 subjects after excluding subjects with alcohol intake ≥ 10 g/day, a positive cardiovascular history, presence of hypertension, impaired estimated glomerular filtration rate (< 60 mL/min/1.73 m²), elevated urinary albumin excretion (> 30 mg/24 hr), use of antihypertensive drugs, glucose lowering drugs and lipid lowering drugs.

	Model 1		Model 2		Model 3	
	OR (95%CI)	<i>P</i> value	OR (95%CI)	<i>P</i> value	OR (95%CI)	<i>P</i> value
Age (years)	1.01 (1.00-1.02)	0.005	1.01 (1.00-1.02)	0.024	1.00 (0.99-1.01)	0.625
Sex (men <i>vs.</i> women)	0.80 (0.66-0.96)	0.016	0.79 (0.65-0.95)	0.014	0.69 (0.56-0.85)	< 0.001
Sodium excretion per 24-h (1 SD increment)	1.47 (1.34-1.62)	< 0.001	1.48 (1.35-1.63)	< 0.001	1.35 (1.22-1.50)	< 0.001
Type 2 diabetes mellitus (yes/no)			4.76 (2.55-8.87)	< 0.001	1.00 (0.48-2.09)	0.994
Current smoking (yes/no)			0.74 (0.61-0.91)	0.005	0.76 (0.61-0.95)	0.016
HOMA-IR (mU mmol/L ² /22.5)					6.04 (4.97-7.32)	< 0.001

OR, odds ratio; 95%CI, 95% confidence intervals. OR is given per 1 SD increase for sodium excretion. 1 SD change in urinary sodium excretion corresponds to 55.99 mmol sodium per day. HOMA-IR was log_e transformed for analyses. Abbreviations: 24-h, twenty-four hours; eGFR, estimated glomerular filtration rate; HOMA-IR, Homeostasis Model Assessment of Insulin Resistance; HSI, Hepatic Steatosis Index; UAE; urinary albumin excretion.

Model 1: adjusted for age and sex.

Model 2: adjusted for age, sex, presence of type 2 diabetes and current smoking.

Model 3: adjusted for age, sex, presence of type 2 diabetes, current smoking and HOMA-IR.