

Supplemental Material

Table S1. Association of SUA/SCR, SUA, and SCr with risk of CVD.

Exposure	Q1	Q2	Q3	Q4
SUA/SCR	Reference	1.01(0.94-1.08)	1.11(1.03-1.19)	1.15(1.07-1.23)
SUA	Reference	0.97(0.90-1.05)	1.03(0.95-1.11)	1.10(0.98-1.19)
SCr	Reference	1.02(0.95-1.10)	0.95(0.89-1.08)	0.90(0.84-1.03)

SUA, serum uric acid; SCr, serum creatinine; SUA/SCR: serum uric acid to serum creatinine ratio.

Adjusted for age, sex, body mass index, education, income, smoke, drink, physical activity, hypertension, diabetes, dyslipidemia, proteinuria, diuretics, angiotensin converting enzyme inhibitors/angiotensin II receptor blockers treatment, systolic blood pressure, diastolic blood pressure, fasting blood glucose, total cholesterol, and high sensitivity C-reactive protein.

Table S2. Sensitivity analysis with competing risk model considering death as a competing risk.

Outcomes	Quartiles of SUA/SCr				<i>P</i> for trend
	Q1	Q2	Q3	Q4	
Cardiovascular disease	Reference	1.02(0.94-1.10)	1.12(1.04-1.20)	1.15(1.07-1.24)	<0.0001
Stroke	Reference	1.02(0.94-1.10)	1.10(1.02-1.20)	1.17(1.08-1.27)	<0.0001
Ischemic stroke	Reference	1.01(0.92-1.10)	1.10(1.00-1.20)	1.12(1.03-1.23)	0.0030
Hemorrhagic stroke	Reference	1.09(0.89-1.33)	1.19(0.97-1.46)	1.36(1.12-1.66)	0.0013
Myocardial infarction	Reference	1.02(0.88-1.20)	1.17(1.00-1.36)	1.08(0.92-1.26)	0.1766

SUA/SCr, serum uric acid to serum creatinine ratio.

Adjusted for age, sex, body mass index, education, income, smoke, drink, physical activity, hypertension, diabetes, dyslipidemia, proteinuria, diuretics, angiotensin converting enzyme inhibitors/angiotensin II receptor blockers treatment, systolic blood pressure, diastolic blood pressure, fasting blood glucose, total cholesterol, and high sensitivity C-reactive protein.

Table S3. Sensitivity analysis excluding outcome events within the first year of follow-up (N=1500).

Outcomes	Quartiles of SUA/SCr				<i>P</i> for trend
	Q1	Q2	Q3	Q4	
Cardiovascular disease	Reference	1.02(0.94-1.10)	1.13(1.04-1.22)	1.16(1.08-1.26)	<0.000
Stroke	Reference	1.02(0.93-1.11)	1.11(1.02-1.22)	1.18(1.08-1.29)	<0.000
Ischemic stroke	Reference	1.01(0.92-1.11)	1.11(1.01-1.23)	1.14(1.04-1.26)	0.0014
Hemorrhagic stroke	Reference	1.05(0.83-1.34)	1.18(0.93-1.50)	1.38(1.10-1.74)	0.0036
Myocardial infarction	Reference	1.02(0.86-1.21)	1.18(1.00-1.39)	1.11(0.94-1.31)	0.1066

SUA/SCr, serum uric acid to serum creatinine ratio.

Adjusted for age, sex, body mass index, education, income, smoke, drink, physical activity, hypertension, diabetes, dyslipidemia, proteinuria, diuretics, angiotensin converting enzyme inhibitors/angiotensin II receptor blockers treatment, systolic blood pressure, diastolic blood pressure, fasting blood glucose, total cholesterol, and high sensitivity C-reactive protein.

Table S4. Direct and indirect effects of SUA/SCr on the risk of CVD and the proportion mediated by cardio-metabolic factors.

Potential mediators	Direct effect		Indirect effect		Proportion mediated (%)
	B_{dir} , (95% CI)	<i>P</i>	β_{indir} , (95% CI)	<i>P</i>	
TG	0.0042(0.0006-0.0078)	0.0027	0.0019(0.0002-0.0022)	<0.0001	30.74
TC	0.0051(0.0015-0.0087)	0.0051	0.0009(0.0007-0.0011)	<0.0001	15.06
BMI	0.0049(0.0013-0.0084)	0.0079	0.0012(0.0.0009-0.0014)	<0.0001	19.52
DBP	0.0053(0.0025-0.0096)	0.0002	0.0007(0.0004-0.0010)	<0.0001	11.75
hs-CRP	0.0053(0.0017-0.0089)	0.0041	0.0008(0.0006-0.0010)	<0.0001	13.06
FBG	0.0070(0.0035-0.0106)	0.0001	-0.0010(-0.0012--0.0007)	<0.0001	-16.38
SBP	0.0059(0.0027-0.0099)	0.0005	0.0002(-0.0001-0.0006)	0.1562	--
LDL-C	0.0058(0.0026-0.0098)	0.0007	0.0003(-0.0002-0.0005)	<0.0651	--
HDL-C	0.0060(0.0024-0.0096)	0.0010	0.0001(-0.0003-0.0006)	0.5894	--

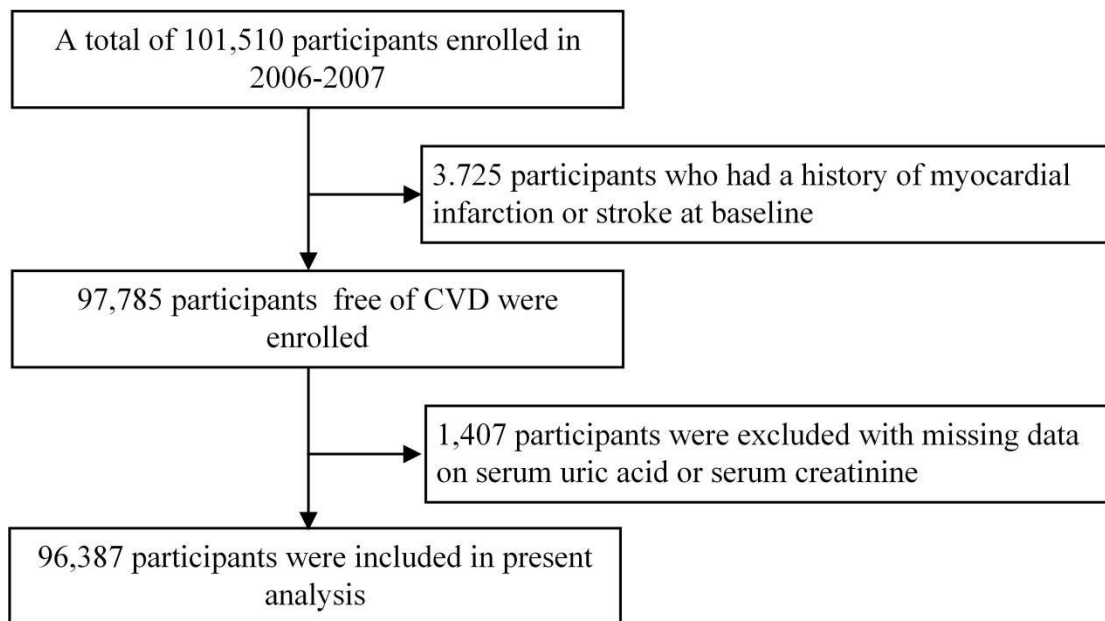
BMI, body mass index; CI, confidence interval; CVD, cardiovascular disease; DBP, diabolic blood pressure; FBG, fasting blood glucose; TC,

total cholesterol; TG, triglyceride; HDL-C, high density lipoprotein cholesterol; hs-CRP, high sensitivity C-reactive protein; LDL-C, low density lipoprotein cholesterol; SBP, systolic blood pressure.

Total effect was 0.0061(95% CI, 0.0025-0.0096; $P=0.0010$).

Adjusted for age, sex, education, income, smoking status, drinking status, and physical activity.

Figure S1. The flowchart of the study.



CVD, cardiovascular disease.