

Supplementary table 1. The association of 25(OH)D level with all-cause mortality in different models in secondary analyses (n = 6377)

	Model 2		Model 3		Model 4	
	HR	95% CI	HR	95% CI	HR	95% CI
25(OH)D level quartiles (nmol/L)						
1 st (<34.5)	1.34	(1.15–1.56)	1.30	(1.11–1.51)	1.33	(1.14–1.56)
2 nd (34.5–45.1)	0.97	(0.84–1.13)	0.94	(0.81–1.09)	0.98	(0.84–1.14)
3 rd (45.2–58.0)	1.07	(0.92–1.25)	1.05	(0.90–1.22)	1.08	(0.93–1.25)
4 th (≥58.1)	1.00		1.00		1.00	
25(OH)D level nmol/L						
<25.0	1.51	(1.23–1.87)	1.47	(1.19–1.82)	1.52	(1.23–1.88)
25.0–49.9	1.08	(0.96–1.21)	1.05	(0.93–1.18)	1.08	(0.96–1.21)
50.0–74.9	1.00		1.00		1.00	
≥75.0	1.07	(0.85–1.33)	1.06	(0.85–1.32)	1.06	(0.85–1.33)

25(OH)D: 25-hydroxyvitamin D; CI: confidence interval; HR: hazard ratio

Secondary analyses: missing values ('unknown' in Tables 1 and 2) in covariates body mass index, daily smoker, alcohol consumption, physical activity, education, economic difficulties, and chronic illness (1st and 2nd definitions) were imputed by using multivariable chained imputation with fully conditional specification.

Model 2 adjusted for season of blood draw, age, sex, BMI, smoking, alcohol consumption, physical activity, education and economic difficulties; Model 3 adjusted for chronic illness (1st definition) at baseline in addition to Model 2; Model 4 adjusted for chronic illness (2nd definition) at baseline in addition to Model 2.

Supplementary table 2. The association of 25(OH)D level with all-cause mortality stratified by chronic illness in Model 2 in secondary analyses (n = 6377)

	25(OH)D nmol/L quartiles 1 st vs. 4 th (reference)		25(OH)D nmol/L <25.0 vs. 50.0–74.9 (reference)	
	HR	95% CI	HR	95% CI
Chronic illness (1 st definition)				
No	1.36	(1.11–1.66)	1.27	(0.95–1.69)
Yes	1.26	(0.97–1.65)	1.72	(1.25–2.37)
Chronic illness (2 nd definition)				
No	1.19	(0.91–1.54)	1.18	(0.80–1.75)
Yes	1.42	(1.16–1.73)	1.71	(1.32–2.20)

25(OH)D: 25-hydroxyvitamin D; CI: confidence interval; HR: hazard ratio

Secondary analyses: missing values (‘unknown’ in Tables 1 and 2) in covariates body mass index, daily smoker, alcohol consumption, physical activity, education, economic difficulties, and chronic illness (1st and 2nd definitions) were imputed by using multivariable chained imputation with fully conditional specification.

Model 2 adjusted for season of blood draw, age, sex, BMI, smoking, alcohol consumption, physical activity, education and economic difficulties.

Supplementary table 3. The association of 25(OH)D level with all-cause mortality in subjects without chronic illness (1st definition) in Model 2, with further exclusion of the first 3 years of follow-up in secondary analyses

	HR	95% CI
25(OH)D level quartiles (nmol/L)		
1 st (<34.5)	1.40	(1.13–1.73)
2 nd (34.5–45.1)	0.97	(0.78–1.20)
3 rd (45.2–58.0)	1.12	(0.92–1.37)
4 th (≥58.1)	1.00	
25(OH)D level nmol/L		
<25.0	1.32	(0.96–1.80)
25.0–49.9	1.08	(0.92–1.27)
50.0–74.9	1.00	
≥75.0	1.02	(0.76–1.38)

25(OH)D: 25-hydroxyvitamin D; CI: confidence interval; HR: hazard ratio

Secondary analyses: missing values (‘unknown’ in Tables 1 and 2) in covariates body mass index, daily smoker, alcohol consumption, physical activity, education, economic difficulties, and chronic illness (1st and 2nd definitions) were imputed by using multivariable chained imputation with fully conditional specification.

Model 2 adjusted for season of blood draw, age, sex, BMI, smoking, alcohol consumption, physical activity, education and economic difficulties.