Supplementary Material

Figure S1. Algorithm for participant selection in the NHANES (1999-2018).

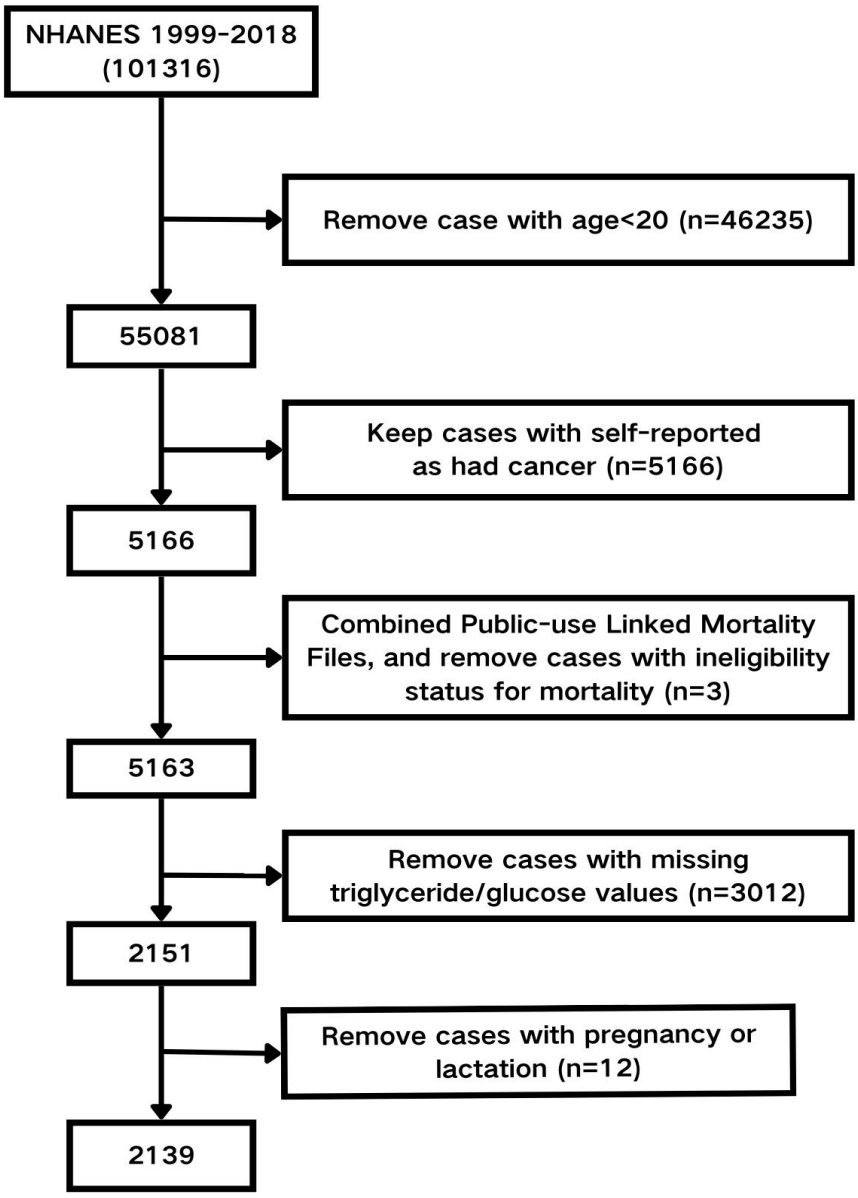


Table S1. Missing value information of variables

Variable	N	Percent(%)	Total
Age	0	0	2139
Gender	0	0	2139
Race	0	0	2139
Education	3	0.14	2139
Marital	11	0.51	2139
PIR	185	8.65	2139
BMI	46	2.15	2139
Smoke	3	0.14	2139
Drink	300	14.03	2139
DM	0	0	2139
Hypertension	0	0	2139
Hyperlipidemia	0	0	2139
CVD	0	0	2139
Cancer sites	1	0.05	2139

Figure S2. Distribution of BMI before and after multiple imputation

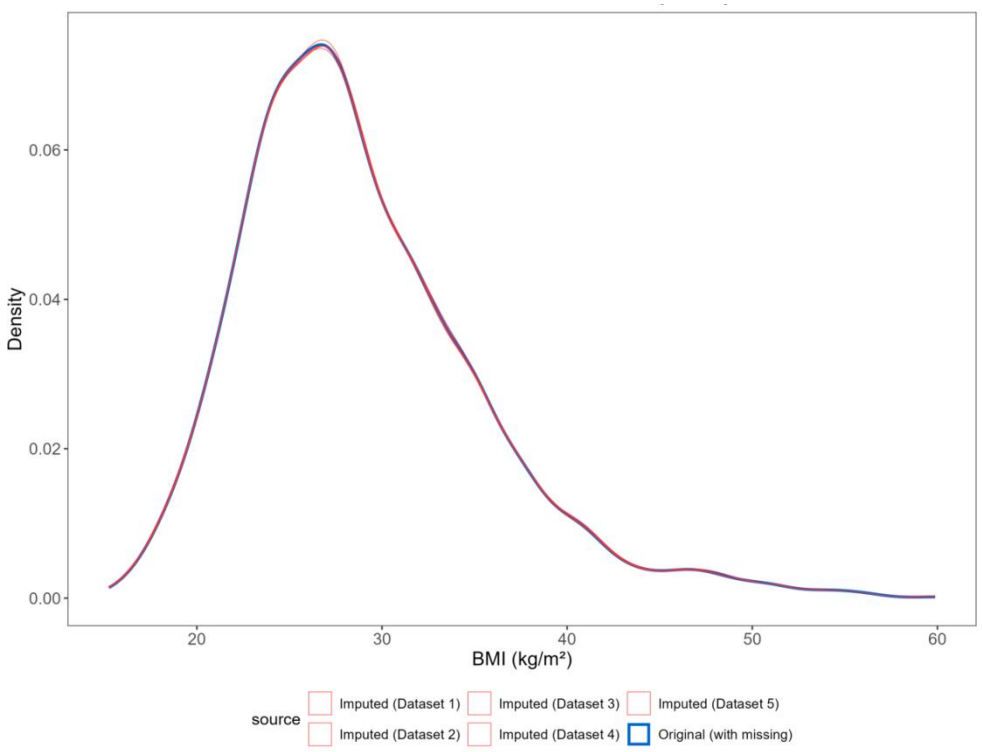


Table S2. Comparison of Distribution and Statistical Characteristics of BMI Between Imputed and Original Datasets

Imputed Dataset	KS Statistic	KS Test *P*-value	Original Mean	Imputed Mean	Relative Difference in Mean (%)	Original Std. Dev.	Imputed Std. Dev.	Relative Difference in Std. Dev. (%)	t-test *P*-value
1	0.0021	1.000	28.8298	28.8229	-0.0240	6.4394	6.4365	-0.0460	0.9424
2	0.0017	1.000	28.8298	28.8187	-0.0386	6.4394	6.4480	0.1326	0.9253
3	0.0032	1.000	28.8298	28.8437	0.0483	6.4394	6.4584	0.2944	0.9724
4	0.0032	1.000	28.8298	28.8813	0.1788	6.4394	6.4934	0.8382	0.8207
5	0.0026	1.000	28.8298	28.8149	-0.0518	6.4394	6.4091	-0.4703	0.9095
Average	-	-	28.8298	28.8333	0.0225	6.4394	6.4491	0.1498	-

Figure S3. Distribution of PIR before and after multiple imputation

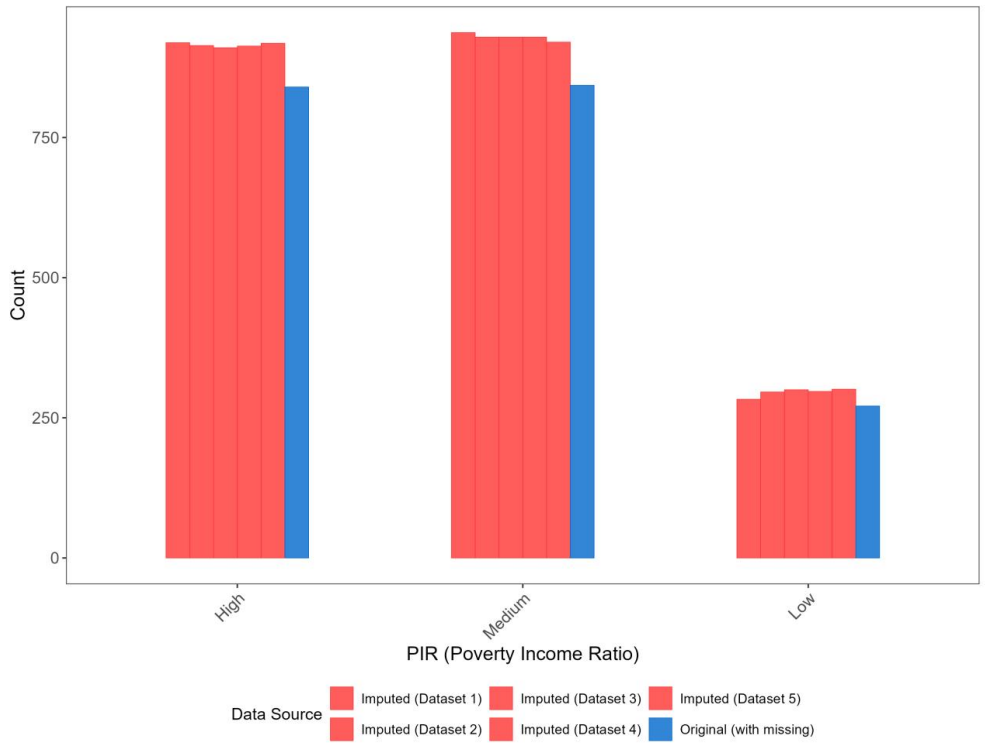


Table S3. Comparison of Frequency, Proportion and Distribution Consistency of PIR Categories Between Original and Multiple Imputed Datasets

PIR	Original Frequency	Original Proportion (%)	Mean Imputed Frequency	Mean Imputed Proportion (%)	Absolute Difference in Frequency	Relative Difference in Proportion (%)	Imputed Dataset	Chi-square Statistic χ^2	*P*-value
High	840	42.99	914.8	42.77	74.8	-0.51	1	0.4110	0.8142
Medium	843	43.14	928.8	43.42	85.8	0.65	2	0.0364	0.9820
Low	271	13.87	295.4	13.81	24.4	-0.42	3	0.0850	0.9584
Total	1954	100.00	2139.0	100.00	0.0	0.00	4	0.0421	0.9792
							5	0.0354	0.9824

Figure S4. Distribution of Drinking Status before and after Multiple Imputation

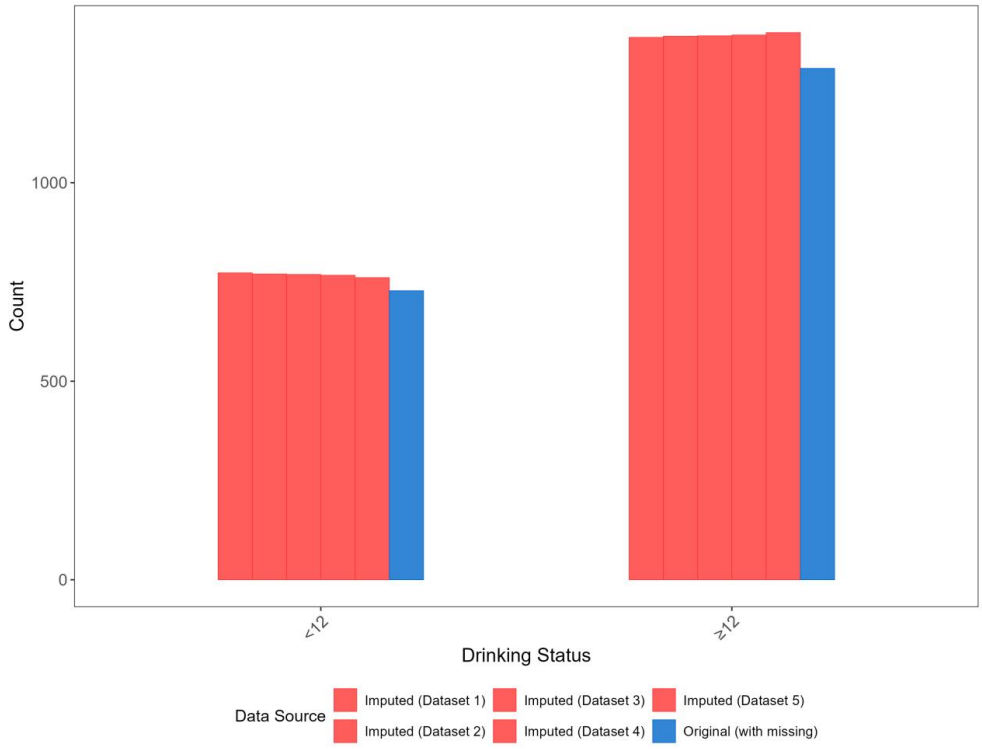


Table S4. Comparison of Frequency, Proportion and Distribution Consistency of Drinking Frequency Categories Between Original and Multiple Imputed Datasets

Drink	Original Frequency	Original Proportion (%)	Mean Imputed Frequency	Mean Imputed Proportion (%)	Absolute Difference in Frequency	Relative Difference in Proportion (%)	Imputed Dataset	Chi-square Statistic χ^2	*P*-value
<12	728	36.11	100.00	35.9	40.0	-0.57	1	3.4473×10-29	1.0000
≥12	1288	63.89	1371.0	64.1	83.0	0.32	2	1.8905×10-3	0.9653
Total	2016	100.00	2139.0	100.00	0.0	0.00	3	5.6037×10-3	0.9403
							4	1.8945×10-2	0.8905
							5	1.0642×10-1	0.7443

Figure S5. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with DM-related mortality.

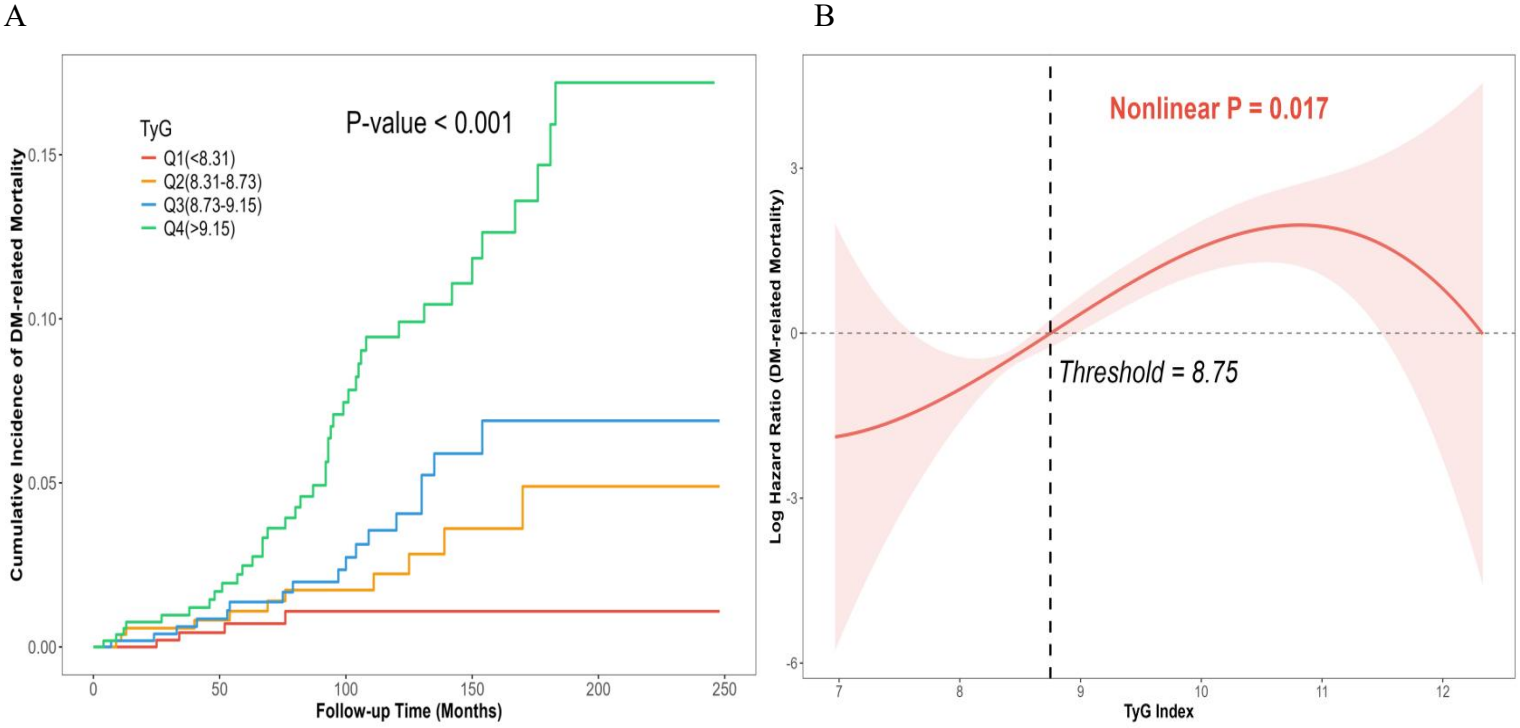


Table S5. Threshold effect analysis of TyG on DM-related mortality.

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	P for log likelihood ratio test
DM-related mortality	8.75	0.145 (0.034, 0.619)0.0091	2.142 (1.541, 2.977)<0.0001	0.121

Table S6. Hazard Ratios (95% CI) for DM-related Mortality by TyG Index Quartiles.

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend
Model 1[a]	3.08(2.50,3.81)<0.001	0.37(0.36,0.38)<0.001	1	1.18(1.01,1.39)0.038	2.73(1.45,5.16)0.002	<0.001
Model 2	2.85(2.10,3.86)<0.001	0.32(0.23,0.44)<0.001	1	0.87(0.63,1.21)0.41	1.98(0.78,5.02)0.150	<0.001
Model 3[c]	1.42(1.18,1.72)<0.001	0.80(0.62,1.03) 0.085	1	0.77(0.64,0.92) 0.003	0.81(0.41,1.61) 0.551	<0.001

[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Figure S6. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with Hypertension-related mortality.

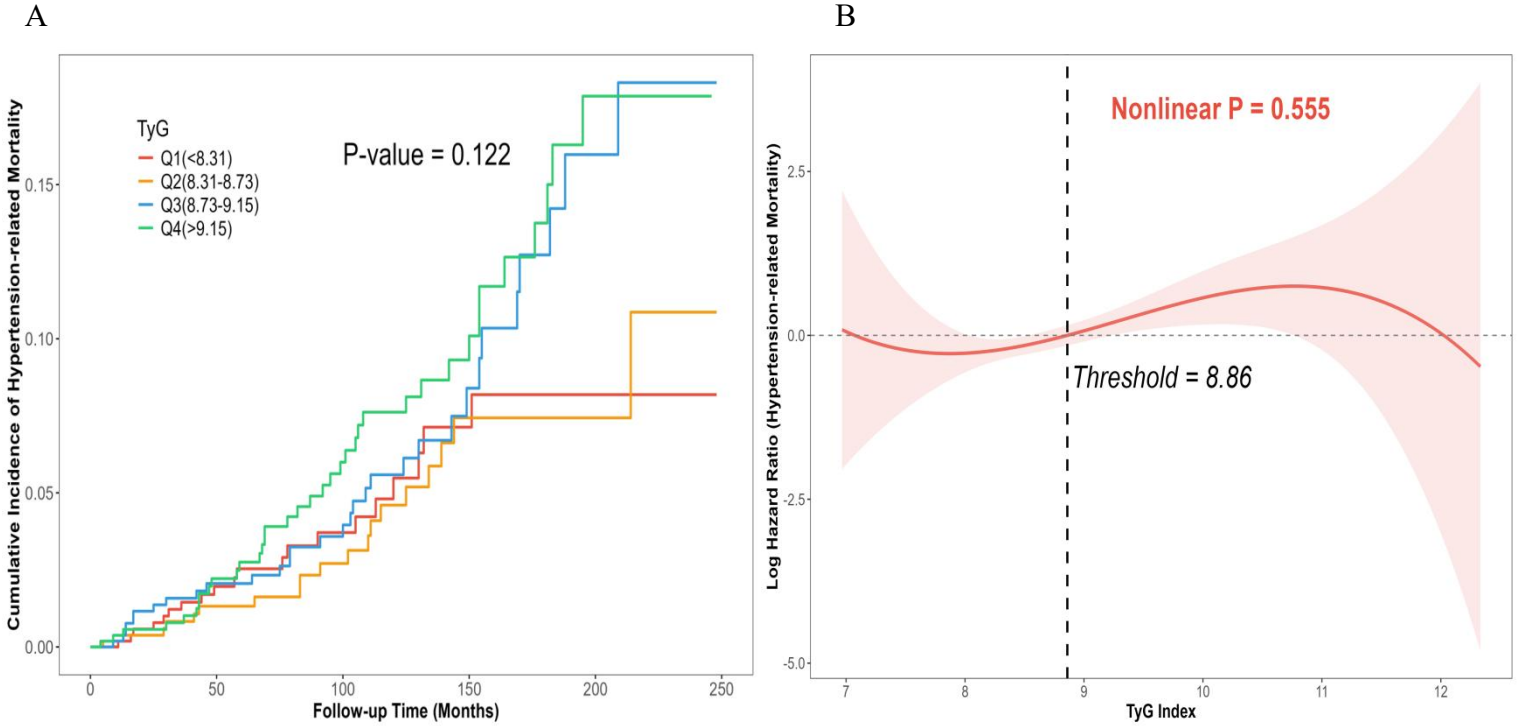


Table S7. Threshold effect analysis of TyG on Hypertension-related mortality

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	P for log likelihood ratio test
Hypertension-related mortality	8.86	0.672(0.347,1.301)0.2384	1.404 (0.937,2.104)0.0999	0.9002

Table S8. Hazard Ratios (95% CI) for Hypertension-related Mortality by TyG Index Quartiles

	TyG	Q1(<8.31)	Q2(8.31-8.73)		Q3(8.73-9.15)	Q4(>9.15)	P trend
Model 1[a]	1.45(1.14,1.85)0.002	2.06(1.36,3.10)0.001	1		2.41(1.92,3.03)<0.001	2.25(1.74,2.91)<0.001	0.006
Model 2	1.30(0.86,1.98)0.210	2.03(1.25,3.31)0.004	1		2.34(1.65,3.33)<0.001	1.83(1.39,2.41)<0.001	0.265
Model 3[c]	1.27(0.76,2.12)0.365	2.71(1.67,4.39)<0.001	1		3.00(1.96,4.58)<0.001	2.03(1.46,2.84)<0.001	0.793

[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Figure S7. Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with all-cause mortality among skin cancer survivors(n=613).

A B

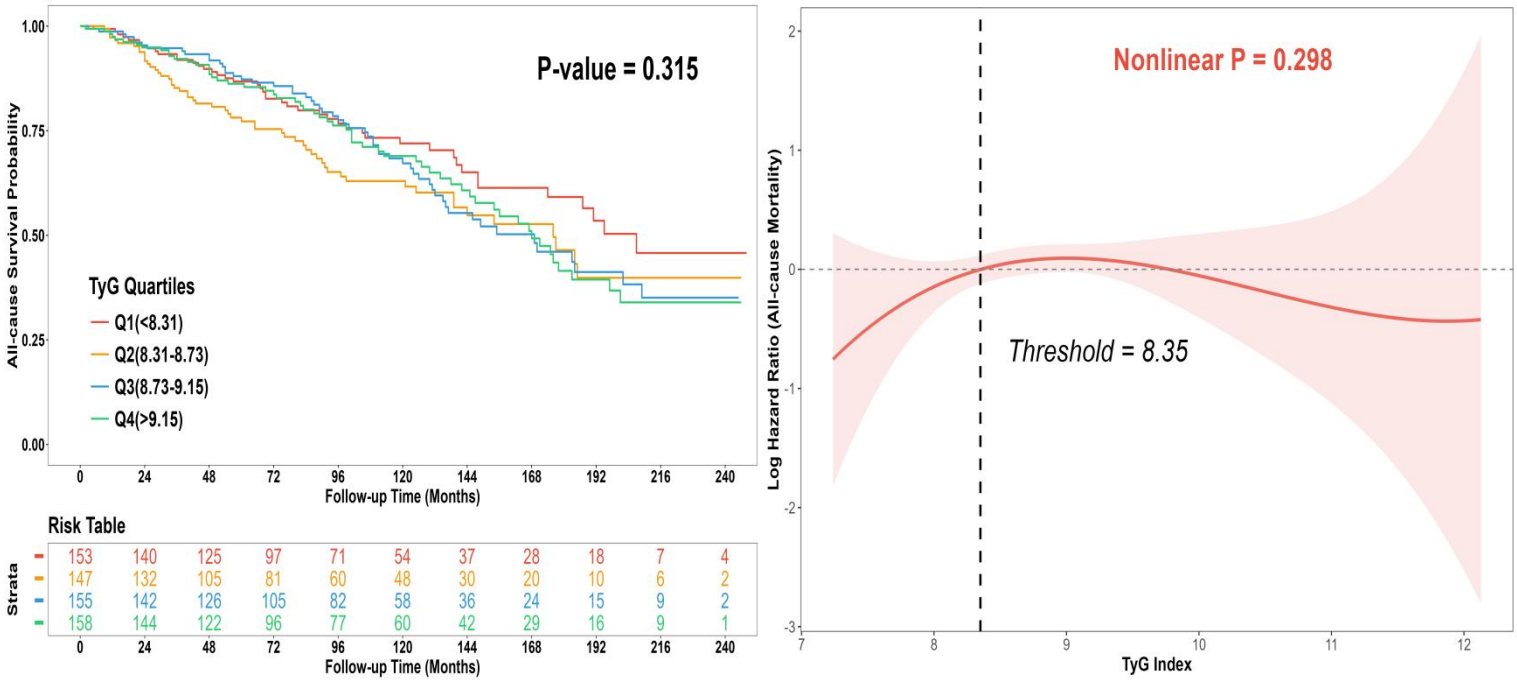


Figure S8. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with cancer-related mortality among skin cancer survivors(n=613).

A B

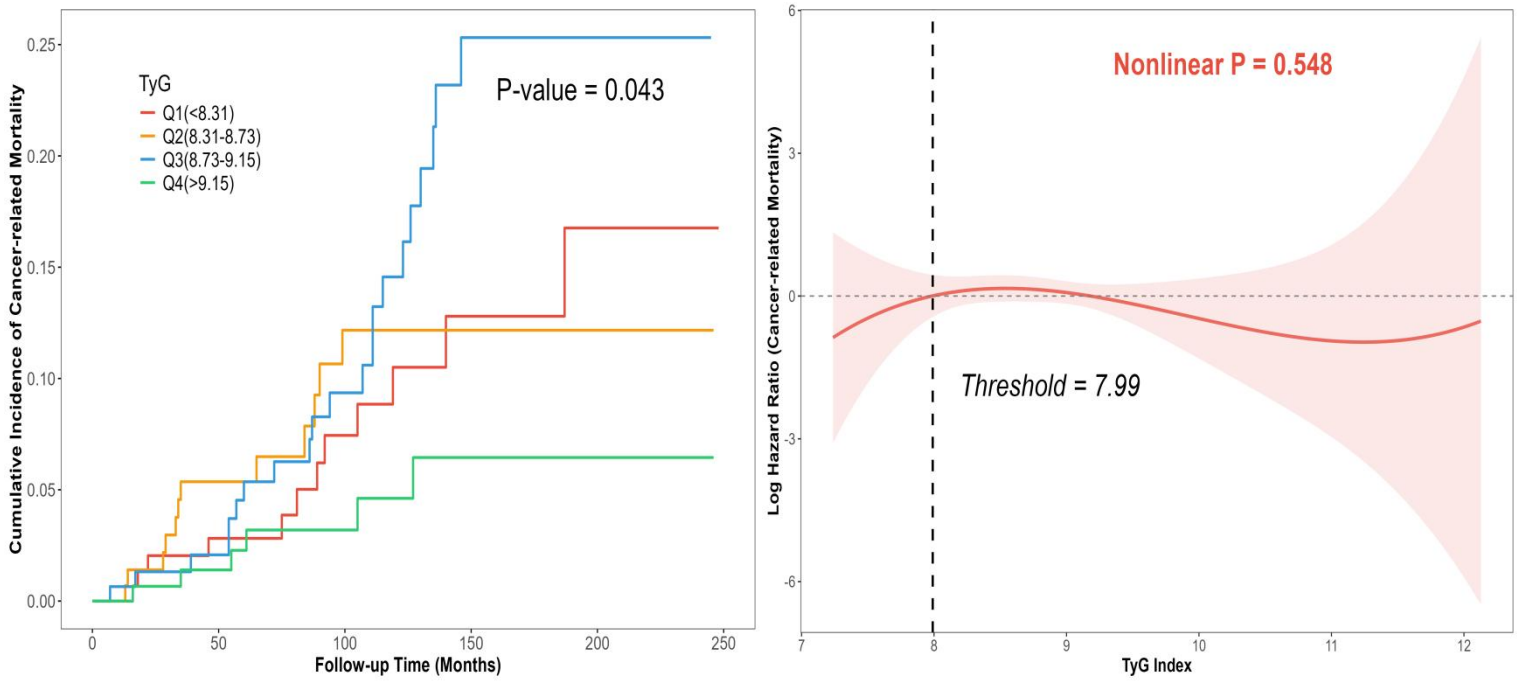
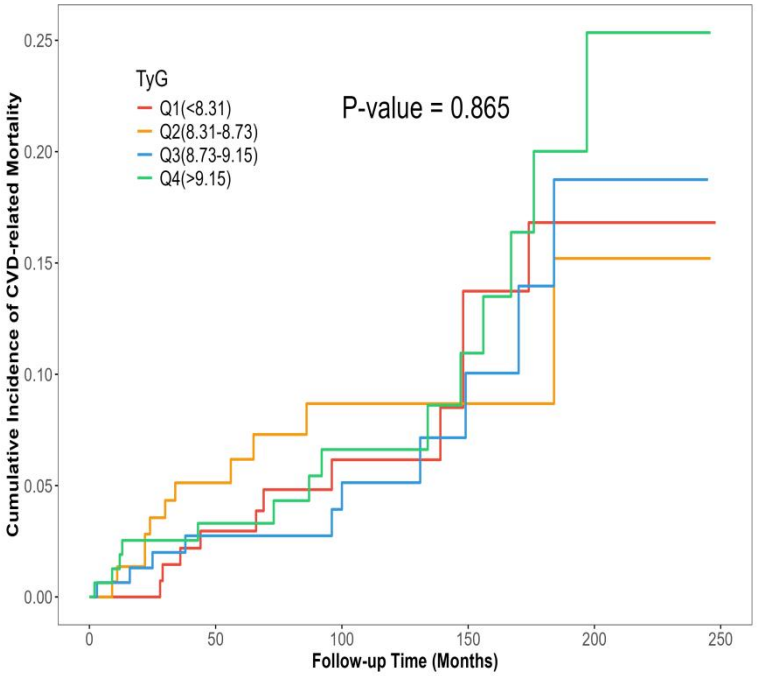


Figure S9. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with CVD-related mortality among skin cancer survivors(n=613).

A



B

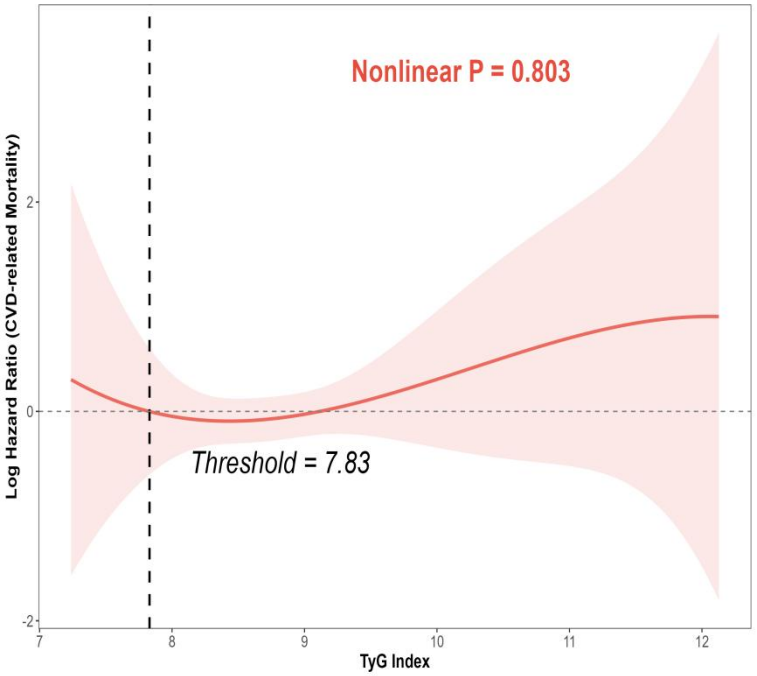


Table S9. Threshold Effect Analysis of TyG on Cause-Specific Mortality Among Skin Cancer Survivors (n=613)

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	P for log likelihood ratio test
All-cause mortality	8.35	0.414(0.156,1.094)0.0753	0.914(0.698,1.197)0.5122	0.072
Cancer-related mortality	7.99	0.540(0.011,25.756)0.7546	0.838(0.507,1.384)0.4892	0.6904
CVD-related mortality	7.83	0.046(0,1724.003)0.5669	1.147(0.739,1.782)0.54	0.5311

Table S10. Mortality Hazard Ratios (95% CI) by TyG Subgroups Among Skin Cancer Survivors (n=613)

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend
All-cause mortality						
Model 1[a]	0.93(0.89,0.98)0.005	0.60(0.60,0.61)<0.001	1	0.74(0.59,0.94)0.012	0.56(0.54,0.58)<0.001	<0.001
Model 2[b]	0.85(0.82,0.88)<0.001	0.62(0.59,0.65)<0.001	1	0.63(0.53,0.75)<0.001	0.4070.3890.4260.000	<0.001
Model 3[c]	0.93(0.88,0.98)0.005	0.70(0.68,0.71)<0.001	1	0.70(0.60,0.81)<0.001	0.45(0.38,0.52)<0.001	<0.001
Cancer-related mortality						
Model 1[a]	0.56(0.37,0.86)0.007	1.08(0.84,1.40)0.536	1	2.15(0.70,6.62)0.180	0.16(0.10,0.27)<0.001	<0.001
Model 2	0.43(0.32,0.58)<0.001	0.88(0.34,2.25)0.786	1	1.50(0.65,3.48)0.344	0.09(0.08,0.10)<0.001	<0.001
Model 3[c]	0.67(0.43,1.04)0.078	0.49(0.07,3.34)0.470	1	1.94(1.33,2.83)<0.001	0.12(0.10,0.14)<0.001	0.011
CVD-related mortality						
Model 1[a]	2.00(1.58,2.52)<0.001	1.28(0.43,3.87)0.657	1	0.33(0.19,0.58)<0.001	0.99(0.43,2.28)0.990	0.632
Model 2[b]	3.16(2.36,4.23)<0.001	1.48(0.40,5.46)0.559	1	0.54(0.26,1.14)0.108	1.06(0.62,1.83)0.830	0.706
Model 3[c]	1.97(1.90,2.04)<0.001	2.70(0.20,36.50)0.454	1	0.47(0.42,0.52)<0.001	0.49(0.23,1.04)0.064	0.056

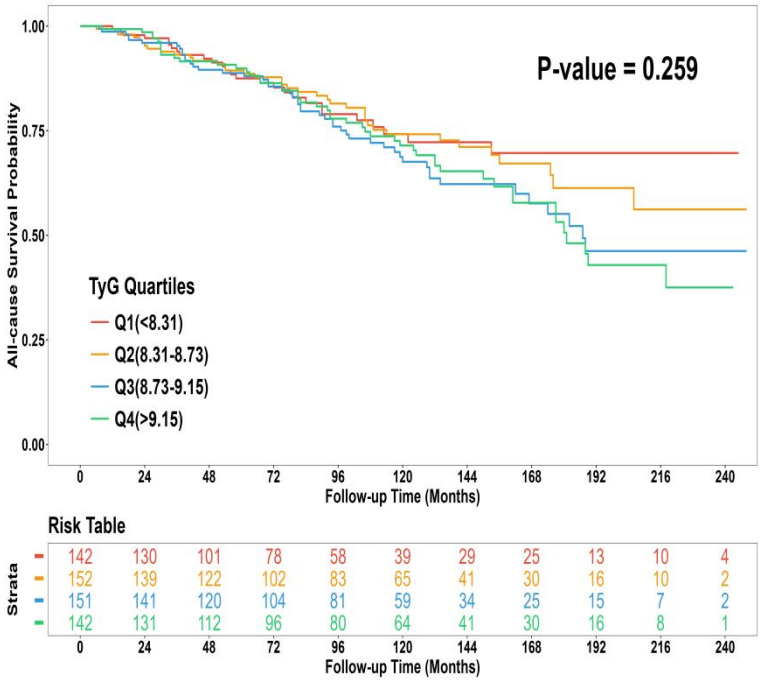
[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Figure S10.Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with all-cause mortality among female reproductive system cancer survivors(n=587).

A



B

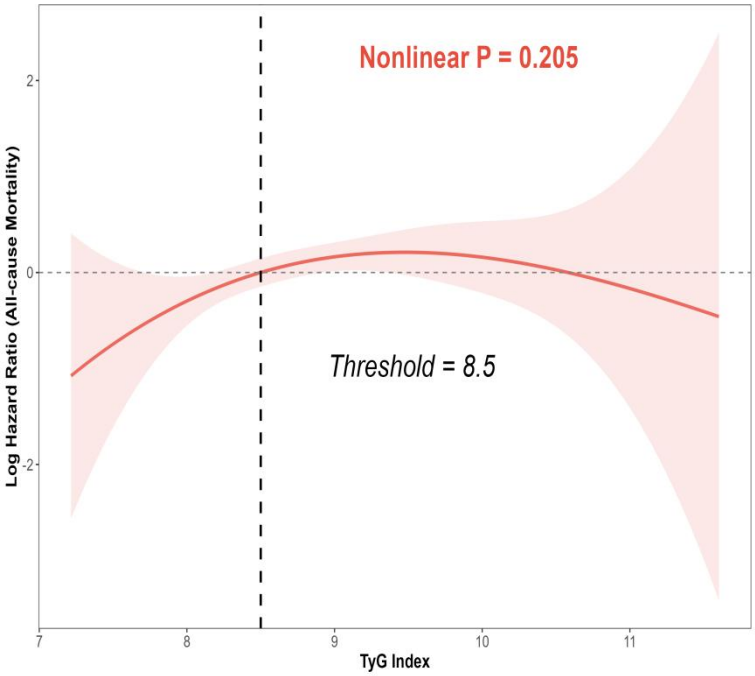
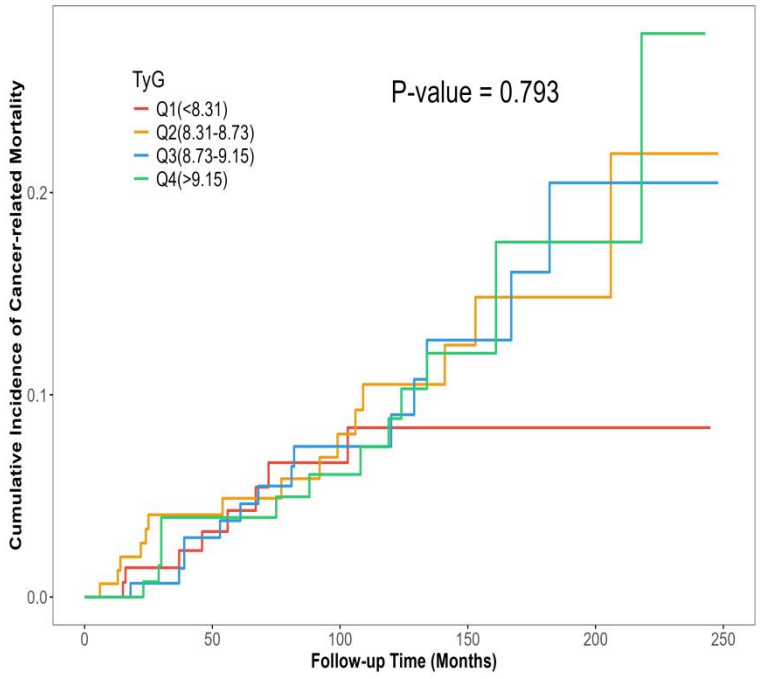


Figure S11. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with cancer-related mortality among skin cancer survivors(n=587).

A



B

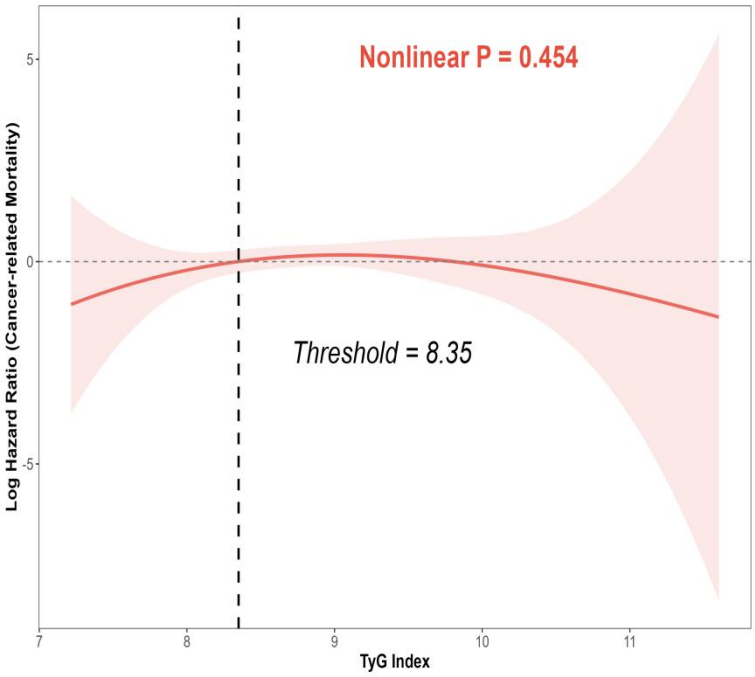
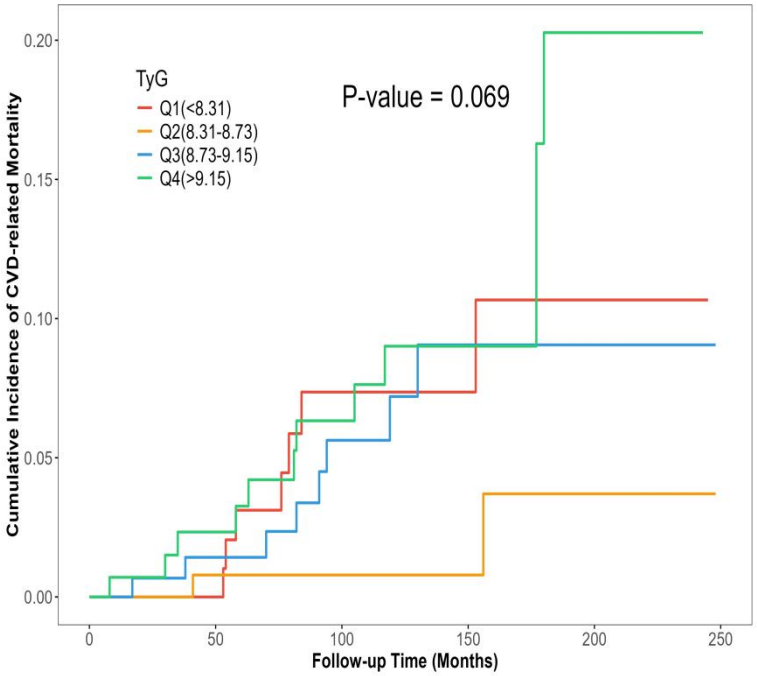


Figure S12. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with CVD-related mortality among skin cancer survivors(n=587).

A



B

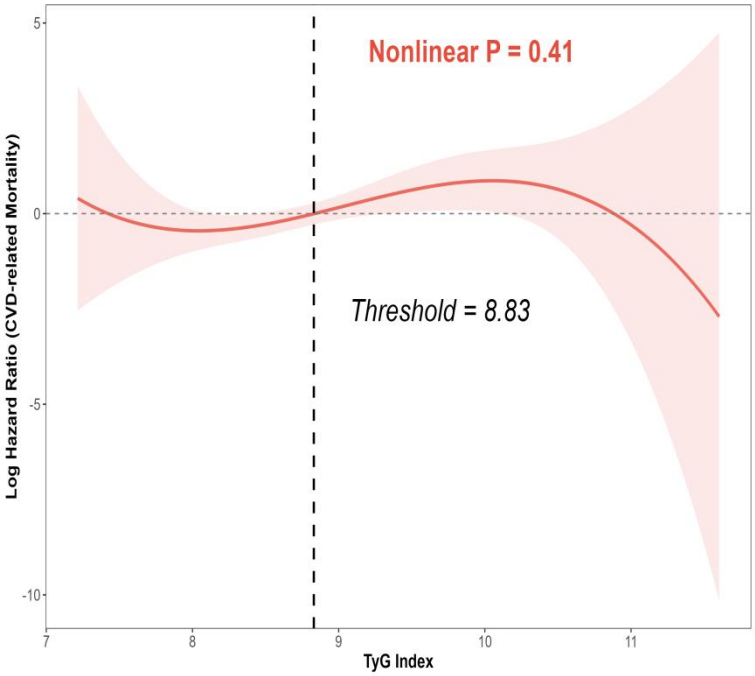


Table S11. Threshold Effect Analysis of TyG on Cause-Specific Mortality Among Female Reproductive System Cancer Survivors (n=587)

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	P for log likelihood ratio test
All-cause mortality	8.5	0.435(0.178,1.063)0.0678	1.043(0.763,1.426)0.7931	0.1258
Cancer-related mortality	8.35	0.494(0.076,3.196)0.4592	0.953(0.553,1.641)0.8622	0.4705
CVD-related mortality	8.83	0.784(0.218,2.825)0.7098	1.749(0.868,3.527)0.118	0.7199

Table S12. Mortality Hazard Ratios (95% CI) by TyG Subgroups Among Female Reproductive System Cancer Survivors (n=587)

TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend
All-cause mortality					
Model 1[a]	0.87(0.77,0.99)0.027	1.23(0.98,1.55)0.076	1 1.01(0.69,1.48)0.946	0.71(0.60,0.84)<0.001	<0.001
Model 2[b]	0.96(0.96,0.97)<0.001	1.26(0.54,2.94)0.599	1 1.09(0.67,1.79)0.726	0.75(0.55,1.03)0.007	<0.001
Model 3[c]	0.80(0.74,0.87)<0.001	1.49（0.64，3.50）0.359	1 1.03(0.78,1.36)0.861	0.63（0.42，0.96）0.033	<0.001
Cancer-related mortality					
Model 1[a]	0.44(0.30,0.65)<0.001	1.65(1.47,1.84)<0.001	1 0.47(0.20,1.10)0.081	0.46(0.21,1.00)0.051	0.008
Model 2	0.62(0.13,2.91)0.546	2.75(1.50,5.05)0.001	1 0.84(0.33,2.14)0.722	1.37(0.085.2.10)0.825	0.779
Model 3[c]	0.67(0.55,0.82)<0.001	2.11(0.79,5.62)0.136	1 0.63(0.13,2.97)0.560	1.72(1.07,2.78)0.025	0.340
CVD-related mortality					
Model 1[a]	1.25(1.13,1.40)<0.001	4.08(2.05,8.10)<0.001	1 1.11(0.45,2.77)0.816	3.02(1.79,5.10)<0.001	0.521
Model 2[b]	0.68(0.61,0.76)<0.001	8.31(1.61,43.00)0.012	1 1.27(0.47,3.42)0.631	2.31(0.65,8.21)0.197	0.213
Model 3[c]	-	-	- -	-	-

[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Note: "-" indicates that the hazard ratio could not be stably estimated due to extremely sparse events in the subgroup, hence not reported.

Figure S13. Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with all-cause mortality among urinary and reproductive system cancer survivors(n=458).

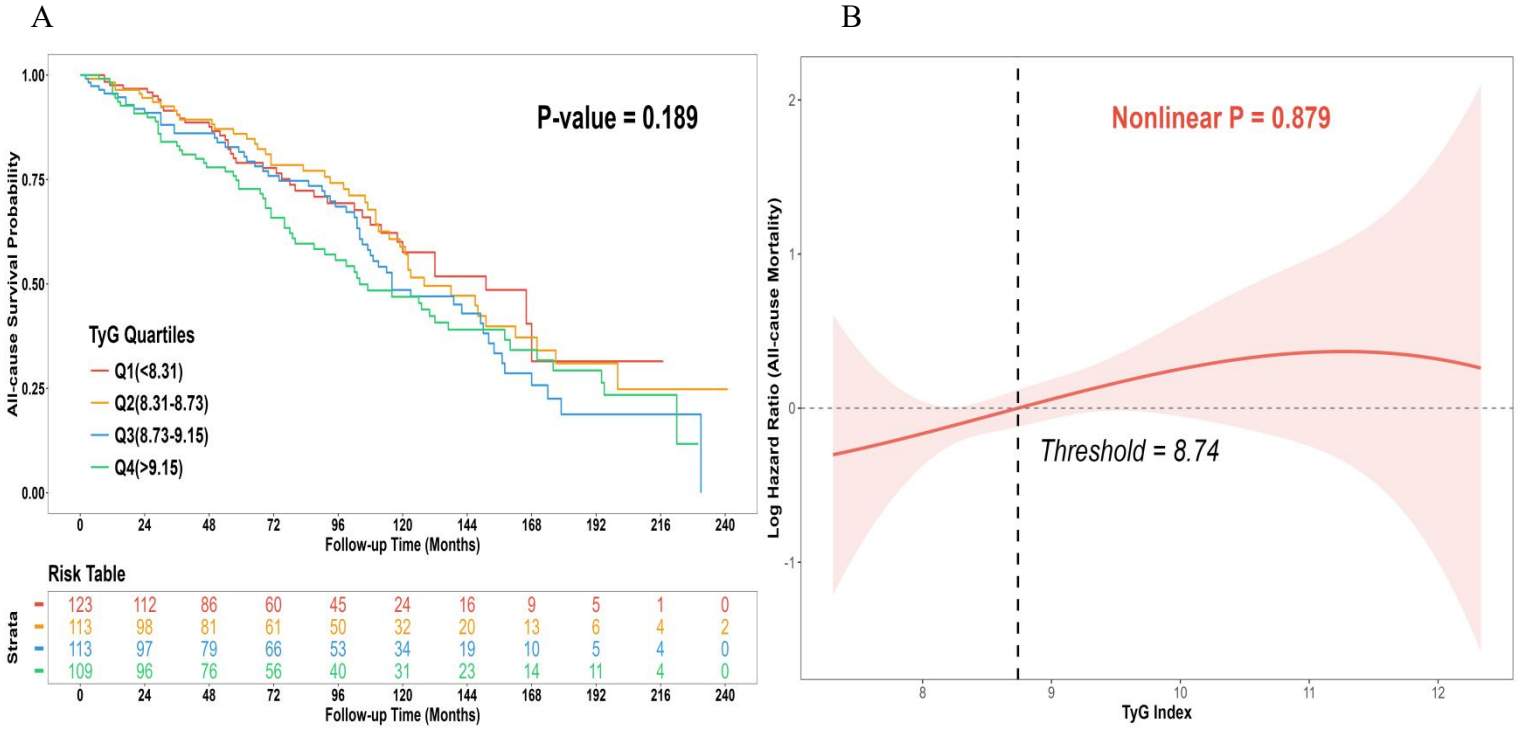


Figure S14. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with cancer-related mortality among urinary and reproductive system cancer survivors(n=458).

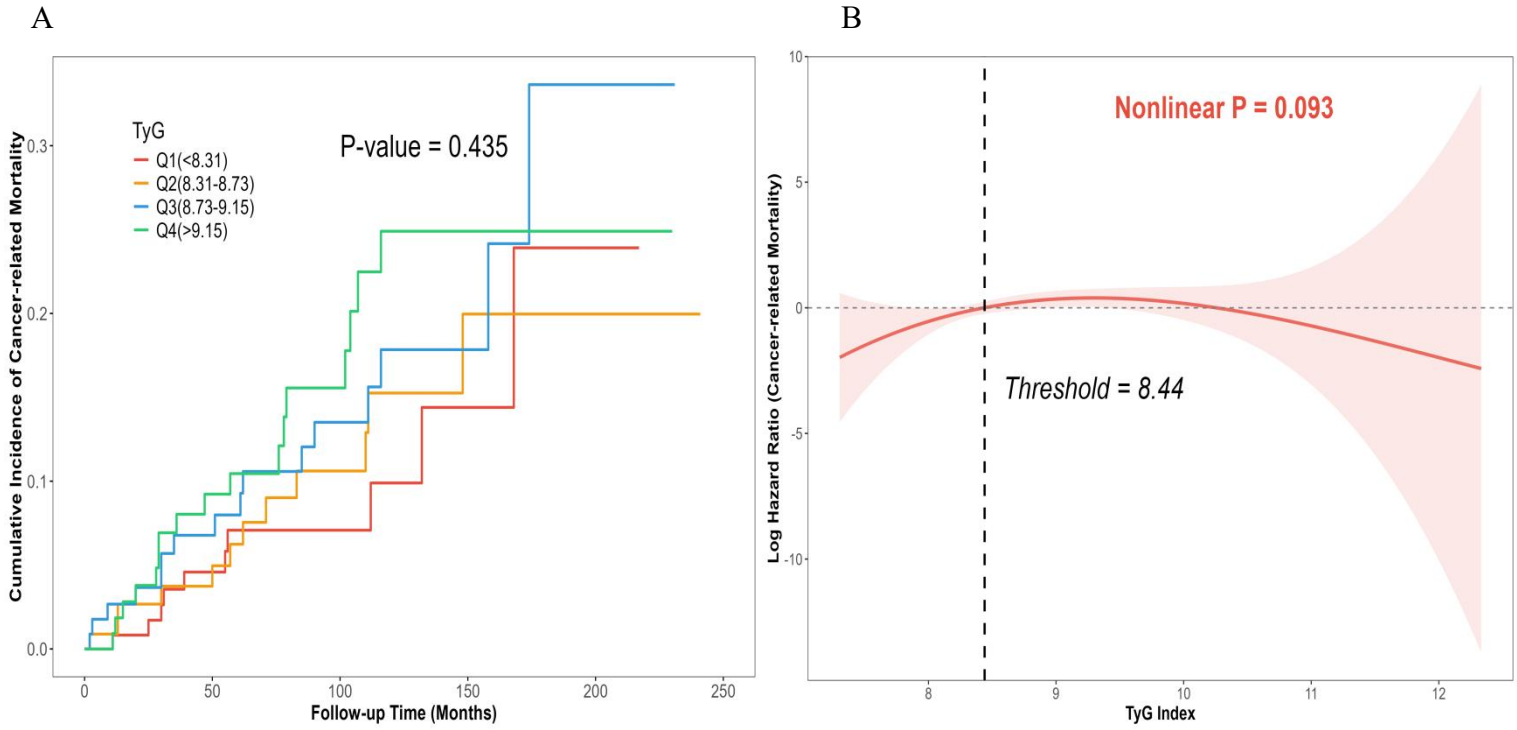


Figure S15. Cumulative incidence curves (A) and nonlinear association (B) of TyG index with CVD-related mortality among urinary and reproductive system cancer survivors(n=458).

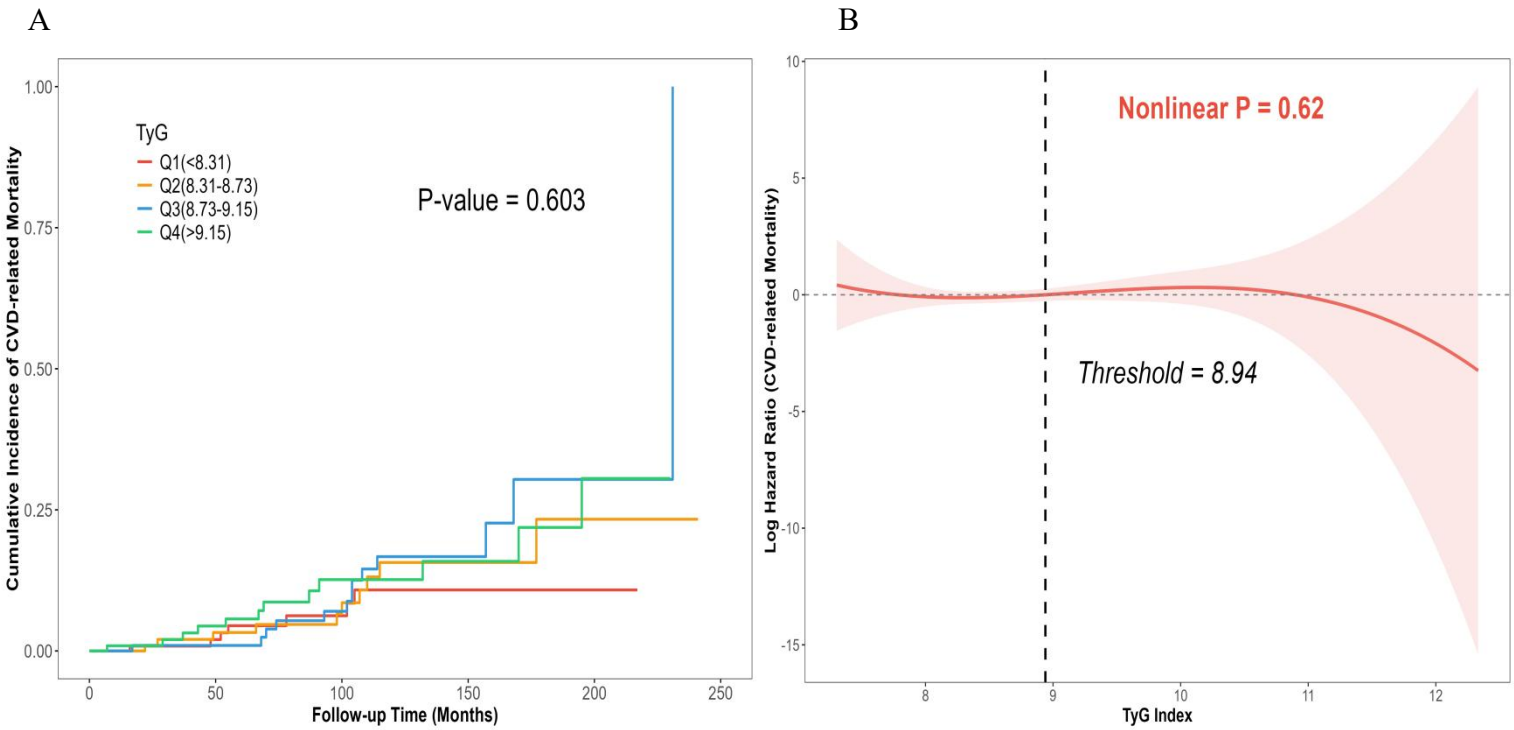


Table S13. Threshold Effect Analysis of TyG on Cause-Specific Mortality Among Urinary and Reproductive System Cancer Survivors (n=458)

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	P for log likelihood ratio test
All-cause mortality	8.74	0.819(0.489,1.373)0.4487	1.193(0.906,1.571)0.2092	0.9464
Cancer-related mortality	8.44	0.132(0.016,1.122)0.0637	0.959(0.578,1.588)0.8696	0.0566
CVD-related mortality	8.94	0.829(0.332,2.075)0.6893	1.03(0.481,2.203)0.9401	0.825

Table S14. Mortality Hazard Ratios (95% CI) by TyG Subgroups Among Urinary and Reproductive System Cancer Survivors (n=458).

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend
All-cause mortality						
Model 1[a]	1.05(1.02,1.08)0.003	0.91(0.81,1.02)0.115	1	0.99(0.72,1.39)0.998	0.92(0.85,0.99)0.020	0.982
Model 2[b]	0.98(0.61,1.56)0.927	1.14(0.86,1.53)0.363	1	0.91(0.67,1.22)0.514	0.95(0.67,1.34)0.759	0.525
Model 3[c]	1.05(0.62,1.79)0.844	1.14(0.68,1.93)0.613	1	0.99(0.77,1.30)0.982	1.05(0.85,1.30)0.660	0.828
Cancer-related mortality						
Model 1[a]	1.15(0.80,1.65)0.464	0.89(0.79,1.01)0.073	1	0.81(0.49,1.33)0.404	1.26(0.93,1.71)0.137	0.478
Model 2	0.95(0.35,2.56)0.915	1.20(0.75,1.91)0.451	1	0.44(0.27,0.72)0.001	1.10(0.35,3.46)0.869	0.754
Model 3[c]	0.95(0.28,3.28)0.938	1.18(0.33,4.22)0.800	1	0.29(0.23,0.36)<0.001	1.48(0.28,7.77)0.645	0.812
CVD-related mortality						
Model 1[a]	2.50(2.44,2.57)<0.001	0.52(0.31,0.86)0.012	1	1.75(1.54,1.98)<0.001	2.04(1.57,2.66)<0.001	<0.001
Model 2[b]	4.50(1.43,14.10)0.010	0.31(0.13,0.73)0.007	1	4.10(2.87,5.86)<0.001	2.01(0.50,8.05)0.322	0.033
Model 3[c]	4.22(3.85,4.62)<0.001	0.39(0.18,0.86)0.0195	1	3.73(1.42,9.83)0.008	1.37(0.60,3.14)0.455	<0.001

[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Figure S16. Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with all-cause mortality after excluding participants who died within the first 2 years of follow-up (n=1897).

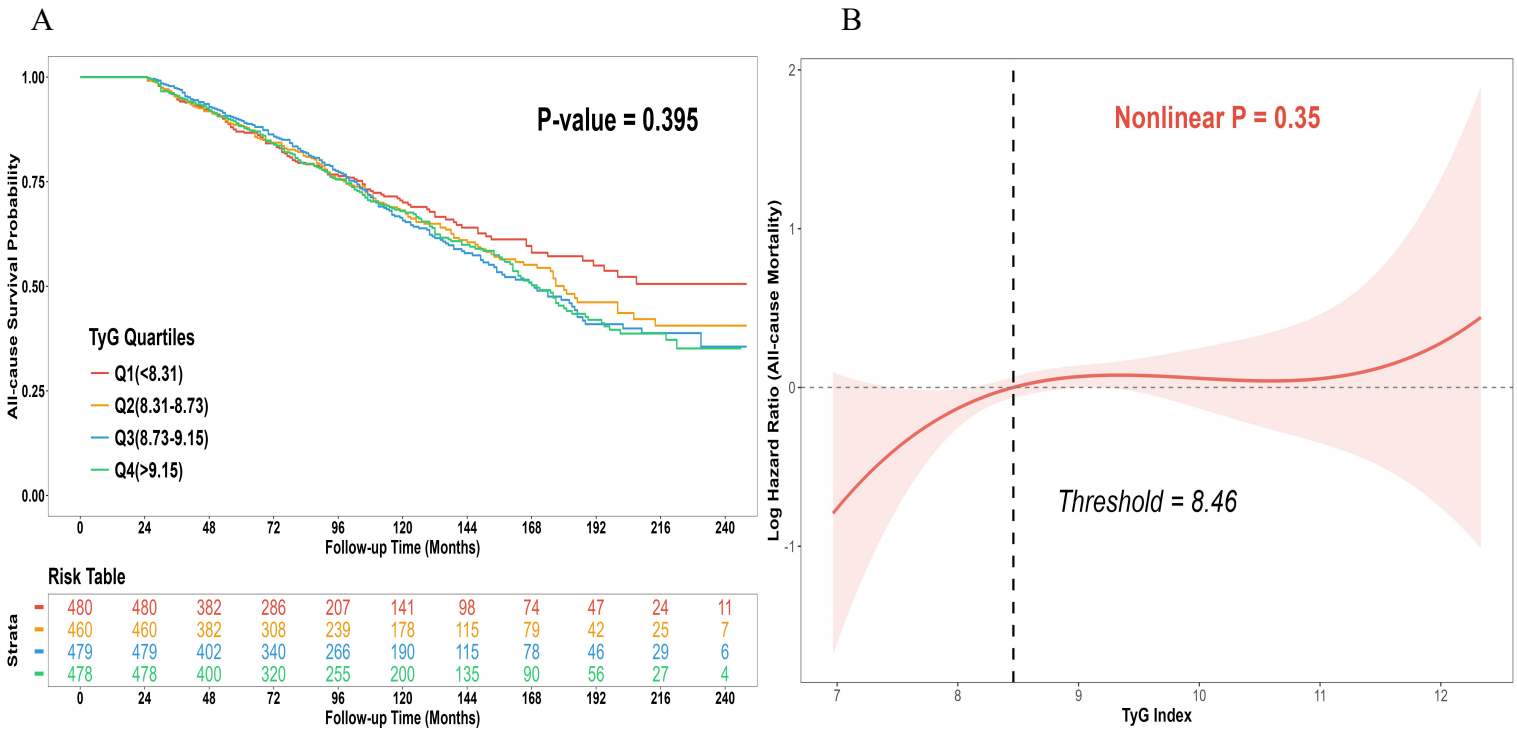


Figure S17. Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with cancer-related mortality after excluding participants who died within the first 2 years of follow-up (n=1897).

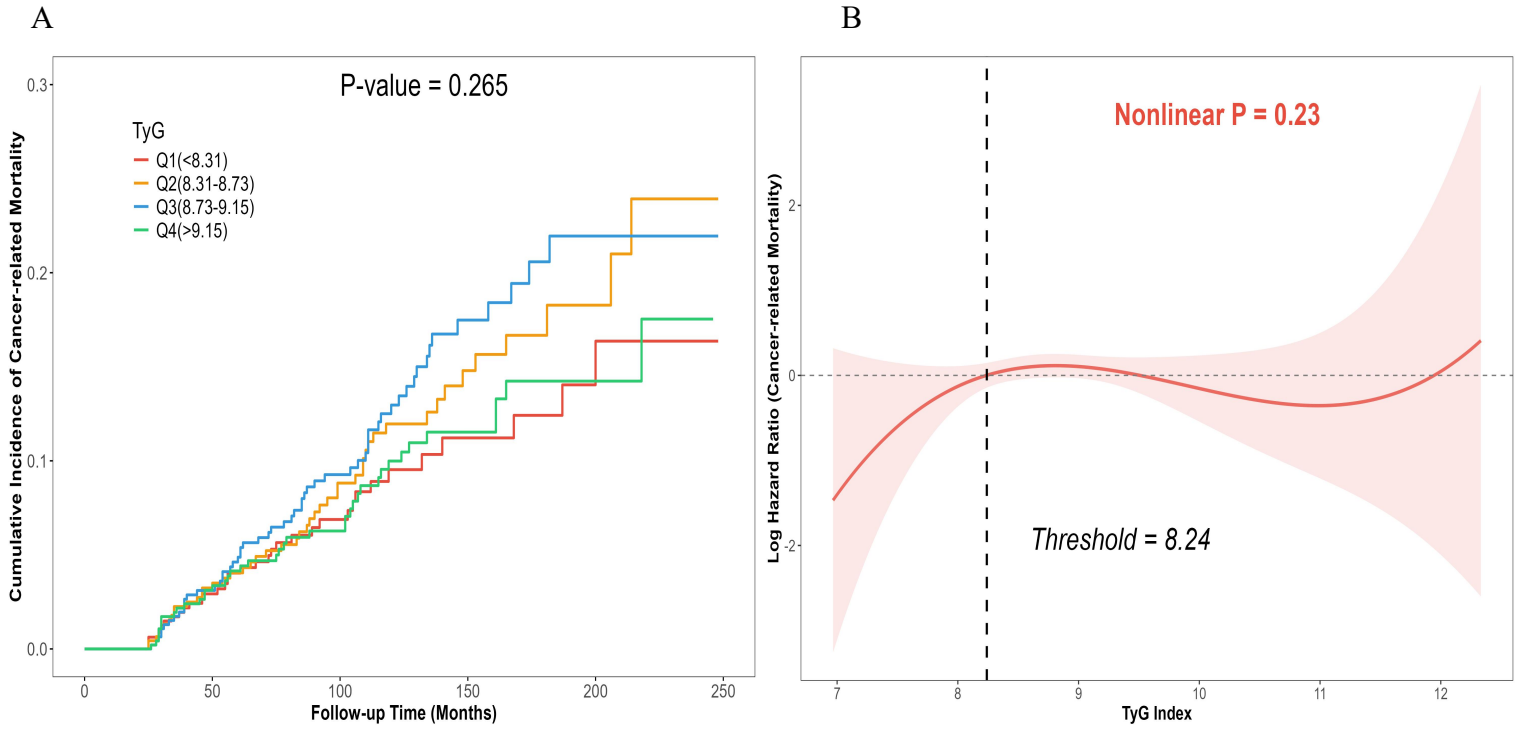


Figure S18. Kaplan-Meier curves (A) and nonlinear association (B) of TyG index with CVD-related mortality after excluding participants who died within the first 2 years of follow-up (n=1897).

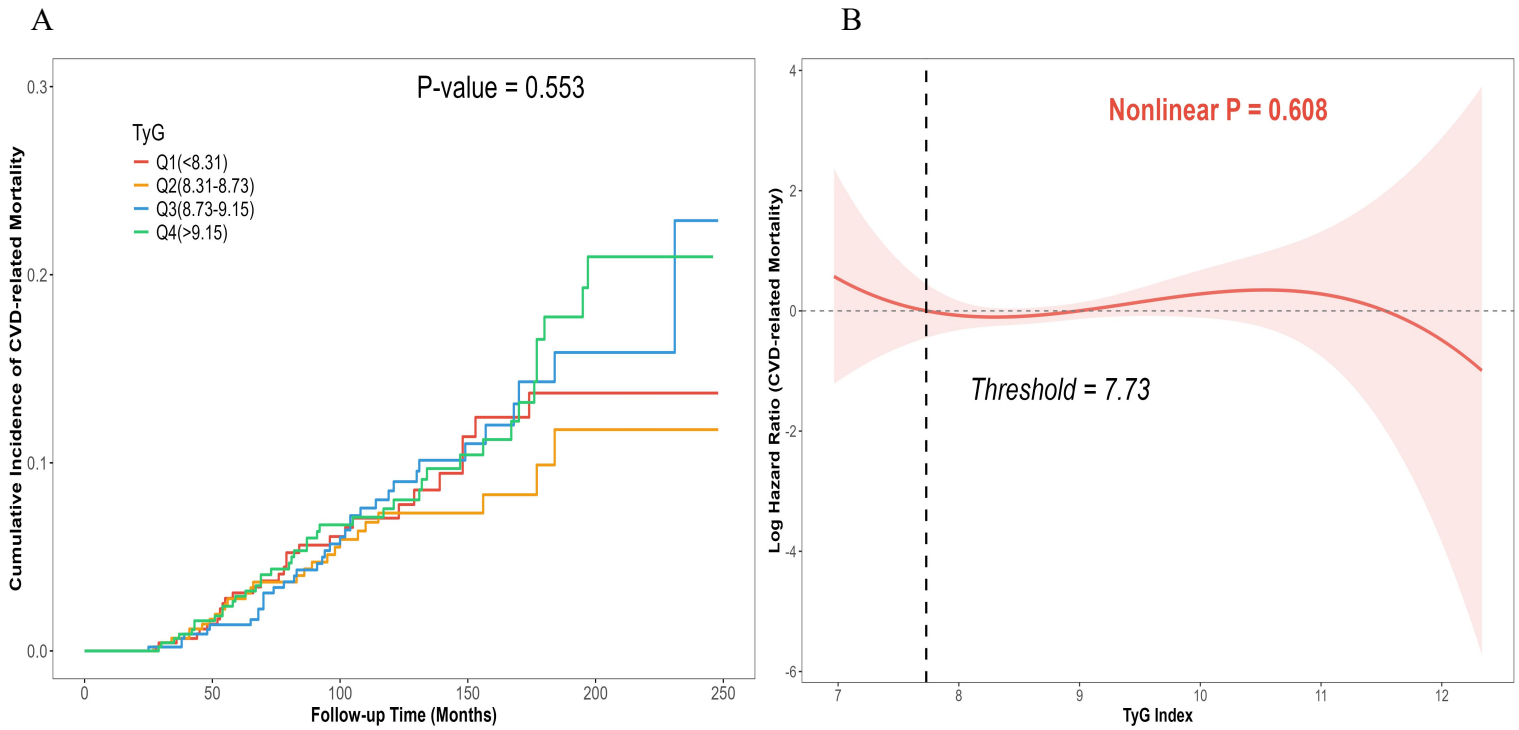


Table S15. Threshold effect analysis of TyG on all-cause mortality after excluding participants who died within two years of follow-up (n=1897)

Outcome	Threshold value	<threshold value (per 1 increment)	≥threshold value (per 1 increment)	*P* for log likelihood ratio test
All-cause mortality	8.46	0.659(0.422,1.03)0.0672	1.031(0.88,1.208)0.704	0.1465
Cancer-related mortality	8.24	0.416(0.112,1.544)0.190	0.93(0.702,1.231)0.6103	0.1719
CVD-related mortality	7.73	0.091(0,185.26)0.537	1.114(0.852,1.456)0.4309	0.5073

Table S16. Mortality Hazard Ratios (95% CI) by TyG Subgroups After Excluding Participants Who Died Within 2 Years of Follow- up (n=1897)

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend
All-cause mortality						
Model 1[a]	0.97(0.86,1.09)0.627	1.06(1.05,1.07)<0.001	1	1.04(1.00,1.08)0.039	0.97(0.90,1.04)0.348	0.046
Model 2[b]	0.92(0.81,1.05)0.225	1.09(1.07,1.10)<0.001	1	1.02(0.91,1.14)0.787	0.90(0.81,0.99)0.042	0.005
Model 3[c]	0.91(0.87,0.95)<0.001	1.13(1.06,1.21)<0.001	1	1.01(0.93,1.10)0.855	0.90(0.88,0.92)<0.001	<0.001
Cancer-related mortality						
Model 1[a]	0.79(0.49,1.29)0.347	1.11(0.97,1.27)0.13	1	1.27(0.85,1.92)0.245	0.70(0.52,0.96)0.027	0.233
Model 2	0.83(0.46,1.50)0.546	1.18(1.12,1.24)<0.001	1	1.27(0.72,2.25)0.412	0.79(0.46,1.36)0.396	0.422
Model 3[c]	0.89(0.61,1.30)0.584	1.13(0.89,1.43)0.326	1	1.25(0.79,1.96)0.337	0.84(0.60,1.17)0.297	0.233
CVD-related mortality						
Model 1[a]	1.17(1.14,1.20)<0.001	2.26(1.44,3.54)<0.001	1	1.23(0.51,2.98)0.647	2.03(1.45,2.84)<0.001	0.465
Model 2[b]	1.14(0.93,1.40)0.202	2.01(1.18,3.42)0.01	1	1.16(0.57,2.35)0.679	1.89(1.50,2.37)<0.001	0.003
Model 3[c]	0.89(0.85,0.92)<0.001	2.72(1.83,4.05)<0.001	1	1.09 (0.44,2.69)0.851	1.58(0.98,2.55)0.063	0.135

[a] Model 1: adjusted for age

[b] Model 2: further adjusted for sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status

[c] Model 3: further adjusted for hypertension, dyslipidemia, CVD, DM

Table S17.Stratified analyses of the associations (hazard ratios, 95% CIs) between different TyG subgroups and all-cause mortality

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend	P Interaction
Age(years)							0.013
<60 (n=572)	0.47(0.16,1.41) 0.178	0.52(0.50,0.55) <0.001	1	0.57(0.33,0.99) 0.047	0.37(0.03,4.35) 0.429	0.637	
≥60 (n=1567)	0.96(0.88,1.04) 0.281	1.04(1.03,1.05) <0.001	1	0.95(0.94,0.96) <0.001	0.86(0.823,0.89) <0.001	<0.001	
Gender							0.352
Male(n=1000)	0.91(0.85,0.98) 0.007	0.71(0.69,0.72) <0.001	1	0.66(0.47,0.92) 0.014	0.67(0.64,0.70) <0.001	0.007	
Female(n=1139)	0.88(0.73,1.04) 0.14	1.43(1.17,1.75) <0.001	1	1.26(1.05,1.52) 0.01	0.74(0.71,0.77) <0.001	<0.001	
BMI							0.903
<30 (n=1376)	1.08(0.94,1.25) 0.261	0.99(0.89,1.10) 0.856	1	1.10(0.84,1.45) 0.488	0.95(0.83,1.08) 0.424	0.912	
≥30 (n=763)	0.80(0.79,0.80) <0.001	1.00(0.64,1.58)0.996	1	0.67(0.37,1.20) 0.176	0.68(0.48,0.96) 0.027	<0.001	
Smoke							0.034
<100 (n=954)	0.97(0.78，1.21) 0.778	0.88(0.77,1.01) 0.072	1	1.01(0.80,1.27) 0.948	0.79(0.66,0.94) 0.009	0.675	
≥100 (n=1182)	0.97(0.78,1.19) 0.751	1.09(1.02,1.17) 0.008	1	0.87(0.82,0.92) <0.001	0.98(0.84,1.14) 0.772	0.107	
Drink							0.945
<12 (n=773)	0.93(0.67,1.28) 0.644	1.09(0.83,1.43) 0.531	1	0.96(0.76,1.21) 0.735	0.69(0.45,1.06) 0.089	0.223	
≥12 (n=1366)	0.88(0.79,0.98) 0.023	1.04(1.01,1.07) 0.004	1	1.06(0.90,1.24) 0.510	0.82(0.68,0.99) 0.040	<0.001	

Note: All models were adjusted for age, sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status, hypertension, dyslipidemia, CVD, and DM.

Table S18.Stratified analyses of the associations (hazard ratios, 95% CIs) between different TyG subgroups and cancer-related mortality

	TyG	Q1(<8.31)	Q2(8.31-8.73)	Q3(8.73-9.15)	Q4(>9.15)	P trend	P Interaction
Age(years)							0.011
<60 (n=572)	0.78（0.34,1.75) 0.540	0.54(0.45,0.65) <0.001	1	1.44(0.34,6.11) 0.621	0.60(0.36,0.98) 0.042	0.580	
≥60 (n=1567)	0.96(0.81,1.13) 0.600	0.77(0.71,0.83) <0.001	1	0.94(0.70,1.26) 0.682	0.66(0.62,0.70) <0.001	<0.001	
Gender							0.007
Male(n=1000)	0.93(0.80,1.10) 0.401	0.62(0.59,0.65) <0.001	1	0.73(0.42,1.25) 0.253	0.62(0.60,0.65) <0.001	0.478	
Female(n=1139)	0.68(0.43,1.08) 0.106	1.27(0.99,1.63) 0.058	1	1.11(0.48,2.56) 0.804	0.44(0.25,0.78) 0.005	0.055	
BMI							<0.001
<30 (n=1376)	1.56(1.46,1.67) <0.001	0.75(0.63,0.89) 0.001	1	1.33(0.96,1.84) 0.087	1.31(1.27,1.36) <0.001	<0.001	
≥30 (n=763)	0.31(0.28,0.33) <0.001	0.91(0.81,1.02) 0.110	1	0.30(0.29,0.31) <0.001	0.16(0.14,0.19) <0.001	<0.001	
Smoke							0.254
<100 (n=954)	0.98(0.64,1.50) 0.926	0.70(0.59,0.82) <0.001	1	0.78(0.52,1.18) 0.238	0.43(0.19,0.98) 0.045	0.442	
≥100 (n=1182)	0.89(0.57,1.41) 0.622	1.12(0.91,1.39) 0.280	1	0.88(0.71,1.09) 0.235	0.93(0.75,1.16) 0.543	0.327	
Drink							0.883
<12 (n=773)	0.90(0.28,2.90) 0.861	0.77(0.32,1.88) 0.571	1	0.85(0.51,1.44) 0.552	0.33(0.18,0.61) <0.001	0.335	
≥12 (n=1366)	0.83(0.75,0.92) <0.001	0.95(0.87,1.04) 0.262	1	1.10(0.72,1.69) 0.662	0.80(0.78,0.82) <0.001	0.071	

Note: All models were adjusted for age, sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status, hypertension, dyslipidemia, CVD, and DM.

Table S19.Stratified analyses of the associations (hazard ratios, 95% CIs) between different TyG subgroups and CVD-related mortality

	TyG	Q1(<8.31)		Q3(8.73-9.15)	Q4(>9.15)	P trend	
			Q2(8.31-8.73)				P Interaction
Age(years)							-
<60 (n=572)	-	-	-	-	-	-	
≥60 (n=1567)	1.28(1.08,1.51) 0.004	1.87(1.28,2.72) 0.001	1	1.12(0.80,1.56) 0.524	1.77(1.59,1.97) <0.001	0.226	
Gender							<0.001
Male(n=1000)	1.17(0.99,1.38) 0.071	1.63(1.50,1.76) <0.001	1	0.88(0.65,1.20) 0.410	0.82(0.31,2.11) 0.674	0.188	
Female(n=1139)	0.99(0.83,1.17) 0.892	4.03(2.16,7.51) <0.001	1	1.00(0.53,1.90) 0.992	2.57(1.63,4.03) <0.001	0.060	
BMI							0.056
<30 (n=1376)	0.68(0.61,0.77) <0.001	1.73(1.37,2.20) <0.001	1	1.09(1.06,1.12) <0.001	0.65(0.48,0.88) 0.005	<0.001	
≥30 (n=763)	1.93(1.51,2.46) <0.001	1.34(0.26,6.79) 0.727	1	2.72(0.81, 9.17) 0.107	5.42(2.64,11.10) <0.001	<0.001	
Smoke							0.974
<100 (n=954)	1.59(0.69,3.66) 0.277	2.02(0.90,4.52) 0.087	1	1.71(0.96,3.07) 0.071	2.72(1.81,4.07) <0.001	0.562	
≥100 (n=1182)	0.87(0.62,1.23) 0.431	1.08(0.49,2.41) 0.845	1	0.65(0.42,0.99) 0.047	0.80(0.49,1.31) 0.378	<0.001	
Drink							<0.001
<12 (n=773)	0.84(0.79,0.90) <0.001	1.34(0.82,2.20) 0.240	1	1.27(0.95,1.70) 0.105	1.06(0.81,1.39) 0.654	0.091	
≥12 (n=1366)	1.20(0.97,1.48) 0.096	1.72(1.38,2.14) <0.001	1	1.52(1.45,1.59) <0.001	1.41(1.02,1.95) 0.040	0.640	

Note: All models were adjusted for age, sex, race, BMI, education, income-poverty ratio, alcohol use, smoking status, marital status, hypertension, dyslipidemia, CVD, and DM.

"-" indicates that the hazard ratio could not be stably estimated due to extremely sparse events in the subgroup, hence not reported.