Table S1 Stratified logistic regression analysis to identify variables that modify the correlation between chronic bowel disease and stone, weighted

Characteristics	Chronic bowel disease[†]			P for interaction
	None (OR, 95% CI)	Chronic constipation (OR, 95% CI)	Chronic diarrhea (OR, 95% CI)	
Age (years)				0.76
20–39	1.0 (reference)	1.21 (0.75, 1.96)	2.61 (1.19, 5.74)	
40–59	1.0 (reference)	1.40 (0.81, 2.41)	1.43 (0.87, 2.34)	
60–80	1.0 (reference)	1.05 (0.55, 2.00)	1.57 (1.01, 2.46)	
Gender				0.50
Male	1.0 (reference)	1.01 (0.54, 1.88)	1.91 (1.28, 2.85)	
Female	1.0 (reference)	1.45 (0.89, 2.38)	1.43 (0.90, 2.28)	
Race				0.96
Non-Hispanic Black	1.0 (reference)	1.11 (0.52, 2.36)	1.68 (0.75, 3.74)	
Non-Hispanic White	1.0 (reference)	1.35 (0.91, 2.01)	1.71 (1.19, 2.46)	
Hispanic/Mexican	1.0 (reference)	0.99 (0.45, 2.15)	1.60 (0.98, 2.61)	
Other race	1.0 (reference)	0.60 (0.15, 2.48)	1.22 (0.18, 8.19)	
Education level				0.11
≤ High school	1.0 (reference)	2.16 (1.11, 4.23)	1.31 (0.74, 2.32)	
> High school	1.0 (reference)	1.04 (0.62, 1.73)	1.84 (1.27, 2.67)	
Family income-to-poverty ratio				0.34
<1.3	1.0 (reference)	1.09 (0.63, 1.89)	1.97 (1.17, 3.32)	
≥1.3, <3.5	1.0 (reference)	1.12 (0.62, 2.03)	2.13 (1.36, 3.33)	
≥3.5	1.0 (reference)	1.51 (0.82, 2.77)	1.18 (0.75, 1.87)	
BMI (kg/m^2)				0.12
≤20	1.0 (reference)	0.98 (0.10, 9.54)	2.61 (0.42, 16.08)	
>20, ≤25	1.0 (reference)	0.86 (0.37, 2.00)	1.13 (0.47, 2.70)	
>25, ≤30	1.0 (reference)	0.92 (0.44, 1.92)	2.49 (1.47, 4.21)	
>30	1.0 (reference)	2.11 (1.36, 3.28)	1.43 (0.94, 2.17)	
Smoking history				0.35
Non-smoker	1.0 (reference)	0.80 (0.37, 1.77)	1.48 (0.98, 2.24)	
Smoker	1.0 (reference)	1.74 (1.00, 3.05)	1.84 (1.21, 2.79)	
Alcohol drinking history (drinks/week)				0.23
<1	1.0 (reference)	1.48 (1.06, 2.09)	1.59 (1.05, 2.40)	
1–3	1.0 (reference)	0.61 (0.26, 1.42)	2.17 (1.24, 3.79)	
≥4	1.0 (reference)	0.90 (0.21, 3.93)	1.42 (0.72, 2.83)	
Recreational activity				0.39
None	1.0 (reference)	1.08 (0.65, 1.79)	1.78 (1.22, 2.59)	
Moderate	1.0 (reference)	1.93 (1.02, 3.64)	1.30 (0.63, 2.71)	
Vigorous	1.0 (reference)	0.85 (0.21, 3.49)	1.92 (0.95, 3.90)	
Diabetes mellitus				0.35
No	1.0 (reference)	1.19 (0.80, 1.78)	1.82 (1.33, 2.49)	
Yes	1.0 (reference)	1.64 (0.79, 3.39)	1.32 (0.73, 2.38)	
Hypertension				0.22
No	1.0 (reference)	1.41 (0.78, 2.55)	2.11 (1.44, 3.09)	
Yes	1.0 (reference)	1.11 (0.61, 1.99)	1.35 (0.90, 2.02)	
Coronary heart disease				0.82
No	1.0 (reference)	1.26 (0.90, 1.77)	1.72 (1.28, 2.31)	
Yes	1.0 (reference)	1.30 (0.49, 3.44)	1.26 (0.48, 3.34)	

[†], adjusted for demographic characteristics in model 1 and BMI, smoking history, alcohol drinking history, recreational activity, diabetes mellitus, blood hypertension, and coronary heart disease. P<0.05 presents significant difference. All the models are not adjusted for the variable itself in each stratification. BMI, body mass index; OR, odds ratio; CI, confidence interval.

Table S2 Distributions of variates with complete cases comparing to results from pooling the data with imputed variables from multiple imputation

Characteristics	Complete case (N=8,067)	Multiple imputation (N=10,412)
Age (years)	49.31±17.33	50.00±17.75
Gender		
Male	4,320 (53.55)	5,148 (49.44)
Female	3,747 (46.45)	5,264 (50.56)
Race		
Non-Hispanic Black	1,511 (18.73)	1,973 (18.95)
Non-Hispanic White	4,173 (51.73)	5,042 (48.42)
Hispanic/Mexican	2,088 (25.88)	2,960 (28.43)
Other race	295 (3.66)	437 (4.20)
Education level		
≤ High school	2,137 (26.49)	3,009(28.90)
> High school	5,930 (73.51)	7,403 (71.10)
Family income-to-poverty ratio		
<1.3	2,411 (29.89)	3,311 (31.80)
≥1.3, <3.5	3,033 (37.60)	4,019 (38.60)
≥3.5	2,623 (32.52)	3,082 (29.60)
BMI (kg/m^2)		
≤20	337 (4.18)	442 (4.24)
>20, ≤25	1,955 (24.23)	2,489 (23.91)
>25, ≤30	2,766 (34.29)	3,555 (34.14)
>30	3,009 (37.30)	3,926 (37.71)
Smoking history		
Non-smoker	3,824 (47.40)	5,485 (52.68)
Smoker	4,243 (52.60)	4,927 (47.32)
Alcohol drinking history (drinks/week)		
<1	5,031 (62.37)	6,741 (64.74)
1–3	2,082 (25.81)	2,520 (24.20)
≥4	954 (11.83)	1151 (11.05)
Recreational activity		
None	4,276 (53.01)	5,765 (55.37)
Moderate	2,125 (26.34)	2,675 (25.69)
Vigorous	1,666 (20.65)	1,972 (18.94)
Diabetes mellitus		
No	6,653 (82.47)	8,455 (81.20)
Yes	1,414 (17.53)	1,957 (18.80)
Hypertension		
No	4,713 (58.42)	5,975 (57.39)
Yes	3,354 (41.58)	4,437 (42.61)
Coronary heart disease		
No	7,723 (95.74)	9,981 (95.86)
Yes	344 (4.26)	431 (4.14)
Renal stone		
No	7,330 (90.86)	9,453 (90.79)
Yes	737 (9.14)	959 (9.21)

Data were n (%) or mean ± standard deviation. BMI, body mass index.