

Table S1. Association between Quartiles of Dietary Energy-adjusted Folate and Fluorosis According to Sex, Alcohol Drinking Status, Smoking Status and Urinary Fluoride Levels

Folate (ug/day)	Quartile of intake				<i>P</i> -trend	<i>P</i> -interaction
	Q1	Q2	Q3	Q4		
<b>Sex</b>						
<b>Men</b>						
No. cases/controls	67/12	79/14	83/36	82/39		
OR (95% CI) <sup>‡</sup>	1	1.09 (0.45,2.67)	0.36 (0.16,0.80)	0.37 (0.17,0.83)	0.001	
<b>Women</b>						
No. cases/controls	112/32	98/33	70/35	62/40		
OR (95% CI) <sup>‡</sup>	1	0.84 (0.46,1.54)	0.52 (0.28,0.98)	0.41(0.21, 0.79)	0.003	0.960
<b>Alcohol</b>						
<b>Drinker</b>						
No. cases/controls	40/12	64/11	46/24	52/26		
OR (95% CI) <sup>‡</sup>	1	1.94 (0.70,5.46)	0.51 (0.20,1.35)	0.65 (0.26,1.63)	0.063	
<b>Non-drinker</b>						
No. cases/controls	139/32	113/36	107/47	92/53		
OR (95% CI) <sup>‡</sup>	1	0.67(0.38,1.18)	0.43 (0.24,0.76)	0.30 (0.17, 0.56)	< 0.001	0.591
<b>Smoking status</b>						
<b>Smoker</b>						
No. cases/controls	64/15	70/12	72/28	71/30		
OR (95% CI) <sup>‡</sup>	1	1.50 (0.61,3.69)	0.55 (0.25,1.22)	0.55 (0.25,1.21)	0.032	
<b>Non-smoker</b>						

No. cases/controls	115/29	107/35	81/43	73/49		
OR (95% CI) <sup>‡</sup>	1	0.73(0.40,1.33)	0.41 (0.22,0.77)	0.33 (0.17, 0.62)	< 0.001	0.290
Urinary level <sup>†</sup>						
≤1.6 mg/L						
No. cases/controls	84/25	88/20	74/36	78/50		
OR (95% CI) <sup>‡</sup>	1	1.19 (0.57,2.46)	0.51 (0.26,1.01)	0.31 (0.16,0.61)	< 0.001	
>1.6mg/L						
No. cases/controls	56/10	58/11	56/14	46/12		
	1	0.94 (0.34,2.64)	0.47 (0.17,1.34)	0.60(0.21, 1.76)	0.214	0.584

**Note.** <sup>‡</sup> odds ratio was adjusted for covariates including age, gender, marital status, education level, income, smoking status, passive smoking status, alcohol drinking status, tea drinking status, using coal to roast grains or chili, washing dry grains or chili before use, fuel type, using improved stove, calcium intake, roasted chili and grains consumption, total energy intake. <sup>†</sup> We obtained 718 urinary fluoride measurements from participants. \* P < 0.05, \*\* P < 0.01.

Table S2. Association between Quartiles of Dietary Energy-adjusted Methionine and Fluorosis According to Sex, Alcohol Drinking Status, Smoking Status and Urinary Fluoride Levels

Methionine (mg/day)	Quartile of intake				<i>P</i> -trend	<i>P</i> -interaction
	Q1	Q2	Q3	Q4		
<b>Sex</b>						
<b>Men</b>						
No. cases/controls	66/13	80/16	81/25	84/47		
OR (95% CI) <sup>‡</sup>	1	1.18 (0.50,2.77)	0.67 (0.29,1.54)	0.37 (0.17,0.81)	0.001	
<b>Women</b>						
No. cases/controls	105/39	100/28	83/35	54/38		
OR (95% CI) <sup>‡</sup>	1	1.09 (0.58,2.02)	0.75 (0.41,1.38)	0.51(0.27, 0.96)	0.024	0.603
<b>Alcohol</b>						
<b>Drinker</b>						
No. cases/controls	43/11	56/15	53/14	50/33		
OR (95% CI) <sup>‡</sup>	1	1.11 (0.41,0.30)	1.24 (0.44,3.50)	0.44 (0.17,1.15)	0.040	
<b>Non-drinker</b>						
No. cases/controls	128/41	124/29	111/46	88/52		
OR (95% CI) <sup>‡</sup>	1	1.16 (0.65,2.06)	0.64 (0.37,1.10)	0.47 (0.27,0.83)	0.002	0.893
<b>Smoking status</b>						
<b>Smoker</b>						
No. cases/controls	64/16	73/14	72/19	68/36		
OR (95% CI) <sup>‡</sup>	1	1.49 (0.64,3.51)	1.00 (0.43,2.36)	0.49 (0.22,1.07)	0.016	
<b>Non-smoker</b>						
No. cases/controls	107/36	107/30	92/41	70/49		

OR (95% CI) <sup>‡</sup>	1	1.04(0.57,1.91)	0.64 (0.36,1.16)	0.47 (0.25,0.85)	0.005	0.734
Urinary level <sup>†</sup>						
≤1.6 mg/L						
No. cases/controls	74/25	91/20	82/29	77/57		
OR (95% CI) <sup>‡</sup>	1	1.45 (0.67,3.06)	0.81 (0.40,1.65)	0.31 (0.16,0.62)**	< 0.001	
>1.6mg/L						
No. cases/controls	58/15	62/8	56/15	40/9		
	1	1.87 (0.68,5.14)	1.01 (0.41,2.51)	1.28 (0.43, 3.75)	0.888	0.147

**Note.** <sup>‡</sup> See table S1 for the covariates. <sup>†</sup> We obtained 718 urinary fluoride measurements from participants. \* P < 0.05, \*\* P < 0.01.

Table S3. Association between Quartiles of Dietary Energy-adjusted Vitamin B<sub>6</sub> and Fluorosis According to Sex, Alcohol Drinking Status, Smoking Status and Urinary Fluoride Levels

Vitamin B <sub>6</sub> (mg/day)	Quartile of intake				<i>P</i> -trend	<i>P</i> -interaction
	Q1	Q2	Q3	Q4		
<b>Sex</b>						
<b>Men</b>						
No. cases/controls	71/10	76/17	86/38	78/36		
OR (95% CI) <sup>‡</sup>	1	0.60 (0.25,1.47)	0.26 (0.11,0.60)**	0.33 (0.14,0.76)**	0.003	
<b>Women</b>						
No. cases/controls	106/36	104/27	67/33	65/44		
OR (95% CI) <sup>‡</sup>	1	1.24(0.67,2.32)	0.70 (0.37,1.32)	0.36 (0.19,0.69)**	0.001	0.877
<b>Alcohol</b>						
<b>Drinker</b>						
No. cases/controls	42/7	64/16	45/24	51/26		
OR (95% CI) <sup>‡</sup>	1	0.56 (0.19,1.62)	0.27 (0.09,0.79)*	0.31 (0.11,0.88)*	0.015	
<b>Non-drinker</b>						
No. cases/controls	135/39	116/28	108/47	92/54		
OR (95% CI) <sup>‡</sup>	1	1.12 (0.62,2.00)	0.53 (0.30,0.92)*	0.37 (0.21,0.66)**	< 0.001	0.862
<b>Smoking status</b>						
<b>Smoker</b>						
No. cases/controls	67/12	74/18	72/29	64/26		
OR (95% CI) <sup>‡</sup>	1	0.79 (0.33,1.89)	0.34 (0.15,0.79)*	0.50 (0.21,1.19)	0.041	
<b>Non-smoker</b>						
No. cases/controls	110/34	106/26	81/42	79/54		

OR (95% CI) <sup>‡</sup>	1	1.11 (0.59,2.08)	0.53 (0.31,1.05)	0.32 (0.17,0.59)**	< 0.001	0.655
Urinary level <sup>†</sup>						
≤1.6 mg/L						
No. cases/controls	88/26	85/20	72/34	79/51		
OR (95% CI) <sup>‡</sup>	1	1.12 (0.55,2.31)	0.49 (0.24,0.98)*	0.31 (0.16,0.60)**	< 0.001	
>1.6mg/L						
No. cases/controls	52/12	65/10	54/16	45/9		
	1	1.43 (0.52,3.94)	0.65 (0.24,1.75)	0.99 (0.33,3.01)	0.628	0.273

**Note.** <sup>‡</sup> See table S1 for the covariates. <sup>†</sup> We obtained 718 urinary fluoride measurements from participants. \* P< 0.05, \*\* P< 0.01.

Table S4. Association between Quartiles of Dietary Energy-adjusted Total Choline and Fluorosis According to Sex, Alcohol Drinking Status, Smoking Status and Urinary Fluoride Levels

Total choline (mg/day)	Quaritle of intake				<i>P</i> -trend	<i>P</i> -interaction
	Q1	Q2	Q3	Q4		
<b>Sex</b>						
<b>Men</b>						
No. cases/controls	77/11	71/21	77/35	86/34		
OR (95% CI) <sup>‡</sup>	1	0.49 (0.21,1.13)	0.32 (0.14,0.71)**	0.43 (0.19,0.97)*	0.044	
<b>Women</b>						
No. cases/controls	103/32	97/35	83/29	59/44		
OR (95% CI) <sup>‡</sup>	1	0.73 (0.39,1.35)	0.94 (0.49,1.79)	0.39 (0.20,0.74)**	0.016	0.662
<b>Alcohol</b>						
<b>Drinker</b>						
No. cases/controls	44/11	48/13	53/26	57/23		
OR (95% CI) <sup>‡</sup>	1	1.02 (0.38,2.76)	0.32 (0.25,1.46)	0.85 (0.34,2.12)	0.519	
<b>Non-drinker</b>						
No. cases/controls	136/32	120/43	107/38	88/55		
OR (95% CI) <sup>‡</sup>	1	0.53 (0.30,0.94)*	0.59 (0.33,1.06)	0.35 (0.20,0.63)**	0.001	0.368
<b>Smoking status</b>						
<b>Smoker</b>						
No. cases/controls	66/12	68/22	73/26	70/25		
OR (95% CI) <sup>‡</sup>	1	0.58 (0.25,1.32)	0.55 (0.24,1.25)	0.69 (0.30,1.60)	0.480	
<b>Non-smoker</b>						
No. cases/controls	114/31	100/34	87/38	75/53		

OR (95% CI) <sup>‡</sup>	1	0.68 (0.37,1.25)	0.61 (0.33,1.12)	0.35 (0.19,0.64)**	0.001	0.093
Urinary level <sup>†</sup>						
≤1.6 mg/L						
No. cases/controls	76/20	82/34	89/29	77/48		
OR (95% CI) <sup>‡</sup>	1	0.53 (0.26,1.07)	0.65 (0.31,1.35)	0.35 (0.17,0.70)**	0.008	
>1.6mg/L						
No. cases/controls	64/12	63/9	42/16	47/10		
	1	1.48 (0.50,4.37)	0.58 (0.22,1.55)	1.20 (0.41,3.49)	0.749	0.498

**Note.** <sup>‡</sup> See table S1 for the covariates. <sup>†</sup> We obtained 718 urinary fluoride measurements from participants. \* P < 0.05, \*\* P < 0.01.



Table S5. Association between Quartiles of Dietary Energy-adjusted Betaine and Fluorosis According to Sex, Alcohol Drinking Status, Smoking Status and Urinary Fluoride Levels

Betaine (mg/day)	Quaritle of intake				<i>P</i> -trend	<i>P</i> -interaction
	Q1	Q2	Q3	Q4		
<b>Sex</b>						
<b>Men</b>						
No. cases/controls	70/18	81/19	84/30	76/34		
OR (95% CI) <sup>‡</sup>	1	1.27 (0.59,2.73)	0.68 (0.33,1.41)	0.72 (0.34,1.50) <sup>*</sup>	0.153	
<b>Women</b>						
No. cases/controls	103/32	93/31	78/32	68/45		
OR (95% CI) <sup>‡</sup>	1	0.90 (0.48,1.69)	0.78 (0.41,1.48)	0.51 (0.27,0.95)	0.032	0.453
<b>Alcohol</b>						
<b>Drinker</b>						
No. cases/controls	47/12	48/16	55/15	52/30		
OR (95% CI) <sup>‡</sup>	1	0.79 (0.31,2.03)	0.82 (0.31,2.14)	0.60 (0.25,1.43)	0.264	
<b>Non-drinker</b>						
No. cases/controls	126/38	126/34	107/47	92/49		
OR (95% CI) <sup>‡</sup>	1	1.14 (0.65,1.99)	0.66 (0.38,1.14)	0.59 (0.33,1.04)	0.020	0.809
<b>Smoking status</b>						
<b>Smoker</b>						
No. cases/controls	65/17	76/18	66/24	70/26		
OR (95% CI) <sup>‡</sup>	1	1.20 (0.54,2.66)	0.68 (0.32,1.48)	0.91 (0.42,1.96)	0.476	
<b>Non-smoker</b>						
No. cases/controls	108/33	98/32	96/38	74/53		

OR (95% CI) <sup>‡</sup>	1	0.96 (0.52,1.77)	0.75 (0.41,1.39)	0.45 (0.25,0.82) <sup>**</sup>	0.006	0.149
Urinary level <sup>†</sup>						
≤1.6 mg/L						
No. cases/controls	70/23	95/22	83/34	76/52		
OR (95% CI) <sup>‡</sup>	1	1.26 (0.61,2.58)	0.58 (0.29,1.16)	0.47 (0.24,0.91) <sup>*</sup>	0.004	
>1.6mg/L						
No. cases/controls	66/12	61/13	43/14	46/8		
	1	0.80 (0.30,2.14)	0.56 (0.21,1.50)	1.06 (0.35,3.20)	0.766	0.205

**Note.** <sup>‡</sup> See table S1 for the covariates. <sup>†</sup> We obtained 718 urinary fluoride measurements from participants. <sup>\*</sup> P<0.05, <sup>\*\*</sup> P< 0.01.