

Supplemently Table 1 Individual-based *Helicobacter pylori* infection status and risk factors

Variables	Total	<i>Helicobacter pylori</i> -I nfecte ^d ¹	Infection rate	Crude odds ratio	95%CI	P value
Gender						
Female	222	105	47.3	Reference		
Male	297	139	46.8	0.96	0.67-1.38	0.829
Age(years)						
≤ 18	55	14	25.5	Reference		
≤ 39	171	79	46.2	2.54	1.25-5.17	0.010
≤ 59	157	77	49.0	2.82	1.38-5.77	0.004
≥ 60	136	74	54.4	3.47	1.67-7.24	0.001
Body mass index (kg/m ²)						
< 18.5	51	15	29.4	Reference		
18.5-23.9	283	132	46.6	2.09	1.06-4.12	0.034
24-27.9	150	76	50.7	2.42	1.17-4.97	0.017
> 28	35	21	60.0	3.50	1.34-9.15	0.011
Nationality						
The Han nationality	507	238	46.9	Reference		
Others	12	6	50.0	1.27	0.34-4.79	0.721
Marital status						
Unmarried	115	46	40.0	Reference		
Married	404	198	49.0	1.41	0.91-2.21	0.127
Education level						
Junior high school and	138	65	47.1	Reference		

below								
High school or technical school	125	59	47.2	1.00	0.59-1.68	0.994		
Junior college	125	59	47.2	1.07	0.64-1.80	0.790		
College and above	131	61	46.6	1.01	0.60-1.68	0.975		
Occupation								
Blue collar	105	46	43.8	Reference				
White collar	172	78	45.3	1.08	0.64-1.83	0.765		
Student	52	14	26.9	0.48	0.22-1.02	0.057		
Unemployed people	190	106	55.8	1.62	0.96-2.71	0.069		
Family size								
2	188	103	54.8	Reference				
3	192	82	42.7	0.61	0.38-0.97	0.035		
Four and above	139	59	42.4	0.59	0.35-1.00	0.049		
Family structure ²								
Couple's family	114	62	54.4	Reference				
Nuclear family	87	35	40.2	0.56	0.29-1.07	0.081		
Immediate family	112	51	45.5	0.70	0.38-1.28	0.243		
United States family	71	34	47.9	0.75	0.37-1.53	0.433		
Others	135	62	45.9	0.73	0.41-1.28	0.270		
Household income (renminbi)								
< 10000	129	62	48.1	Reference				
10000-30000	150	78	52.0	1.16	0.69-1.95	0.569		
> 30000	240	104	43.3	0.84	0.52-1.35	0.466		
Annual household living area (m ²)								
≤ 30	110	51	46.4	Reference				
30-60	185	88	47.6	1.07	0.63-1.81	0.810		
≥ 60	224	105	46.9	1.06	0.64-1.77	0.822		

Household hygiene						
Good	355	164	46.2	Reference		
Fair or poor	164	80	48.8	1.10	0.73-1.66	0.644
Eating habits						
Individual dining	68	32	47.1	Reference		
Dish sharing	323	150	46.4	0.95	0.53-1.68	0.846
Both of the above	128	62	48.4	1.03	0.54-1.96	0.932
Washing water for tableware						
Flowing water	496	229	46.2	Reference		
Basin wash	23	15	65.2	2.20	0.86-5.66	0.100
Using clean agents or detergent to clean tableware						
Often or occasionally	428	196	45.8	Reference		
Everyday	91	48	52.7	1.32	0.80-2.17	0.277
Washing hands before meal and after defecation						
Often or occasionally	421	192	45.6	Reference		
Every day	98	52	53.1	1.38	0.86-2.22	0.180
Sharing drinking cup						
Rarely	445	205	46.1	Reference		
Frequently	74	39	52.7	1.41	0.82-2.44	0.213
Sharing dental equipment						
Rarely	502	238	47.4	Reference		
Frequently	17	6	35.3	0.67	0.23-1.93	0.451
Sharing towels						
Rarely	488	228	46.7	Reference		
Frequently	31	16	51.6	1.42	0.64-3.15	0.382
Sharing tableware						
Rarely	321	146	45.5	Reference		
Frequently	198	98	49.5	1.22	0.82-1.80	0.332

Source of drinking water						
Tap water	248	120	48.4	Reference		
Purified water	271	124	45.8	0.89	0.61-1.31	0.569
Using a refrigerator at home						
No	19	8	42.1	Reference		
Yes	500	236	47.2	1.22	0.45-3.3-	0.694
Storage methods for leftover food						
Put it in the fridge	419	196	46.8	Reference		
Room temperature	41	25	61.0	1.77	0.87-3.59	0.112
Throw away	59	23	39.0	0.76	0.41-1.39	0.370
Smoking ³						
No	446	206	46.2	Reference		
Yes	73	38	52.1	1.25	0.74-2.11	0.398
Passive smoking ⁴						
No	380	179	47.1	Reference		
Yes	139	65	46.8	0.99	0.65-1.51	0.949
Drinking wine ⁵						
Rarely	349	161	46.1	Reference		
Frequently	170	83	48.8	1.14	0.77-1.68	0.523
Sports condition						
Ideal activities	182	92	50.5	Reference		
Insufficient exercise	337	152	45.1	0.83	0.55-1.23	0.351
Sleep condition						
No insomnia	412	186	45.1	Reference		
Insomnia	107	58	54.2	1.45	0.92-2.29	0.108
Eating fresh vegetables						
Often or occasionally	139	72	51.8	Reference		
Every day	380	172	45.3	0.74	0.49-1.14	0.170

Eating fresh fruits						
Often or occasionally	223	109	48.9	Reference		
Every day	296	135	45.6	0.85	0.58-1.24	0.392
Eating fried food						
Never	195	99	50.8	Reference		
Occasionally	260	118	45.4	0.77	0.52-1.16	0.214
Every day or often	64	27	42.2	0.73	0.40-1.35	0.314
Eating pickled food						
Never	236	107	45.3	Reference		
Occasionally	249	124	49.8	1.21	0.82-1.79	0.333
Every day or often	34	13	38.2	0.77	0.35-1.68	0.504
Eating too hot food						
Never	222	97	43.7	Reference		
Occasionally	228	105	46.1	1.10	0.74-1.64	0.640
Every day or often	69	42	60.9	1.88	1.05-3.39	0.035
Eating quickly						
Never	198	88	44.4	Reference		
Occasionally	181	82	45.3	1.04	0.67-1.61	0.865
Every day or often	140	74	52.9	1.39	0.87-2.21	0.171
Eating spicy food						
Never	162	76	46.9	Reference		
Occasionally	246	121	49.2	1.08	0.70-1.67	0.719
Every day or often	111	47	42.3	0.82	0.48-1.38	0.447
Eating convenience foods						
Never	251	125	49.8	Reference		
Occasionally	227	104	45.8	0.86	0.59-1.28	0.462
Every day or often	41	15	36.6	0.64	0.31-1.33	0.231
Eating nuts						

Never	229	123	53.7	Reference		
Occasionally	233	100	42.9	0.64	0.43-0.96	0.029
Every day or often	57	21	36.8	0.53	0.28-0.99	0.047
Eating soy products						
Occasionally or never	438	210	47.95	Reference		
Every day or often	175	81	46.29	0.86	0.57-1.29	0.455
Drinking milk						
Occasionally or never	275	123	44.7	Reference		
Every day or often	244	121	49.6	1.14	0.79-1.65	0.493
Eating yogurt						
Never	131	61	46.6	Reference		
Occasionally	222	108	48.6	1.07	0.67-1.70	0.770
Every day or often	166	75	45.2	0.91	0.55-1.50	0.710
Drinking raw water						
No	435	205	47.1	Reference		
Yes	84	39	46.4	0.99	0.60-1.65	0.979
Drinking coffee						
No	381	186	48.8	Reference		
Yes	138	58	42.0	0.78	0.51-1.19	0.248
Drinking beverages						
No	298	151	50.7	Reference		
Yes	221	93	42.1	0.73	0.50-1.06	0.097
Drinking tea						
No	226	96	42.5	Reference		
Yes	293	148	50.5	1.40	0.96-2.04	0.079
Eating leftover food						
Never	202	94	46.5	Reference		
Often or occasionally	317	150	47.3	1.05	0.72-1.54	0.793

Eating raw vegetables or cold dishes						
Never	212	102	48.1	Reference		
Often or occasionally	307	142	46.3	0.93	0.64-1.36	0.723
Eating sashimi						
No	461	216	46.9	Reference		
Yes	58	28	48.3	1.02	0.57-1.84	0.939
Eating raw or partially cooked meat						
No	463	215	46.4	Reference		
Yes	56	29	51.8	1.24	0.68-2.26	0.479
Eating seafood						
No	269	132	49.1	Reference		
Yes	250	112	44.8	0.86	0.59-1.26	0.433
Eating ginger and garlic						
Never	168	73	43.5	Reference		
Occasionally	161	70	43.5	1.03	0.65-1.65	0.896
Every day or often	190	101	53.2	1.46	0.93-2.31	0.101
Eating out at restaurants						
Never	204	103	50.5	Reference		
Occasionally	228	99	43.4	0.77	0.51-1.17	0.224
Every day or often	87	42	48.3	0.94	0.55-1.62	0.833
Eating regularly on time						
Often or occasionally	233	106	45.5	Reference		
Every day	286	138	48.3	1.08	0.75-1.58	0.674
Watching your phone or TV while eating						
Occasionally or never	334	155	46.4	Reference		
Every day or often	185	89	48.1	1.11	0.75-1.64	0.609
Hypertension						
No	410	193	47.1	Reference		

Yes	81	41	50.6	1.19	0.71-1.99	0.503
Unknown	28	10	35.7	0.65	0.28-1.51	0.315
Diabetes						
No	450	211	46.9	Reference		
Yes	32	19	59.4	1.57	0.73-3.42	0.251
Unknown	37	14	37.8	0.68	0.32-1.41	0.294
Hyperlipidemia						
No	391	179	45.8	Reference		
Yes	63	31	49.2	1.16	0.66-2.06	0.605
Unknown	65	34	52.3	1.22	0.69-2.14	0.497
Coronary heart disease						
No	446	202	45.3	Reference		
Yes	19	10	52.6	1.37	0.51-3.67	0.528
Unknown	54	32	59.3	1.76	0.95-3.26	0.071
Iron deficiency anemia						
No	432	197	45.6	Reference		
Yes	13	9	69.2	2.73	0.78-9.59	0.117
Unknown	74	38	51.4	1.25	0.73-2.13	0.411
Nonalcoholic fatty liver						
No	381	173	45.4	Reference		
Yes	60	27	45.0	1.02	0.56-1.83	0.958
Unknown	78	44	56.4	1.49	0.88-2.52	0.142
Cholecystitis						
No	418	194	46.4	Reference		
Yes	42	16	38.1	0.66	0.33-1.31	0.233
Unknown	59	34	57.6	1.58	0.87-2.86	0.134
Cholecystolithiasis						
No	434	196	45.2	Reference		

Yes	28	16	57.1	1.63	0.72-3.68	0.242
Unknown	57	32	56.1	1.57	0.86-2.85	0.143
Dental caries						
No	358	164	45.8	Reference		
Yes	98	48	49.0	1.11	0.68-1.81	0.687
Unknown	63	32	50.8	1.21	0.67-2.16	0.526
Allergic asthma						
No	461	213	46.2	Reference		
Yes	7	5	71.4	3.20	0.57-18.01	0.186
Unknown	51	26	51.0	1.19	0.63-2.23	0.593
Allergic rhinitis						
No	415	194	46.7	Reference		
Yes	55	25	45.5	1.00	0.55-1.83	0.997
Unknown	49	25	51.0	1.22	0.64-2.30	0.546
Acid reflux						
Never or rarely	309	133	43.0	Reference		
Often or occasionally	210	111	52.9	1.46	1.00-2.14	0.049
Heartburn						
Never or rarely	380	172	45.3	Reference		
Often or occasionally	139	72	51.8	1.27	0.84-1.93	0.257
Nausea						
Never or rarely	391	173	44.2	Reference		
Often or occasionally	128	71	55.5	1.51	0.98-2.31	0.062
Epigastric pain						
Never or rarely	405	183	45.2	Reference		
Often or occasionally	114	61	53.5	1.33	0.85-2.07	0.213
Postprandial fullness discomfort						
Never or rarely	349	159	45.6	Reference		

Often or occasionally	170	85	50.0	1.13	0.76-1.68	0.542
Early satiety						
Never or rarely	417	197	47.2	Reference		
Often or occasionally	102	47	46.1	0.93	0.58-1.48	0.758
Hiccup						
Never or rarely	389	179	46.0	Reference		
Often or occasionally	130	65	50.0	1.16	0.75-1.78	0.503
Anorexia						
Never or rarely	385	173	44.9	Reference		
Often or occasionally	134	71	53.0	1.33	0.87-2.03	0.187
Constipation						
Never or rarely	352	156	44.3	Reference		
Often or occasionally	167	88	52.7	1.45	0.98-2.16	0.064
Diarrhea						
Never or rarely	403	180	44.7	Reference		
Often or occasionally	116	64	55.2	1.51	0.97-2.36	0.069
Abdominal distension						
Never or rarely	383	168	43.9	Reference		
Often or occasionally	136	76	55.9	1.56	1.03-2.38	0.037
Halitosis						
Never or rarely	342	146	42.7	Reference		
Often or occasionally	177	98	55.4	1.72	1.16-2.55	0.007
Family history						
No	462	213	46.1	Reference		
Yes	57	31	54.4	1.72	1.16-2.55	0.007

P value was calculated by univariate logistic regression, $P < 0.05$ indicates that infection risk increase/decrease significantly compared with the reference groups.

¹*H. pylori*-Infected: *Helicobacter pylori* (*H. pylori*)-infected individuals were infected in 2021.

²Family structure refers to the relationships between the family members who make up the family. The couple's family is composed of only two individuals: a husband and a wife. Nuclear family is a family composed of parents and unmarried children. Immediate family is a family consisting of two or more generations of married couples, with no more than one couple per generation and no intergenerational gap between them. United States family refers to a family in which any generation contains two or more couples. Others include single-parent families, intergenerational families, cohabiting families, homosexual families, and single families.

³Smoking is defined as participants smoking at least one cigarette per day for at least 1 month.

⁴Passive smoking is defined as non-smokers inhaling smoke exhaled by smokers for at least 15 minutes on at least 1 day in 1 week.

⁵Drinking wine is defined as ≥ 1 drinking per week for more than 6 months.

Supplemently Table 2 Individual-based *Helicobacter pylori* new infection status and risk factors

Variables	Total	New <i>Helicobacter pylori</i> - infected ¹	New infection rate	Crude odds ratio	95%CI	P value
Gender						
Female	100	18	18.0	Reference		
Male	141	37	26.2	1.81	0.89-3.65	0.100
Age(years)						
≤ 18	37	5	13.5	Reference		
≤ 39	81	19	23.5	2.02	0.61-6.68	0.251
≤ 59	72	18	25.0	2.34	0.70-7.83	0.167
≥ 60	51	13	25.5	2.16	0.61-7.64	0.233
Body mass index (kg/m ²)						
< 18.5	33	3	9.1	Reference		
18.5-23.9	129	30	23.3	3.07	0.79-11.92	0.105
24-27.9	67	18	26.9	4.21	1.01-17.58	0.048
> 28	12	4	33.3	4.47	0.68-29.25	0.117
Marital status						
Unmarried	62	11	17.7	Reference		
Married	179	44	24.6	1.63	0.71-3.73	0.248
Education level						
Junior high school and below	65	16	24.6	Reference		
High school or technical school	56	14	25.0	1.16	0.45-2.97	0.757

Junior college	59	15	25.4	1.01	0.40-2.56	0.977
College and above	61	10	16.4	0.59	0.22-1.60	0.295
Occupation						
Blue collar	55	18	32.7	Reference		
White collar	78	15	19.2	0.48	0.19-1.20	0.116
Student	34	4	11.8	0.28	0.07-1.04	0.057
Unemployed people	74	18	24.3	0.73	0.30-1.79	0.494
Family size						
2	79	14	17.7	Reference		
3	96	18	18.8	1.03	0.42-2.50	0.952
Four and above	66	23	34.8	2.27	0.88-5.81	0.088
Family structure ²						
Couple's family	48	5	10.4	Reference		
Nuclear family	44	6	13.6	1.21	0.29-5.07	0.795
Immediate family	47	12	25.5	2.62	0.71-9.71	0.149
United States family	35	10	28.6	3.17	0.77-13.04	0.109
Others	67	22	32.8	4.09	1.23-13.60	0.022
Household income (thousand yuan)						
< 100	58	9	15.5	Reference		
100-300	64	19	29.7	2.06	0.75-5.66	0.158
> 300	119	27	22.7	1.32	0.51-3.40	0.567
Annual household living area (m ²)						
≤ 30	53	8	15.1	Reference		
30-60	87	18	20.7	1.53	0.54-4.34	0.422
≥ 60	101	29	28.7	2.35	0.87-6.37	0.092
Household hygiene						
Good	166	37	22.3	Reference		
Fair or poor	75	18	24.0	1.08	0.51-2.31	0.834

Eating habits						
Individual dining	29	5	17.2	Reference		
Dish sharing	150	40	26.7	1.94	0.59-6.38	0.277
Both of the above	62	10	16.1	1.09	0.28-4.17	0.904
Using clean agents or detergent to clean tableware						
Often or occasionally	210	50	23.8	Reference		
Everyday	31	5	16.1	0.60	0.19-1.88	0.375
Washing hands before meal and after defecation						
Often or occasionally	201	47	23.4	Reference		
Every day	40	8	20.0	0.89	0.35-2.26	0.806
Sharing drinking cup						
Rarely	215	49	22.8	Reference		
Frequently	26	6	23.1	0.70	0.21-2.35	0.562
Sharing dental equipment						
Rarely	232	54	23.3	Reference		
Frequently	9	1	11.1	0.27	0.03-2.89	0.275
Sharing towels						
Rarely	229	53	23.1	Reference		
Frequently	12	2	16.7	0.44	0.07-2.93	0.397
Sharing tableware						
Rarely	156	36	23.1	Reference		
Frequently	85	19	22.4	0.95	0.45-1.98	0.880
Source of drinking water						
Tap water	114	17	14.9	Reference		
Purified water	127	38	29.9	2.29	1.11-4.72	0.025
Using a refrigerator at home						
No	9	6	66.7	Reference		
Yes	232	49	21.1	0.18	0.03-0.91	0.038

Storage methods for leftover food

Put it in the fridge	199	45	22.6	Reference		
Room temperature	14	5	35.7	1.93	0.52-7.20	0.327
Throw away	28	5	17.9	0.88	0.27-2.86	0.830
Smoking ³						
No	212	52	24.5	Reference		
Yes	29	3	10.3	0.36	0.10-1.35	0.129
Passive smoking ⁴						
No	174	43	24.7	Reference		
Yes	67	12	17.9	0.71	0.32-1.56	0.388
Drinking wine ⁵						
Rarely	167	40	24.0	Reference		
Frequently	74	15	20.3	0.71	0.32-1.56	0.388
Sports condition						
Ideal activities	84	16	19.0	Reference		
Insufficient exercise	157	39	24.8	1.28	0.59-2.74	0.531
Sleep condition						
No insomnia	197	49	24.9	Reference		
Insomnia	44	6	13.6	0.47	0.17-1.26	0.133
Eating fresh vegetables						
Often or occasionally	56	17	30.4	Reference		
Every day	185	38	20.5	0.61	0.28-1.32	0.207
Eating fresh fruits						
Often or occasionally	96	26	27.1	Reference		
Every day	145	29	20.0	0.64	0.32-1.29	0.209
Eating fried food						
Never	83	18	21.7	Reference		
Occasionally	126	28	22.2	1.06	0.50-2.28	0.877

Every day or often	32	9	28.1	1.44	0.50-4.14	0.498
Eating pickled food						
Never	113	25	22.1	Reference		
Occasionally	110	23	20.9	0.90	0.44-1.86	0.777
Every day or often	18	7	38.9	2.02	0.60-6.79	0.256
Eating too hot food						
Never	109	25	22.9	Reference		
Occasionally	108	26	24.1	1.06	0.52-2.16	0.874
Every day or often	24	4	16.7	0.75	0.21-2.72	0.659
Eating quickly						
Never	97	22	22.7	Reference		
Occasionally	89	20	22.5	1.00	0.46-2.17	0.993
Every day or often	55	13	23.6	1.09	0.45-2.60	0.854
Eating spicy food						
Never	77	23	29.9	Reference		
Occasionally	108	20	18.5	0.53	0.24-1.18	0.119
Every day or often	56	12	21.4	0.67	0.27-1.67	0.388
Eating convenience foods						
Never	109	25	22.9	Reference		
Occasionally	107	22	20.6	0.88	0.42-1.84	0.728
Every day or often	25	8	32.0	1.58	0.53-4.73	0.411
Eating nuts						
Never	87	23	26.4	Reference		
Occasionally	121	28	23.1	0.84	0.40-1.75	0.633
Every day or often	33	4	12.1	0.41	0.12-1.43	0.160
Eating soy products						
Occasionally or never	171	38	22.2	Reference		
Every day or often	70	17	24.3	1.09	0.52-2.31	0.819

Drinking milk						
Occasionally or never	132	32	24.2	Reference		
Every day or often	109	23	21.1	0.74	0.37-1.48	0.386
Eating yogurt						
Never	62	11	17.7	Reference		
Occasionally	96	26	27.1	1.80	0.74-4.39	0.194
Every day or often	83	18	21.7	1.10	0.43-2.83	0.845
Drinking raw water						
No	200	48	24.0	Reference		
Yes	41	7	17.1	0.59	0.22-1.58	0.289
Drinking coffee						
No	171	35	20.5	Reference		
Yes	70	20	28.6	1.37	0.65-2.86	0.403
Drinking beverages						
No	130	36	27.7	Reference		
Yes	111	19	17.1	0.50	0.25-1.03	0.061
Drinking tea						
No	118	31	26.3	Reference		
Yes	123	24	19.5	0.65	0.33-1.31	0.226
Eating leftover food						
Never	95	21	22.1	Reference		
Often or occasionally	146	34	23.3	1.16	0.57-2.33	0.683
Eating raw vegetables or cold dishes						
Never	94	23	24.5	Reference		
Often or occasionally	147	32	21.8	0.87	0.43-1.75	0.697
Eating sashimi						
No	214	47	22.0	Reference		
Yes	27	8	29.6	1.34	0.48-3.70	0.576

Eating raw or partially cooked meat						
No	221	50	22.6	Reference		
Yes	20	5	25.0	1.21	0.36-4.07	0.756
Eating seafood						
No	121	29	24.0	Reference		
Yes	120	26	21.7	0.97	0.49-19.4	0.929
Eating ginger and garlic						
Never	83	23	27.7	Reference		
Occasionally	83	20	24.1	0.83	0.37-1.83	0.635
Every day or often	75	12	16.0	0.50	0.20-1.23	0.131
Eating out at restaurants						
Never	90	26	28.9	Reference		
Occasionally	113	20	17.7	0.49	0.22-1.06	0.069
Every day or often	38	9	23.7	0.75	0.28-2.05	0.576
Eating regularly on time						
Often or occasionally	110	32	29.1	Reference		
Every day	131	23	17.6	0.49	0.25-0.97	0.041
Watching your phone or TV while eating						
Occasionally or never	155	35	22.6	Reference		
Every day or often	86	20	23.3	0.93	0.45-1.89	0.830
Hypertension						
No	190	42	22.1	Reference		
Yes	35	11	31.4	1.57	0.63-3.93	0.334
Unknown	16	2	12.5	0.49	0.09-2.57	0.398
Diabetes						
No	210	48	22.9	Reference		
Yes	11	3	27.3	1.47	0.32-6.67	0.617
Unknown	20	4	20.0	0.87	0.24-3.15	0.829

Hyperlipidemia						
No	184	42	22.8	Reference		
Yes	29	8	27.6	1.32	0.49-3.58	0.582
Unknown	28	5	17.9	0.75	0.24-2.39	0.628
Coronary heart disease						
No	215	50	23.3	Reference		
Yes	7	2	28.6	1.26	0.19-8.46	0.813
Unknown	19	3	15.8	0.64	0.16-2.62	0.531
Nonalcoholic fatty liver						
No	181	43	23.8	Reference		
Yes	28	8	28.6	1.54	0.56-4.25	0.399
Unknown	32	4	12.5	0.50	0.15-1.68	0.263
Cholecystitis						
No	195	44	22.6	Reference		
Yes	24	8	33.3	1.86	0.65-5.29	0.246
Unknown	22	3	13.6	0.48	0.12-1.92	0.297
Cholecystolithiasis						
No	207	49	23.7	Reference		
Yes	12	4	33.3	1.68	0.41-6.96	0.471
Unknown	22	2	9.1	0.29	0.06-1.43	0.128
Dental caries						
No	172	42	24.4	Reference		
Yes	41	7	17.1	0.70	0.26-1.86	0.470
Unknown	28	6	21.4	0.83	0.28-2.50	0.745
Allergic rhinitis						
No	197	48	24.4	Reference		
Yes	23	5	21.7	0.93	0.29-3.01	0.906
Unknown	21	2	9.5	0.35	0.07-1.71	0.193

Acid reflux						
Never or rarely	157	30	19.1	Reference		
Often or occasionally	84	25	29.8	1.82	0.89-3.72	0.099
Heartburn						
Never or rarely	183	33	18.0	Reference		
Often or occasionally	58	22	37.9	2.86	1.35-6.08	0.006
Nausea						
Never or rarely	192	38	19.8	Reference		
Often or occasionally	49	17	34.7	2.11	0.96-4.61	0.062
Epigastric pain						
Never or rarely	195	44	22.6	Reference		
Often or occasionally	46	11	23.9	1.07	0.46-2.49	0.879
Postprandial fullness discomfort						
Never or rarely	167	38	22.8	Reference		
Often or occasionally	74	17	23.0	1.06	0.51-2.20	0.869
Early satiety						
Never or rarely	194	47	24.2	Reference		
Often or occasionally	47	8	17.0	0.69	0.28-1.72	0.430
Hiccup						
Never or rarely	185	40	21.6	Reference		
Often or occasionally	56	15	26.8	1.39	0.64-3.04	0.402
Anorexia						
Never or rarely	188	47	25.0	Reference		
Often or occasionally	53	8	15.1	0.60	0.24-1.47	0.262
Constipation						
Never or rarely	172	39	22.7	Reference		
Often or occasionally	69	16	23.2	1.04	0.49-2.20	0.913
Diarrhea						

Never or rarely	197	44	22.3	Reference		
Often or occasionally	44	11	25.0	1.26	0.53-2.96	0.600
Abdominal distension						
Never or rarely	189	41	21.7	Reference		
Often or occasionally	52	14	26.9	1.56	0.70-3.47	0.275
Halitosis						
Never or rarely	168	41	24.4	Reference		
Often or occasionally	73	14	19.2	0.76	0.36-1.63	0.482
Family history						
No	217	52	24.0	Reference		
Yes	24	3	12.5	0.40	0.10-1.58	0.189

P value was calculated by univariate logistic regression, *P* < 0.05 indicates that infection risk increase/decrease significantly compared with the reference groups.

¹New *H. pylori*-infected: New *Helicobacter pylori* (*H. pylori*)-infected individuals were not infected in 2021 but were infected in 2023.

²Family structure refers to the relationships between the family members who make up the family. The couple's family is composed of only two individuals: A husband and a wife. Nuclear family is a family composed of parents and unmarried children. Immediate family is a family consisting of two or more generations of married couples, with no more than one couple per generation and no intergenerational gap between them. United States family refers to a family in which any generation contains two or more couples. Others include single-parent families, intergenerational families, cohabiting families, homosexual families, and single families.

³Smoking is defined as participants smoking at least one cigarette per day for at least 1 month.

⁴Passive smoking is defined as non-smokers inhaling smoke exhaled by smokers for at least 15 minutes on at least 1 day in 1 week.

⁵Drinking wine is defined as ≥ 1 drinking per week for more than 6 months.