Table S1. The Logistic Regression between Covariate Variables and the Outcome

Variables	Sleep Disturbance * M1		
	OR	95% CI	*p* value
Gender (ref: men)			
Women	1.17	(0.92, 1.49)	0.201
Age (years, ref: ≤ 35)			
36 - 55	1.03	(0.63, 1.67)	0.909
≥ 56	1.16	(0.50, 2.69)	0.728
Educational attainment (ref: ≥ 12 years)			
Low (< 12 years)	**0.38**	**(0.28, 0.51)**	**< 0.001**
Marital Status (ref: never married)			
Currently or Ever Married	1.43	(0.82, 2.48)	0.206
Living Areas (ref: rural)			
Urban	0.81	(0.64, 1.04)	0.096
Smoking Habit (ref: never)			
Current Smoker	0.49	(0.20, 1.16)	0.104
Quit smoker	1.06	(0.72, 1.57)	0.763
BMI (kg/m², ref: 18.5 - 25.0)			
25.1 - 27.0	0.90	(0.63, 1.29)	0.571
> 27.0	0.79	(0.58, 1.08)	0.135
Depressive Symptoms (ref: no)			
Yes	**3.50**	**(2.72, 4.52)**	**< 0.001**
Food Security Status (ref: food secure)			
Food Insecure	**1.47**	**(1.15, 1.89)**	**0.002**

Abbreviations: OR, Odd Ratio; CI, 95% confidence interval; M1, Model 1. Note: * Sleep disturbance was defined as greater than mild or without greater than mild. Models are adjusted for age, gender, body mass index, education attainment, marital status, living areas, smoking habits, physical activity volumes, blood pressure values, and food consumption score, CES-D-10 Score. Model 1 is adjusted for age and gender. All statistically significant values are set to < 0.05.

Table S2. The Logistic Regression between Characteristics related to The Sleep Disturbance Level Stratified by Gender.

Variables	Sleep Disturbance (Men)			Sleep Disturbance (Women)		
	OR	95% CI	p value	OR	95% CI	p value
Age (years, ref: ≤ 35)						
36 - 55	1.04	(0.68, 1.57)	0.866	1.73	(1.00, 1.82)	0.016
≥ 56	1.26	(0.65, 2.40)	0.493	2.54	(1.17, 2.72)	0.002
Educational attainment (ref: ≥ 12 years)						
Low (< 12 years)	0.46	(0.30, 0.71)	< 0.001	0.37	(0.22, 0.61)	< 0.001
Marital Status (ref: never married)						
Currently or Ever Married	1.64	(0.82, 3.25)	0.158	1.61	(0.57, 4.55)	0.374
Living Areas (ref: rural)						
Urban	1.13	(0.78, 1.65)	0.526	0.88	(0.62, 1.25)	0.483
Smoking Habit (ref: never)						
Current Smoker	0.35	(0.12, 0.99)	0.048	2.12	(0.47, 9.55)	0.329
Quit smoker	0.78	(0.50, 1.20)	0.251	0.78	(0.30, 2.02)	0.605
BMI (kg/m2, ref: 18.5 - 25.0)						
25.1 - 27.0	1.50	(0.90, 2.49)	0.121	0.66	(0.40, 1.11)	0.118
> 27.0	0.90	(0.50, 1.63)	0.732	0.77	(0.52, 1.15)	0.201
Depressive Symptoms (ref: no)						
Yes	3.16	(2.17, 4.60)	< 0.001	3.93	(2.77, 5.57)	< 0.001
Food Security Status (ref: food secure)						
Food Insecure	1.75	(1.19, 2.58)	0.005	1.07	(0.76, 1.51)	0.706

Abbreviations: OR, Odd Ratio; CI, 95% confidence interval. Note: * Sleep disturbance was defined as greater than mild or without greater than mild. Models are adjusted for age, gender, body mass index, education attainment, marital status, living areas, smoking habits, physical activity volumes, blood pressure values, and food consumption score, CES-D-10 Score. All statistically significant values are set to < 0.05.

Table S 3. The Regression Test between Depressive symptoms and Sleep Disturbance by Food Security Status.

	Variable		Model 1			Model 2			Model 3		
	Dependent	Independent	OR	95% CI	*p* value	OR	95% CI	*p* value	OR	95% CI	*p* value
Food Secure	Sleep Disturbance *	Depressive Symptoms	2.99	(1.97, 4.52)	< 0.001	3.34	(2.19, 5.09)	< 0.001	3.22	(1.26, 8.24)	0.015
Food Insecure	Sleep Disturbance *	Depressive Symptoms	3.08	(2.25 - 4.21)	< 0.001	3.67	(2.67 - 5.05)	< 0.001	3.18	(1.61 - 6.28)	0.001
			β	95% CI	*p* value	β	95% CI	*p* value	β	95% CI	*p* value
Food Secure	Sleep Disturbance Score	CES-D-10 Score	2.33	(2.23, 2.43)	< 0.001	2.32	(2.22, 2.43)	< 0.001	2.25	(2.04, 2.48)	< 0.001
Food Insecure	Sleep Disturbance Score	CES-D-10 Score	2.32	(2.23, 2.42)	< 0.001	2.32	(2.23, 2.42)	< 0.001	2.17	(1.97, 2.39)	< 0.001

Abbreviations: OR, Odd Ratio; CI, 95% confidence interval; β, exponentiated beta coefficient; FCG, food consumption group. Note: * Sleep disturbance was defined as greater than mild or without greater than mild. Model 1 was a unadjusted model. Model 2 was a model with adjustment for age and gender. Model 3 was a Model 2 + adjustment for body mass index, education attainment, marital status, living areas, the status of smoking habit, physical activity volumes, blood pressure values, ethnicity, and chronic diseases (e.g., diabetes or cardiovascular diseases). All statistically significant values are set to < 0.05.

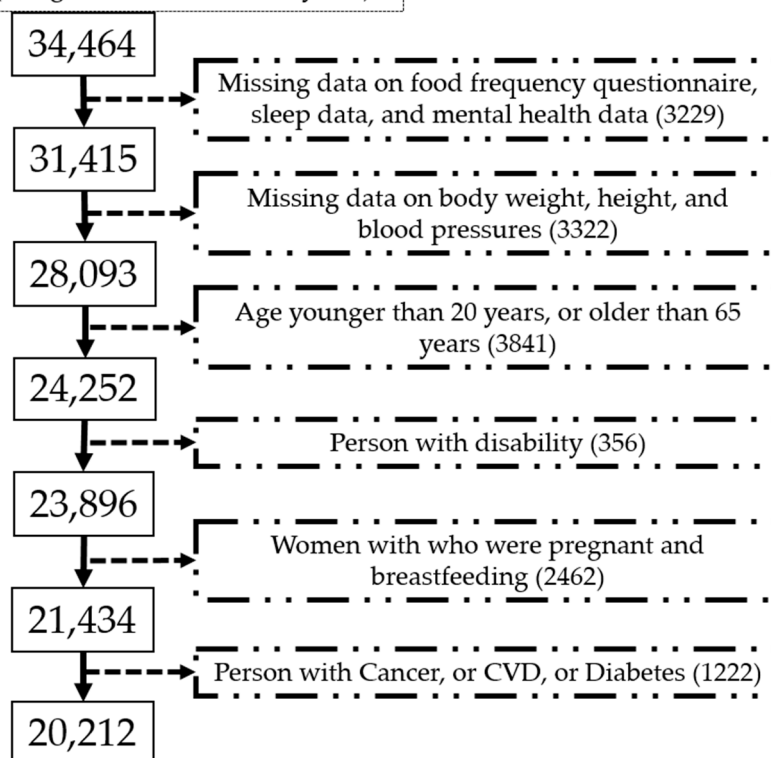Total IFLS5 data (all ages: 0 - older than 80 years)

34,464

→ Missing data on food frequency questionnaire, sleep data, and mental health data (3229)

31,415

→ Missing data on body weight, height, and blood pressures (3322)

28,093

→ Age younger than 20 years, or older than 65 years (3841)

24,252

→ Person with disability (356)

23,896

→ Women with who were pregnant and breastfeeding (2462)

21,434

→ Person with Cancer, or CVD, or Diabetes (1222)

20,212

Figure S 1. Flowchart of the Sampling Participants