

Table S1. Pearson's chi-square test between each of levothyroxine, goiter, hypothyroidism, thyroiditis, and hyperthyroidism.

		Levothyroxine	Goiter	Hypothyroidism	Thyroiditis	Hyperthyroidism
Levothyroxine	χ^2	1				
	<i>p</i> -value					
Goiter	χ^2	5869.4	1			
	<i>p</i> -value	<0.001 *				
Hypothyroidism	χ^2	18631.5	2398.9	1		
	<i>p</i> -value	<0.001 *	<0.001 *			
Thyroiditis	χ^2	2954.9	1320.7	1962.7	1	
	<i>p</i> -value	<0.001 *	<0.001 *	<0.001 *		
Hyperthyroidism	χ^2	2007.2	858.6	1472.0	691.8	1
	<i>p</i> -value	<0.001 *	<0.001 *	<0.001 *	<0.001 *	

* Chi-square test. Significance at $p < 0.05$.

Table S2. Subgroup analyses of crude and adjusted odd ratios (95% confidence interval) for SSNHL in levothyroxine, goiter, hypothyroidism, thyroiditis, and hyperthyroidism according to age and sex.

Characteristics	Odd Ratios for SSNHL				
	Crude [†]	<i>p</i> -Value	Model 1 ^{‡,§}	<i>p</i> -Value	Model 2 ^{†,§} <i>p</i> -Value
Age <60 years old, men (<i>n</i> = 11,905)					
Levothyroxine	0.78 (0.48–1.27)	0.318	0.99 (0.57–1.72)	0.973	
Goiter	1.02 (0.69–1.49)	0.937	1.05 (0.71–1.57)	0.788	
Hypothyroidism	1.50 (1.03–2.20)	0.036 *	1.50 (1.01–2.24)	0.043 *	1.51 (1.01–2.25) 0.044 *
Thyroiditis	1.07 (0.56–2.02)	0.842	0.94 (0.49–1.81)	0.860	
Hyperthyroidism	1.39 (0.99–1.97)	0.060	1.40 (0.96–1.95)	0.079	
Age ≥60 years old, men (<i>n</i> = 10,895)					
Levothyroxine	1.67 (1.16–2.41)	0.006 *	1.45 (0.97–2.19)	0.073	1.57 (1.05–2.34) 0.028 *
Goiter	1.63 (1.18–2.25)	0.003*	1.47 (1.05–2.06)	0.024 *	1.45 (1.02–2.06) 0.037 *
Hypothyroidism	1.21 (0.83–1.77)	0.312	1.10 (0.74–1.62)	0.640	
Thyroiditis	1.05 (0.60–1.82)	0.864	0.99 (0.57–1.73)	0.967	
Hyperthyroidism	0.69 (0.43–1.10)	0.120	0.65 (0.40–1.03)	0.068	0.57 (0.35–0.92) 0.021 *
Age <60 years old, women (<i>n</i> = 10,280)					
Levothyroxine	1.12 (0.90–1.40)	0.319	1.14 (0.88–1.47)	0.341	
Goiter	1.29 (1.07–1.55)	0.007 *	1.27 (1.05–1.54)	0.015 *	1.21 (1.00–1.46) 0.048 *
Hypothyroidism	1.11 (0.90–1.36)	0.326	1.10 (0.89–1.36)	0.379	
Thyroiditis	1.50 (1.14–1.98)	0.004 *	1.50 (1.13–1.98)	0.005 *	1.42 (1.07–1.88) 0.017 *
Hyperthyroidism	1.35 (1.05–1.73)	0.017 *	1.32 (1.03–1.70)	0.030*	
Age ≥60 years old, women (<i>n</i> = 10,210)					
Levothyroxine	1.34 (1.10–1.64)	0.004 *	1.40 (1.12–1.74)	0.004 *	
Goiter	1.09 (0.89–1.33)	0.408	1.06 (0.87–1.30)	0.575	
Hypothyroidism	1.37 (1.13–1.66)	0.002 *	1.35 (1.10–1.64)	0.004 *	1.33 (1.10–1.62) 0.004 *
Thyroiditis	0.98 (0.71–1.36)	0.921	0.98 (0.70–1.36)	0.889	
Hyperthyroidism	0.94 (0.72–1.24)	0.664	0.95 (0.72–1.24)	0.698	

Abbreviations: CCI, Charlson comorbidity index; SSNHL, Sudden sensorineural hearing loss. * Conditional logistic regression model, Significance at $p < 0.05$ [†] Models stratified by age, sex, income, and region of residence. [‡] Models adjusted for obesity, smoking, alcohol consumption, disorders of vestibular function, thyroid cancer, and CCI scores. [§] Model 2 was used stepwise selection method for model 1.

Table S3. Subgroup analyses of crude and adjusted odd ratios (95% confidence interval) for SSNHL in levothyroxine, goiter, hypothyroidism, thyroiditis, and hyperthyroidism according to income and region.

Characteristics	Odd Ratios for SSNHL				
	Crude [†]	<i>p</i> -Value	Adjusted ^{†,‡}	<i>p</i> -Value	Model 2 ^{†,§}
Low income, urban (<i>n</i> = 7340)					
Levothyroxine	1.25 (0.91–1.74)	0.171	1.35 (0.94–1.93)	0.104	
Goiter	1.59 (1.21–2.08)	<0.001 *	1.54 (1.17–2.04)	0.002 *	1.50 (1.14–1.97)
Hypothyroidism	1.28 (0.94–1.73)	0.115	1.24 (0.91–1.70)	0.180	
Thyroiditis	0.91 (0.56–1.48)	0.697	0.88 (0.54–1.45)	0.616	
Hyperthyroidism	1.11 (0.76–1.62)	0.605	1.10 (0.75–1.61)	0.634	
Low income, rural (<i>n</i> = 10,410)					
Levothyroxine	1.22 (0.92–1.62)	0.177	1.22 (0.88–1.69)	0.228	
Goiter	1.29 (0.99–1.68)	0.057	1.26 (0.96–1.65)	0.095	
Hypothyroidism	1.42 (1.09–1.84)	0.009 *	1.38 (1.05–1.81)	0.022 *	1.37 (1.05–1.78)
Thyroiditis	1.51 (1.03–2.20)	0.004 *	1.45 (0.99–2.13)	0.057	
Hyperthyroidism	1.14 (0.84–1.54)	0.403	1.13 (0.83–1.54)	0.424	
High income, urban (<i>n</i> = 11,750)					
Levothyroxine	1.42 (1.13–1.79)	0.003 *	1.53 (1.17–1.99)	0.002 *	1.37 (1.09–1.73)
Goiter	1.09 (0.87–1.35)	0.456	1.06 (0.84–1.32)	0.639	
Hypothyroidism	1.28 (1.02–1.60)	0.032 *	1.22 (0.97–1.55)	0.091	
Thyroiditis	1.11 (0.79–1.54)	0.555	1.10 (0.79–1.54)	0.565	
Hyperthyroidism	1.07 (0.80–1.43)	0.672	1.05 (0.78–1.41)	0.746	
High income, rural (<i>n</i> = 13,790)					
Levothyroxine	1.05 (0.00–1.34)	0.702	1.00 (0.75–1.33)	0.995	
Goiter	1.13 (0.91–1.40)	0.277	1.10 (0.88–1.37)	0.424	
Hypothyroidism	1.12 (0.90–1.41)	0.317	1.10 (0.87–1.40)	0.417	
Thyroiditis	1.29 (0.90–1.84)	0.164	1.25 (0.87–1.78)	0.229	
Hyperthyroidism	1.13 (0.86–1.47)	0.383	1.11 (0.85–1.45)	0.443	

Abbreviations: CCI, Charlson comorbidity index; SSNHL, Sudden sensorineural hearing loss. * Conditional logistic regression model, Significance at $p < 0.05$. [†] Models stratified by age, sex, income, and region of residence. [‡] Models adjusted for obesity, smoking, alcohol consumption, disorders of vestibular function, thyroid cancer, and CCI scores. [§] Model 2 was used stepwise selection method for model 1.