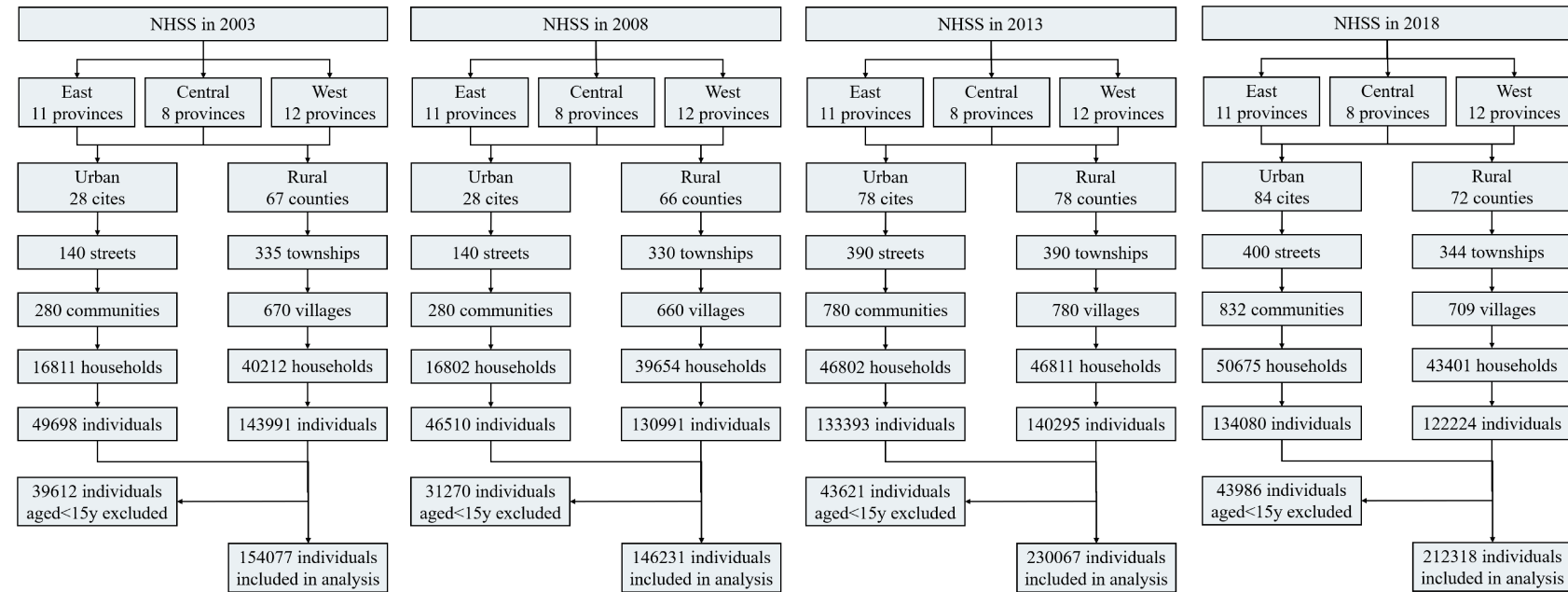**Appendix 1. Flow Diagram of the Study Population**

Abbreviation: NHSS, National Health Service Survey.

Appendix 2. The Information Extracted in Our Survey from The Whole Questionnaire of NHSS

Family information

No.	Question	Answer
1	How many people have lived in your home in the past 6 months? (Including relatives and friends, nannies, etc. who have lived for over 6 months)	
2	Which type of fuel used in your home: (1) Electricity; (2) Gas/natural gas/liquefied petroleum gas; (3) Marsh gas; (4) Kerosene; (5) Coal; (6) Firewood; (7) Others	
3	Which type of sanitation facilities used in your home: (1) Integrated flushing toilet; (2) Urine-faces division toilet; (3) Three link biogas toilet; (4) Dual-urn funnel toilet; (5) Three-septic-tank toilet; (6) Alternating dual-pit toilet; (7) Ventilated improved pit latrine; (8) Attic type latrine; (9) Deep pit latrine : (10) Pit latrines with slab; (11) Pit latrines without a slab or platform; (12) Bucket latrines; (13) Open defecation; (14) Others.	
4	What was the total annual income of your family in the previous year? (yuan)	

Household member information

Demographic information of each household member						
Household members coding (01, the householder; Other members, according to the order of investigation)	01	02	03	04	05	…
1	Name of household member: (01, name of the householder)					
2	Relationship with the householder: (1) Householder; (2) Spouse; (3) Child; (4) Grandchild; (5) rent; (6) Grandparent; (7) Brother or sister; (8) Others					
3	Gender: (1) Male; (2) Female					
4	Date of birth: (Year/Month)	/	/	/	/	/
5	Marital status: (1) Single; (2) Married; (3) Divorced; (4) Widowed; (5) Others					
6	Level of education: (1) None; (2) Primary school; (3) Junior middle school; (4) Senior high school/technical school; (5) Secondary specialized school; (6) Junior college; (7) University and above					
7	Employment status: (1) Employed; (2) Retired; (3) Student; (4) Unemployed					
Chronic diseases information of each household member						
1	Have you suffered from any chronic diseases diagnosed by doctors? (1) Yes; (2) No					

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	(if more than one disease, please fill in the name of disease according to the severity of disease from severe to mild)						
2	(1) Name of the first disease:						
3	The code of the first disease:						
4	When were you diagnosed with it? (1) Over 6 months ago; (2) Within the past 6 months						
5	Have you been treated within the past 6 months? (1) Yes; (2) No						
6	(2) Name of the second disease:						
7	The code of the second disease:						
8	When were you diagnosed with it? (1) Over 6 months ago; (2) Within the past 6 months						
9	Have you been treated within the past 6 months? (1) Yes; (2) No						
10	(3) Name of the third disease:						
11	The code of the third disease:						
12	When were you diagnosed with it? (1) Over 6 months ago; (2) Within the past 6 months						
13	Have you been treated in the past 6 months? (1) Yes; (2) No						
Quality of life for each household member							
1	Depression: (1) I am not depressed; (2) I am moderately depressed; (3) I am extremely depressed						
Lifestyle of each household member							
1	Do you smoke? (1) Yes (have smoked a total of at least 100 cigarettes); (2) have quit smoking; (3) Never						
2	Have you had a drink containing alcohol in the past 12 months? (1) Yes; (2) No						
3	How many times per week do you drink? (1) 3 or more; (2) 1 to 2; (3) Less than 1						
4	In the past 6 months, how many times per week do you do physical activity on average? (1) 6 or more; (2) 3 to 5; (3) 1 to 2; (4) Less than 1; (5) Never						

Notes: Chronic diseases, including hypertension, diabetes, and stroke, must be diagnosed by doctors and medical records or prescription from medical institution must be provided as evidence for diagnosi

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Appendix 3. Definitions of risk factors for stroke

Risk factor	Definition
Educational level	Grouped into five categories: none, primary level, junior high level, senior high level, and college level.
Occupation	Categorized into employed, retired, student, and unemployed groups
Income	Categorized into high, middle, and low levels. High level presented top fourth of annual per capital income in the sampled county at the survey year, the bottom forth was low level, and others belonged middle level.
Marital status	Categorized into married, single, divorced, and widowed status
Hypertension	Self-reported for ever being diagnosed with hypertension by medical institution.
Diabetes	Self-reported for ever being diagnosed with diabetes by medical institution.
Depression	Self-perceived health according to quality of life questionnaire.
Smoking	Participants have smoked a total of at least 100 cigarettes, and either continued or ceased smoking during the survey
Alcohol consumption	Participants have had an alcoholic drink in the 12 months prior to the survey
Physical activity	Participants have participated in physical activity (including tai chi, jogging, dancing, swimming, ball sports, aerobics, and apparatus exercise) at least once a week in the previous month.
Sanitation facilities	Unimproved sanitation facility is defined as not ensure hygienic separation of human excreta from human contact, and open defecation. Improved sanitation facility is defined as likely to ensure hygienic separation of human excreta from human contact.

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Appendix 4. The mathematical formula of Multiple logistic regression.

We constructed multiple unconditional logistic regression models to explore the risk factors of stroke. The formula of unconditional logistic regression is the following:

$$\log it(p(y = 1|x)) = \alpha + \sum_{j=1}^{m} \beta_j x_j$$

Where y is the binary outcome (1 or 0), x_1, …, x_m are independent variables, α is the intercept, β_1, …, β_m are coefficients of these independent variables.

The Odds Ratio (OR) along with its 95% confidence interval for each independent variable can be calculated as while other factors are constant:

$$OR_j = exp(\beta_j)$$
$$95\%CI: exp(\beta_j \pm 1.96 \times SE\{\beta_j\})$$

The SAS9.4 PROC LOGISTIC procedure was used to fit multiple unconditional logistic regression models and stepwise selection (sle=0.05, sls=0.10) was applied to select the optimal model.

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Appendix 5. Trends in Prevalence of Stroke by Provinces in Different Region in China from 2003 to 2018.

	2003		2008		2013		2018		
	No. of Participants	Rates/100,000 (95% CI)[a]	No. of Participants	Rates/100,000 (95% CI)[a]	No. of Participants	Rates/100,000 (95% CI)[a]	No. of Participants	Rates/100,000 (95% CI)[a]	*P* value for Trend[b]
Eastern region									
Liaoning	3126	1979 (1514-2443)	3045	2078 (1630-2527)	7204	1140 (948-1331)	6632	1539 (1317-1762)	0.99
Hebei	6464	1700 (1349-2052)	6252	2010 (1687-2333)	5949	1231 (994-1468)	5251	2140 (1841-2440)	0.03.
Tianjin	3402	1387 (1039-1736)	3351	1925 (1539-2312)	4591	1527 (1240-1814)	3782	1820 (1497-2143)	< 0.001
Beijing	2995	1186 (850-1522)	3062	1548 (1194-1902)	2823	919 (664-1174)	2731	2697 (2254-3139)	< 0.001
Hainan	3719	1048 (755-1340)	3593	1132 (828-1436)	3534	519 (312-726)	3052	1039 (754-1325)	0.99
Shandong	6411	1027 (800-1253)	5885	1108 (884-1331)	11304	1380 (1204-1556)	11520	1460 (1289-1631)	< 0.001
Shanghai	2879	929 (660-1197)	2657	1032 (769-1296)	4305	819 (642-996)	4225	1471 (1210-1732)	< 0.001
Guangdong	6914	563 (404-721)	6713	395 (266-524)	12642	569 (455-683)	11204	750 (621-878)	< 0.001
Fujian	4880	417 (235-600)	4781	433 (263-603)	7560	390 (278-502)	6716	593 (455-731)	< 0.001
Jiangsu	6560	397 (256-537)	6173	669 (489-849)	9288	985 (820-1149)	9758	1537 (1347-1727)	< 0.001
Zhejiang	5042	394 (236-551)	4896	477 (316-638)	8904	765 (623-906)	8817	781 (631-931)	< 0.001
Central region									
Heilongjiang	4893	2709 (2235-3182)	4465	3395 (2891-3899)	6697	3344 (2974-3714)	5950	5061 (4648-5474)	< 0.001
Jilin	4432	1962 (1559-2365)	4335	2016 (1636-2396)	5275	1890 (1606-2174)	5113	3545 (3153-3937)	< 0.001
Henan	6674	1703 (1394-2012)	6145	2509 (2151-2867)	13824	1386 (1219-1552)	11925	2190 (1983-2397)	0.15
Shanxi	4711	1016 (711-1322)	4513	1897 (1527-2267)	5335	1516 (1232-1800)	5542	2874 (2531-3217)	< 0.001
Anhui	6313	737 (529-945)	5871	1020 (781-1260)	11882	570 (458-683)	10554	1475 (1307-1643)	< 0.001
Hunan	5877	619 (433-805)	5892	534 (377-690)	11596	1236 (1076-1397)	10483	1539 (1358-1720)	< 0.001
Hubei	5882	461 (296-626)	5668	887 (669-1106)	11438	895 (758-1031)	10207	1294 (11231465)	< 0.001
Jiangxi	4370	253 (102-405)	4337	449 (270-629)	8806	799 (645-954)	7916	1133 (952-1314)	< 0.001
Western region									
Inner Mongolia	4657	1813 (1400-2226)	4608	1677 (1312-2041)	4155	3190 (2731-3650)	3777	3193 (2749-3637)	< 0.001
Ningxia	6720	900 (647-1153)	4968	1480 (1157-1803)	4790	1536 (1232-1841)	4147	1843 (1507-2179)	< 0.001
Shaanxi	4791	677 (441-914)	4446	798 (564-1032)	7582	1506 (1275-1738)	6576	2261 (2000-2522)	< 0.001
Guizhou	4932	624 (397-851)	4443	1044 (765-1323)	6124	589 (420-758)	5684	1513 (1245-1781)	< 0.001
Sichuan	3982	575 (381-770)	4052	1177 (903-1451)	9028	1361 (1173-1549)	8549	1831 (1614-2048)	< 0.001
Chongqing	4378	570 (377-763)	4143	694 (490-898)	6971	1094 (900-1288)	6841	1258 (1050-1467)	< 0.001
Xinjiang	5232	544 (306-782)	5021	597 (385-809)	7419	826 (629-1023)	6400	515 (367-663)	0.16
Yunnan	5237	444 (274-613)	4969	350 (201-499)	7631	675 (508-842)	7736	1369 (1166-1573)	< 0.001
Qinghai	4034	440 (181-699)	3800	285 (87-482)	3279	354 (153-556)	3183	789 (499-1078)	< 0.001
Gansu	5692	326 (171-482)	5366	389 (227-550)	8030	721 (558-885)	7211	1081 (893-1269)	< 0.001
Tibet	3809	212 (43-381)	3848	309 (115-503)	3203	NA	2747	29 (0-86)	NA
Guangxi	5069	212 (94-331)	4933	394 (236-552)	8897	586 (455-718)	8089	871 (718-1024)	< 0.001

Abbreviation: NA, not applicable,

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Appendix 6. Risk Factors for Stroke in Urban Areas of China from 2003 to 2018.

	2003		2008		2013		2018		Meta-analysis[b]	
	OR (95% CI)[a]	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value
Age										
< 30 y	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
30-39 y	2.18 (0.45-10.58)	0.33	1.32 (0.23-7.46)	0.75	1.77 (0.73-4.28)	0.20	1.91 (0.53-6.87)	0.33	1.76 (0.39, 3.13)	0.99
40-49 y	8.09 (1.85-35.40)	0.005	8.79 (2.02-38.28)	0.004	6.05 (2.79-13.12)	<.001	14.91 (4.70-47.36)	<0.001	6.81 (2.16, 11.46)	0.87
50-59 y	25.82 (5.98-111.47)	<.001	18.34 (4.27-78.76)	<.001	15.20 (7.10-32.53)	<.001	39.25-12.45-123.73	<0.001	17.03 (5.55, 28.50)	0.85
60-69 y	49.56 (11.42-215.02)	<.001	40.14 (9.31-173.08)	<.001	22.77 (10.61-48.87)	<.001	67.44 (21.36-212.93)	<0.001	26.02 (8.03, 44.02)	0.77
≥70 y	88.31 (20.30-384.08)	<.001	50.55 (11.69-218.60)	<.001	33.30 (15.46-71.74)	<.001	97.84 (30.94-309.35)	<0.001	37.89 (11.52, 64.26)	0.76
Sex										
Female	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Male	1.58 (1.31-1.91)	<.001	1.61 (1.33-1.93)	<.001	1.52 (1.35-1.71)	<.001	1.51 (1.37-1.68)	<0.001	1.53 (1.43, 1.64)	0.93
Region										
Western	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Central	2.16 (1.72-2.72)	<.001	2.55 (2.00-3.23)	<.001	1.04 (0.93-1.16)	0.53	1.30 (1.19-1.43)	<0.001	1.22 (1.13, 1.30)	<0.001
Eastern	1.72 (1.38-2.15)	<.001	1.96 (1.55-2.48)	<.001	0.73 (0.65-0.83)	<.001	0.99 (0.89-1.09)	0.79	0.89 (0.83, 0.96)	<0.001
Education										
College	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Senior high	1.02 (0.76-1.36)	0.90	1.19 (0.87-1.63)	0.28	1.23 (0.99-1.53)	0.06	1.20 (0.91-1.59)	0.20	1.21 (1.05, 1.37)	0.05
Junior high	0.92 (0.69-1.22)	0.57	1.28 (0.94-1.74)	0.12	1.43 (1.17-1.76)	0.001	1.38 (1.06-1.81)	0.02	1.09 (0.92, 1.25)	0.05
Primary	0.73 (0.54-0.98)	0.04	1.17 (0.85-1.62)	0.33	1.47 (1.19-1.82)	<.001	1.35 (1.03-1.78)	0.03	1.06 (0.91, 1.21)	<0.001
None	0.80 (0.57-1.11)	0.18	1.15 (0.79-1.66)	0.47	1.39 (1.09-1.77)	0.008	1.21 (0.90-1.62)	0.20	1.16 (1.00, 1.32)	0.76
Occupation										
Employed	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Retired	1.95 (1.46-2.61)	<.001	3.03 (2.08-4.41)	<.001	1.61 (1.37-1.90)	<.001	2.13 (1.85-2.46)	<0.001	1.88 (1.69, 2.06)	0.02
Unemployed	1.56 (1.14-2.14)	0.05	3.13 (2.15-4.54)	<.001	1.59 (1.36-1.87)	<.001	2.00 (1.75-2.29)	<0.001	1.79 (1.61, 1.96)	0.02
Income										
High	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Medium	1.01 (0.83-1.22)	0.93	1.04 (0.86-1.26)	0.70	1.11 (0.98-1.24)	0.09	1.16 (1.05-1.29)	0.004	1.17 (1.08, 1.26)	0.008
Low	1.05 (0.85-1.30)	0.63	1.04 (0.84-1.28)	0.74	1.10 (0.97-1.25)	0.13	1.42 (1.26-1.60)	<0.001	1.11 (1.03, 1.18)	0.55
Marital status										
Married	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Single	0.55 (0.23-1.31)	0.18	0.82 (0.43-1.56)	0.54	0.63 (0.40-0.99)	0.05	0.67 (0.44-1.01)	0.06	0.66 (0.48, 0.84)	0.92
Divorced	1.05 (0.51-2.16)	0.89	0.77 (0.38-1.59)	0.49	1.50 (1.07-2.12)	0.02	1.16 (0.88-1.51)	0.29	1.16 (0.92, 1.40)	0.35
Widowed	0.97 (0.77-1.20)	0.76	0.97 (0.78-1.20)	0.76	1.12 (0.98-1.28)	0.10	0.98 (0.87-1.10)	0.70	1.02 (0.94, 1.09)	0.46
Hypertension										
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Yes	1.23 (1.01-1.50)	0.04	2.25 (1.91-2.65)	<.001	2.94 (2.66-3.26)	<.001	1.39 (1.27-1.52)	<0.001	1.33 (1.22, 1.45)	<0.001
Diabetes										

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	OR (CI)	p	OR (CI)	p	OR (CI)	p	OR (CI)	p	OR (CI)	p
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Yes	1.58 (1.17-2.12)	0.003	1.32 (1.02-1.71)	0.04	1.37 (1.20-1.56)	<.001	1.26 (1.10-1.46)	<0.001	1.33 (1.22, 1.45)	0.61
Depression										
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Moderate	2.83 (2.39-3.36)	<.001	3.23 (2.64-3.97)	<.001	2.76 (2.43-3.13)	<.001	2.60 (2.35-2.87)	<0.001	2.73 (2.54, 2.91)	0.35
Severe	9.59 (6.68-13.78)	<.001	7.28 (4.49-11.83)	<.001	4.98 (3.57-6.93)	<.001	3.48 (2.72-4.45)	<0.001	4.18 (3.45, 4.92)	0.002
Cigarette smoking										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Smoker	0.95 (0.78-1.16)	0.62	0.89 (0.72-1.09)	0.25	1.08 (0.95-1.22)	0.22	1.12 (1.01-1.25)	0.04	1.05 (0.97, 1.12)	0.143
Alcohol consumption (times per week)										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
<3	0.67 (0.49-0.90)	0.008	0.69 (0.39-1.21)	0.19	0.71 (0.59-0.85)	<.001	0.61 (0.54-0.68)	<0.001	0.64 (0.58, 0.70)	0.58
≥3	0.56 (0.40-0.80)	0.001	0.53 (0.36-0.77)	0.001	0.40 (0.32-0.50)	<.001	1.15 (0.99-1.34)	0.07	0.55 (0.48, 0.62)	<0.001
Physical activity (times per week)										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
<1	1.88 (0.96-3.68)	0.07	0.64 (0.37-1.11)	0.11	0.72 (0.49-1.06)	0.09	0.86 (0.79-0.95)	0.002	0.84 (0.77, 0.92)	0.2
1-2	0.49 (0.23-1.06)	0.07	0.61 (0.43-0.86)	0.005	0.89 (0.73-1.09)	0.27	0.82 (0.70-0.95)	0.01	0.79 (0.69, 0.88)	0.11
3-5	0.83 (0.62-1.12)	0.23	0.78 (0.60-1.02)	0.07	0.81 (0.68-0.97)	0.03	0.81 (0.68-0.96)	0.01	0.81 (-0.72, 0.89)	0.99
≥6	0.99 (0.83-1.19)	0.93	0.76 (0.63-0.92)	0.005	1.06 (0.95-1.19)	0.31	0.90 (0.64-1.27)	0.55	0.95 (0.87, 1.03)	0.02
Sanitation facilities										
Improved	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Unimproved	1.15 (0.91-1.44)	0.24	1.46 (1.14-1.87)	0.003	1.20 (1.03-1.40)	0.02	1.26 (1.12-1.41)	<0.001	1.24 (1.14, 1.34)	0.56

Abbreviation: OR, odds ratio; CI, confidence interval.

[a] Multiple logistic regression models included age, sex, residence, region, educational level, occupation, income, marital status, hypertension, diabetes, depression, smoking, alcohol consumption, physical activity, and sanitation facilities.

[b] The meta estimates of serial surveys.

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Appendix 7. Risk Factors for Stroke in Rural Areas of China from 2003 to 2018..

	2003		2008		2013		2018		Meta-analysis[b]	
	OR (95% CI)[a]	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value
Age										
< 30 y	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
30-39 y	1.92 (0.90-4.12)	0.09	3.95 (1.63-9.57)	0.002	3.47 (1.45-8.34)	0.005	3.80 (1.31-11.02)	0.01	2.51 (1.20, 3.83)	0.66
40-49 y	6.56 (3.23-13.29)	<.001	12.07 (5.25-27.75)	<.001	12.23 (5.51-27.15)	<.001	20.83 (7.78-55.77)	<0.001	8.58 (4.42, 12.75)	0.49
50-59 y	13.63 (6.78-27.40)	<.001	33.95 (14.92-77.27)	<.001	25.19 (11.42-55.58)	<.001	52.16 (19.60-138.81)	<0.001	17.97 (9.12, 26.82)	0.34
60-69 y	22.74 (11.23-46.04)	<.001	50.98 (22.32-116.46)	<.001	36.70 (16.60-81.12)	<.001	105.02 (39.45-279.54)	<0.001	29.40 (14.94, 43.86)	0.38
≥70 y	25.33 (12.33-52.03)	<.001	50.59 (21.92-116.75)	<.001	43.48 (19.57-96.60)	<.001	123.38 (46.26-329.06)	<0.001	32.99 (16.56, 49.41)	0.40
Sex										
Female	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Male	1.65 (1.36-2.00)	<.001	1.40 (1.21-1.62)	<.001	1.31 (1.15-1.48)	<.001	1.27 (1.15-1.40)	<0.001	1.33 (1.25, 1.42)	0.16
Region										
Western	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Central	1.69 (1.40-2.05)	<.001	1.97 (1.70-2.28)	<.001	1.33 (1.18-1.50)	<.001	1.48 (1.35-1.62)	<0.001	1.50 (1.40, 1.59)	0.001
Eastern	1.25 (1.03-1.51)	0.02	1.37 (1.17-1.60)	<.001	1.07 (0.94-1.21)	0.32	0.87 (0.78-0.96)	0.007	1.17 (1.12, 1.23)	<0.001
Education										
College	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Senior high	0.61 (0.21-1.81)	0.38	6.32 (0.86-46.21)	0.07	1.35 (0.73-2.51)	0.33	1.25 (0.57-2.70)	0.58	1.09 (0.52, 1.66)	0.29
Junior high	0.62 (0.22-1.76)	0.37	6.16 (0.85-44.58)	0.07	1.93 (1.06-3.50)	0.03	1.40 (0.65-3.01)	0.39	1.12 (0.57, 1.67)	0.63
Primary	0.79 (0.28-2.23)	0.66	6.45 (0.89-46.65)	0.07	1.66 (0.92-3.02)	0.10	1.44 (0.67-3.09)	0.35	1.26 (0.65, 1.88)	0.63
None	0.70 (0.25-1.99)	0.50	5.56 (0.77-40.38)	0.09	1.47 (0.80-2.69)	0.21	1.30 (0.60-2.81)	0.50	1.02 (0.50, 1.54)	0.59
Occupation										
Employed	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Retired	2.05 (1.43-2.95)	<.001	1.90 (1.46-2.47)	<.001	1.66 (1.37-2.02)	<.001	1.49 (1.28-1.73)	<0.001	1.61 (1.44, 1.78)	0.29
Unemployed	2.35 (1.89-2.92)	<.001	1.66 (1.43-1.92)	<.001	1.78 (1.59-2.00)	<.001	1.49 (1.37-1.63)	<0.001	1.61 (1.53, 1.70)	0.003
Income										
High	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Medium	1.10 (0.91-1.33)	0.32	0.89 (0.77-1.04)	0.14	1.07 (0.94-1.21)	0.32	1.20 (1.07-1.34)	0.002	1.08 (1.01, 1.16)	0.06
Low	0.98 (0.80-1.20)	0.88	0.98 (0.84-1.14)	0.78	1.07 (0.95-1.21)	0.28	1.23 (1.10-1.37)	<0.001	1.06 (0.99, 1.13)	0.02
Marital status										
Married	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Single	0.61 (0.33-1.11)	0.10	0.78 (0.52-1.17)	0.23	0.73 (0.50-1.06)	0.10	1.49 (1.28-1.73)	<0.001	1.03 (0.89, 1.18)	<0.001
Divorced	0.70 (0.25-1.93)	0.49	0.90 (0.46-1.77)	0.77	0.59 (0.29-1.21)	0.15	2.33 (1.90-2.85)	<0.001	1.26 (0.98, 1.53)	<0.001
Widowed	0.58 ()0.46-0.73	<.001	0.84 (0.71-1.00)	0.05	0.75 (0.65-0.86)	<.001	0.87 (0.19-4.10)	0.86	0.72 (0.65, 0.80)	0.07
Hypertension										
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Yes	1.67 (1.31-2.13)	<.001	2.01 (1.74-2.33)	<.001	3.79 (3.43-4.19)	<.001	1.63 (1.49-1.77)	<0.001	1.89 (1.77, 2.01)	<0.001
Diabetes										

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	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Yes	1.51 (0.81-2.82)	0.19	1.10 (0.74-1.64)	0.64	1.54 (1.29-1.84)	<.001	1.24 (1.04-1.48)	0.02	1.33 (1.17, 1.49)	0.26
Depression										
No	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Moderate	3.93 (3.33-4.62)	<.001	4.36 (3.80-4.99)	<.001	2.67 (2.37-3.01)	<.001	2.29 (2.11-2.50)	<0.001	2.62 (2.46, 2.77)	<0.001
Severe	11.78 (8.69-15.97)	<.001	11.13 (8.52-14.53)	<.001	5.43 (4.04-7.30)	<.001	2.63 (2.02-3.41)	<0.001	3.65 (3.03, 4.27)	<0.001
Cigarette smoking										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Smoker	0.83 (0.68-1.01)	0.06	0.94 (0.81-1.09)	0.43	1.14 (1.00-1.29)	0.04	1.00 (0.91-1.11)	0.95	0.99 (0.92, 1.05)	0.04
Alcohol consumption (times per week)										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
<3	0.40 (0.29-0.56)	<.001	0.35 (0.21-0.58)	<.001	0.50 (0.41-0.62)	<.001	0.54 (0.48-0.60)	<0.001	0.50 (0.46, 0.55)	0.10
≥3	0.40 (0.28-0.57)	<.001	0.40 (0.31-0.53)	<.001	0.42 (0.34-0.51)	<.001	1.04 (0.90-1.20)	0.57	0.50 (0.44, 0.56)	<0.001
Physical activity (times per week)										
Never	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
<1	0.48 (0.07-3.49)	0.47	2.27 (1.33-3.87)	0.003	1.67 (1.06-2.62)	0.03	1.47 (1.35-1.60)	<0.001	1.48 (1.36, 1.60)	0.38
1-2	1.93 (0.70-5.34)	0.21	1.89 (1.35-2.63)	<.001	1.23 (0.95-1.61)	0.12	1.34 (1.17-1.54)	<0.001	1.35 (1.20, 1.51)	0.32
3-5	0.96 (0.49-1.90)	0.91	1.22 (0.83-1.81)	0.31	1.36 (1.09-1.70)	0.006	1.14 (0.98-1.34)	0.09	1.19 (1.04, 1.33)	0.59
≥6	2.36 (1.72-3.23)	<.001	1.73 (1.36-2.21)	<.001	1.74 (1.49-2.04)	<.001	1.11 (0.80-1.55)	0.51	1.62 (1.43, 1.81)	0.008
Sanitation facilities										
Improved	1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]		1 [Reference]	
Unimproved	1.48 (1.20-1.83)	<.001	1.20 (1.04-1.40)	0.02	1.49 (1.34-1.66)	<.001	1.37 (1.27-1.48)	<0.001	1.37 (1.30, 1.45)	0.11

Abbreviation: OR, odds ratio; CI, confidence interval.

[a] Multiple logistic regression models included age, sex, residence, region, educational level, occupation, income, marital status, hypertension, diabetes, depression, smoking, alcohol consumption, physical activity, and sanitation facilities.

[b] The meta estimates of serial surveys.

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