Article

Use of Electronic Nicotine Delivery Systems (ENDS) in China: Evidence from Citywide Representative Surveys from Five Chinese Cities in 2018

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Supplementary Materials

Table S1: Awareness, ever use, and past-30-day use of ENDS among adult residents in five Chinese cities in 2018.

Table S2: Adjusted ORs of awareness, ever use, and past-30-day use of ENDS among adult residents in five Chinese cities in 2018.

Table S3: Awareness, ever use, and past-30-day use of ENDS among adult smokers in five Chinese cities in 2018.

Table S4: Adjusted ORs of awareness, ever use, and past-30-day use of ENDS among adult smokers in five Chinese cities in 2018.

Table S1. Awareness, ever use, and past-30-day use of Electronic Delivery Nicotine Systems (ENDS) among adult residents in five Chinese cities in 2018.

		hengdu		ongqing		Vuhan		(iamen		Xi'an		Overall
Demographic Characteristics		I = 1914)	,	J = 1829)		[= 2251)		I = 2116)		J = 2123)		= 10,233)
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Awareness of ENDS												
Total	55.9	48.1-63.7	45.0	38.6-51.4	46.7	38.6-54.7	49.9	42.2-57.5	58.7	51.9-65.6	51.3	48.0-54.6
Sex												
Male	64.8	57.4-72.1	49.1	41.5-56.7	55.8	46.0-65.5	59.3	50.5-68.2	69.4	60.3-78.6	59.4	55.6-63.2
Female	47.3	38.3-56.2	40.7	33.4-48.1	37.3	30.7-43.9	39.6	30.7-48.4	47.6	39.8-55.5	43.0	39.5-46.6
Age (Years)												
15–24	64.5	53.3-75.7	58.2	46.6-69.8	68.3	57.9-78.7	53.4	38.6-68.2	62.3	52.4-72.2	61.1	55.9-66.2
25–44	61.3	51.1-71.6	56.4	48.8-63.9	50.4	39.3-61.5	59.5	52.5-66.4	65.6	58.5-72.7	59.0	55.1-62.9
45–64	50.9	43.5-58.2	34.7	28.4-40.9	45.3	37.8-52.7	32.3	21.4-43.2	54.9	45.9-64.0	44.0	40.4-47.5
65 and above	31.1	23.5-38.8	18.7	11.9-25.6	22.0	15.0-29.0	11.3	5.0-17.6	32.1	23.6-40.6	24.5	21.1-27.9
Education Level												
Primary school completed	20.5	10.2.20.6	10.7	0 (1 (0	20.2	10.0.07.4	140	0.7.107	42.2	26.0 50.5	21.2	160.254
or below	29.5	19.3–39.6	12.7	8.6–16.9	20.3	13.3–27.4	14.2	9.7–18.6	43.2	26.9–59.5	21.2	16.9–25.4
Junior high school	44.9	38.4–51.5	30.3	24.6–35.9	42.6	32.2-53.0	45.3	26 4 54 1	51.5	42.4 50.7	41.0	27 4 44 7
completed	44.9	38.4-31.3	30.3	24.6-33.9	42.6	32.2-33.0	45.3	36.4–54.1	51.5	43.4–59.7	41.0	37.4–44.7
Senior high school	60.4	50.3-70.4	40.0	40.1 FO.6	50.3	40.4-60.2	55.6	44 E ((7	E4.7	440.645	53.8	49.4–58.1
completed	60.4	50.3-70.4	49.8	40.1–59.6	50.3	40.4-60.2	33.6	44.5–66.7	54.7	44.9–64.5	55.8	49.4–38.1
College degree or above	63.4	53.9-72.9	61.6	53.0-70.2	52.0	42.2-61.7	63.6	54.8-72.3	64.6	55.2-74.1	61.6	57.4-65.9
Occupation												
Gov. employee, teacher,	63.5	51.3-75.8	65.2	55.4–75.1	47.5	35.9–59.1	37.6	24.8-50.5	60.8	52.0-69.6	58.6	53.3–63.9
healthcare provider	63.3	31.3-73.6	63.2	33.4-73.1	47.3	33.9-39.1	37.6	24.6-30.3	60.6	32.0-69.6	36.6	33.3-63.9
Factory, business, service	63.4	54.6-72.2	46.7	39.2-54.2	55.9	46.2–65.6	60.6	52.1-69.2	70.3	63.2–77.3	59.8	56.0-63.6
industry employee	65.4	34.6-72.2	40.7	39.2-34.2	33.9	46.2-65.6	60.6	32.1-69.2	70.3	63.2-77.3	39.6	36.0-63.6
Not in the labor force ¹	46.8	39.1-54.5	40.7	32.7-48.6	39.6	31.8-47.4	39.3	32.2-46.4	51.2	43.2-59.1	43.9	40.3-47.5
Current Smoking Status												
Yes	75.5	66.8-84.1	56.0	46.0-66.1	65.3	56.5-74.1	65.2	56.3-74.1	78.9	71.2-86.5	67.8	63.7-72.0
No	50.1	42.5-57.8	41.5	35.2-47.8	41.3	33.3-49.2	45.2	37.5-52.9	52.7	45.3-60.2	46.3	43.1-49.6
Ever Use of ENDS												
Total	4.6	3.2-6.0	4.4	2.9-5.9	3.7	2.7-4.8	4.3	2.9-5.6	6.6	4.5-8.7	4.8	4.1-5.5
Sex												
Male	8.0	5.5-10.6	7.2	4.1-10.3	7.2	5.7-8.7	7.6	5.0-10.3	12.4	8.7-16.2	8.6	7.2-9.9
Female	1.3	0.4 - 2.2	1.4	0.0 - 2.92	0.2	0.0 - 0.5	0.6	0.0 - 1.4	0.6	0.0-1.2	0.9	0.5 - 1.4

Age (Years)												
15–24	3.6	0.9-6.2	5.7	1.4-10.0	6.1	3.4-8.7	5.5	1.0-10.1	7.2	2.6-11.8	5.6	3.8-7.5
25–44	5.7	3.4-7.9	5.0	2.1-8.0	4.6	2.7-6.5	4.9	3.4-6.4	8.0	4.7-11.2	5.7	4.6-6.8
45–64	4.7	2.9-6.5	3.9	1.6-6.2	3.1	1.9-4.4	2.3	1.0-3.5	6.0	4.1 - 8.0	4.2	3.3-5.1
65 and above	2.2	0.3 – 4.0	2.1	0.5 - 3.6	0.9	0.0 - 1.9	0.5	0.0 - 1.4	1.4	0.1 - 2.7	1.6	0.9-2.3
Education Level												
Primary school completed or below	0.4	0.0-1.3	1.8	0.0-3.7	1.3	0.0-3.0	0.3	0.0-0.7	2.4	0.0-5.2	1.2	0.4–2.0
Junior high school completed	4.5	2.7-6.4	4.1	1.0-7.1	4.0	1.1-7.0	4.2	1.1–7.3	6.4	2.9–10.0	4.5	3.2–5.8
Senior high school completed	4.7	2.5–6.8	4.4	1.4–7.3	3.4	2.0-4.7	7.1	4.3–10.0	4.9	2.5–7.4	4.7	3.6–5.7
College degree or above Occupation	5.4	3.2–7.7	5.6	3.2-8.1	4.5	2.6-6.3	3.9	1.9–6.0	8.2	5.3–11.1	5.9	4.8–7.0
Gov. employee, teacher, healthcare provider	4.6	1.8–7.5	3.7	1.0-6.4	2.8	0.1-5.5	7.2	2.2–12.2	3.4	0.1-6.8	4.1	2.7–5.5
Factory, business, service industry employee	6.2	3.6-8.7	4.8	1.7–7.8	5.5	3.8–7.3	5.1	3.1-7.0	9.6	5.6–13.6	6.3	5.0–7.
Not in the labor force ¹	3.1	1.4 - 4.8	4.3	2.9-5.8	2.6	1.7-3.5	2.6	1.3-4.0	5.1	2.7–7.5	3.8	3.0-4.6
Current Smoking Status												
Yes	17.2	12.3-22.2	14.7	8.7-20.6	14.4	11.1-17.8	15.5	10.7-20.4	23.1	15.9-30.3	17.1	14.5–19.7
No	0.9	0.2-1.7	1.0	0.2-1.8	0.6	0.1-1.2	0.9	0.2-1.6	1.7	0.4-3.0	1.1	0.7–1.5
Past-30-Day Use of ENDS												
Total	0.7	0.3-1.2	0.6	0.1 - 1.0	1.0	0.5 - 1.4	0.9	0.4 - 1.4	1.7	0.2 - 3.1	0.9	0.6 - 1.3
Sex												
Male	1.1	0.3 - 1.9	0.7	0.0 - 1.4	1.8	0.8 - 2.7	1.6	0.7 - 2.6	2.9	0.6 - 5.3	1.6	1.0-2.2
Female	0.3	0.0 - 1.0	0.4	0.0 - 1.0	0.2	0.0 - 0.5	0.0	0.0 – 0.1	0.3	0.0 – 0.7	0.3	0.1 - 0.5
Age (Years)												
15–24	0.4	0.0 - 1.4	1.4	0.0 - 3.2	1.0	0.0 - 2.5	1.0	0.0 - 2.3	2.8	0.0-6.2	1.5	0.4 - 2.5
25–44	1.2	0.3-2.1	0.1	0.0-0.2	1.6	0.7 - 2.5	0.9	0.2 - 1.6	2.0	0.0 - 4.3	1.1	0.6 - 1.6
45–64	0.5	0.0-1.2	0.8	0.0-1.7	0.4	0.0 – 0.9	0.8	0.0-1.7	0.6	0.1 - 1.1	0.6	0.3 - 1.0
65 and above Education Level	0.0		0.0		0.7	0.0–1.6	0.0		0.2	0.0–0.5	0.2	0.0-0.4
Primary school completed or below	0.0		0.0		0.0		0.1	0.0-0.2	0.6	0.0-1.9	0.1	0.0-0.2
Junior high school completed	0.5	0.0-1.1	0.7	0.0-1.8	0.5	0.0-1.2	0.7	0.0-1.5	1.2	0.0-2.9	0.7	0.2–1.2

Senior high school completed	1.4	0.0-2.9	1.3	0.1-2.4	0.9	0.1–1.7	0.8	0.1–1.6	0.5	0.0-1.1	1.0	0.5–1.4
College degree or above	0.7	0.0 - 1.4	0.2	0.0 – 0.4	1.5	0.6 - 2.5	1.3	0.2 - 2.5	2.6	0.0-5.2	1.3	0.6-1.9
Occupation												
Gov. employee, teacher, healthcare provider	0.5	0.0-1.2	0.1	0.0-0.4	0.7	0.0-1.6	1.3	0.0-2.7	1.2	0.0-2.7	0.6	0.2-1.0
Factory, business, service industry employee	1.5	0.4-2.5	0.5	0.0-1.3	1.4	0.1-2.6	1.2	0.3-2.0	2.1	0.1–4.1	1.3	0.8–1.9
Not in the labor force ¹	0.1	0.0-0.3	0.7	0.0 - 1.4	0.8	0.3 - 1.2	0.4	0.0 - 1.0	1.5	0.0 - 3.2	0.7	0.3-1.2
Current Smoking Status												
Yes	3.2	1.2 - 5.3	2.4	0.6 – 4.2	4.0	2.0-6.1	3.3	1.3-5.2	6.9	1.7-12.2	3.9	2.6-5.3
No	0.0		0.0		0.1	0.0-0.3	0.1	0.0-0.3	0.1	0.0-0.2	0.0	0.0-0.1

¹ Respondents who were not in the labor force included students, homemakers, retired, and unemployed residents either able or unable to work.

Table S2. Adjusted ORs of awareness, ever use, and past-30-day use of ENDS among adult residents in five Chinese cities in 2018.

In Protons	C	hengdu	Ch	ongqing		Wuhan	>	(iamen		Xi'an	O	verall
Indicators	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Awareness												
Sex												
Male	1.4	0.9 - 2.1	1.0	0.7 - 1.5	1.5	1.1-2.0	1.6	1.0 - 2.6	1.7	1.0-2.7	1.4	1.1-1.6
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Age Group												
15–24	2.4	1.4 - 4.2	2.8	1.4 - 5.3	5.7	2.9-11.6	4.5	1.7-11.9	3.1	1.5 - 6.4	2.9	2.1-3.8
25–34	1.9	1.2 - 3.1	2.9	1.7 - 4.9	2.4	1.3-4.3	4.9	2.3-10.3	2.8	1.7-4.6	2.4	1.9-3.0
35–64	1.6	1.1-2.3	1.8	1.0 - 3.2	2.2	1.4-3.4	2.8	1.5-5.2	2.0	1.3-2.9	1.7	1.4-2.1
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Education												
Primary school completed or below	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	1.5	1.0-2.2	2.4	1.7-3.5	1.9	1.3-2.8	2.8	1.7 - 4.6	1.0	0.5 - 1.9	2.0	1.6-2.5
Senior high school completed	2.5	1.5 - 4.0	5.0	3.0 - 8.4	2.1	1.3-3.5	4.8	2.7-8.6	0.8	0.4 - 1.8	2.9	2.2-3.9
College degree or above	2.6	1.5 - 4.6	7.2	4.4 - 11.8	2.3	1.3-4.1	6.7	3.5-13.0	1.2	0.5 - 2.8	3.9	2.8-5.3
Occupation												
Gov. employee, teacher, healthcare provider	1.3	0.9 - 2.1	1.3	0.9 - 2.0	1.2	0.7 - 1.8	0.8	0.5 - 1.4	1.2	0.8 - 1.9	1.2	1.0-1.5
Factory, business, service industry employee	1.3	0.9 - 1.8	0.9	0.6 - 1.2	1.4	1.0-2.0	1.4	0.9 - 2.3	1.7	1.1-2.6	1.3	1.1-1.5
Not in the labor force	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Current smoking status												
Currently smoking	2.5	1.6 - 4.0	2.0	1.4 - 2.8	2.4	1.9-3.1	2.6	1.6-4.1	2.5	1.7-3.6	2.3	1.9-2.7

Currently not smoking	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Ever Use												
Sex												
Male	1.4	0.4 – 4.9	1.0	0.2 - 4.6	9.1	1.4-60.1	2.4	0.5 - 10.2	6.2	1.8-21.9	2.2	1.1 - 4.4
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Age Group												
15–24	0.8	0.2 - 3.7	2.3	0.6 - 9.7	8.9	3.0-26.8	7.9	0.9 - 72.3	4.8	1.4-16.9	2.8	1.5-5.5
25–34	0.9	0.3 - 3.0	1.3	0.3 - 4.7	3.7	1.2-11.1	3.6	0.4 - 37.4	3.1	1.1-8.5	1.7	1.0-3.0
35–64	0.8	0.3 - 2.1	1.3	0.3 - 4.8	2.2	0.7 - 7.2	2.1	0.2 - 25.9	2.0	0.8 - 5.3	1.3	0.7 - 2.4
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Education												
Primary school completed or below	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	9.8	0.9 - 107.8	1.7	0.4 - 6.7	1.5	0.3-8.2	11.5	1.4-93.8	1.8	0.6-6.2	2.8	1.3-6.0
Senior high school completed	8.1	0.9 - 76.1	1.5	0.4 - 6.0	0.8	0.2 - 4.2	31.5	6.0-165.6	0.8	0.2 - 2.9	2.4	1.1 - 5.0
College degree or above	12.8	1.1-150.2	3.4	0.8 - 14.6	1.4	0.3 - 7.2	18.1	2.0-160.9	2.2	0.7 - 6.9	4.4	2.1-9.2
Occupation												
Gov. employee, teacher, healthcare provider	1.0	0.4 - 2.1	0.6	0.3 - 1.6	1.1	0.4 - 3.1	4.2	1.2 - 15.4	0.5	0.2 - 1.3	0.8	0.5-1.2
Factory, business, service industry employee	1.2	0.5-2.9	0.9	0.4 - 2.0	1.3	0.7 - 2.4	1.8	0.7 - 4.9	1.2	0.6 - 2.4	1.1	0.8 - 1.5
Not in the labor force	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Current smoking status												
Currently smoking	19.1	5.1-72.1	18.9	5.8-62.3	16.4	6.4-41.9	19.7	8.7-44.4	11.2	4.7-27.0	15.5	9.1 - 26.4
Currently not smoking	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Past-30-Day Use												
Sex												
Male	0.3	0.0-2.7	0.2	0.0 - 1.3	0.5	0.13-2.03	7.4	0.4 - 133.0	0.2	0.0 - 2.1	0.4	0.2 - 1.1
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Age Group												
15–24	NA	NA	NA	NA	0.8	0.14 – 4.77	NA	NA	16.4	0.9-304.0	4.5	1.1 - 18.7
25–34	NA	NA	NA	NA	0.9	0.2 - 4.26	NA	NA	4.2	0.3 - 71.8	2.1	0.6 - 7.4
35–64	NA	NA	NA	NA	0.3	0.03-1.76	NA	NA	1.3	0.1 - 20.0	1.3	0.4 – 4.7
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Education												
Primary school completed or below	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	NA	NA	NA	NA	NA	NA	5.4	0.3 - 115.8	21.2	0.5-949.6	6.8	1.1-41.6
Senior high school completed	NA	NA	NA	NA	NA	NA	9.0	0.6-137.8	2.9	0.1 - 64.3	7.5	1.2-45.5
College degree or above	NA	NA	NA	NA	NA	NA	21.8	1.4-348.5	34.4	1.3-922.3	14.3	2.9-71.5
Occupation												
Gov. employee, teacher, healthcare provider	4.4	0.3-79.8	0.1	0.0 - 1.4	0.7	0.14-2.93	1.8	0.1 - 41.8	0.8	0.2 - 3.5	0.5	0.2 - 1.5

Factory, business, service industry employee Not in the labor force	8.9 Ref.	0.8–95.2	0.6 Ref.	0.1–4.2	1.0 Ref.	0.3–3.57	1.9 Ref.	0.2–20.2	1.1 Ref.	0.5–2.6	1.1 Ref.	0.6–2.0
Current smoking status												
Currently smoking	NA	NA	NA	NA	92.1	17.56-483.21	19.1	2.6-141.8	NA	NA	198.7	52.3-754.4
Currently not smoking	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and smoking status.

Table S3. Awareness, ever use, and past-30-day use of ENDS among adult smokers in five Chinese cities in 2018.

	Cl	hengdu	Cł	nongqing	1	Wuhan	,	Kiamen		Xi'an	C	Overall
Demographic Characteristics	(N	N = 414)	(1	N = 399	(1	N = 521)	(]	N = 490)	()	N = 515)	(N	[= 2339)
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Awareness of ENDS												
Total	75.5	67.2-83.7	56.0	46.5-65.5	65.3	56.9-73.6	65.2	56.7-73.7	78.9	71.6-86.1	67.8	63.2-72.4
Sex												
Male	74.9	66.2-83.5	55.4	45.9-65.0	66.0	57.5-74.5	65.0	56.6-73.4	78.8	71.8-85.8	67.6	62.9-72.2
Female	80.8	71.8-89.8	64.9	47.9-82.0	50.8	30.4-71.1	70.6	53.5-87.6	80.9	61.6-100.0	71.7	64.2-79.1
Age (Years)												
15–24	91.4	83.2-99.6	84.8	69.9–99.7	88.6	73.6-100.0	76.0	50.5-100.0	80.6	65.1-96.1	84.3	77.3-91.2
25–44	78.0	67.8-88.2	61.9	51.8-72.1	73.3	63.1-83.5	77.9	70.1-85.8	87.7	80.5-94.9	75.3	70.2-80.3
45–64	67.7	56.0-79.4	48.6	35.2-62.0	61.7	52.9-70.5	42.9	30.9-55.0	73.3	65.8-80.8	59.7	53.4-66.0
65 and above	63.2	47.0-79.4	15.9	3.7-28.1	40.6	27.9-53.4	21.9	7.6-36.1	47.1	32.3-61.8	36.3	27.4-45.3
Education Level												
Primary school completed or below	69.7	55.8-83.7	10.2	1.1 - 19.4	36.1	18.3-53.9	29.3	17.4-41.1	71.2	45.6-96.8	36.2	25.4-47.0
Junior high school completed	65.2	52.4-78.1	49.0	35.4-62.7	64.5	49.1-79.9	58.5	46.4-70.6	76.7	66.9-86.5	60.0	52.9-67.0
Senior high school completed	77.0	65.8-88.2	63.0	50.2-75.8	65.8	56.2-75.4	78.9	65.5-92.3	71.3	58.8-83.8	69.9	64.3-75.4
College degree or above	79.9	70.2-89.6	69.9	59.8-80.0	73.6	63.2-84.0	86.5	72.9-100.0	87.6	81.7-93.4	79.1	74.0-84.2
Occupation												
Gov. employee, teacher, healthcare provider	68.8	49.6-88.0	76.5	57.6-95.5	62.0	41.8-82.1	52.7	31.2-74.2	80.2	66.2-94.2	70.2	60.9-79.4
Factory, business, service industry employee	80.6	71.7-89.6	55.5	45.7-65.2	72.6	62.3-82.8	73.6	64.1-83.1	84.9	78.6-91.1	74.3	69.4-79.2
Not in the labor force ¹	69.6	59.6-79.7	53.2	42.4-64.0	59.4	50.2-68.5	57.1	46.1-68.1	72.1	62.3-81.8	61.3	55.9-66.6
Ever Use of ENDS												
Total	17.2	12.5-21.9	14.7	9.0-20.3	14.4	11.2–17.6	15.5	11.0-20.1	23.1	16.2–29.9	17.1	14.5–19.6
Sex												
Male	16.5	12.2-20.9	14.1	7.9-20.4	15.1	11.8-18.3	15.5	10.6-20.4	23.6	16.2-31.1	17.0	14.3-19.7
Female	23.2	6.1-40.2	22.4	2.1-42.7	1.7	0.0 - 5.1	16.4	0.0 - 38.8	12.0	0.0-30.9	18.0	8.4-27.6
Age (Years)												
15–24	22.9	10.3-35.6	24.3	10.2-38.4	41.3	25.7-56.8	29.5	6.0-52.9	26.0	7.8-44.1	26.6	18.8-34.4

25–44	19.6	11.9-27.2	16.1	5.0-27.2	18.8	15.0-22.7	17.6	12.5-22.8	30.6	20.8-40.3	20.5	16.4-24.6
45–64	13.0	7.1 - 18.8	11.4	3.3-19.4	9.3	5.2-13.3	6.5	2.4-10.5	16.3	11.1-21.4	11.9	8.7-15.0
65 and above	10.4	0.1 - 20.6	8.2	0.2 - 16.3	4.4	0.0 - 9.1	1.8	0.0 - 5.4	5.9	0.0 - 12.2	6.6	3.1-10.1
Education Level												
Primary school completed or below	2.5	0.0 - 7.8	3.8	0.0 - 9.3	6.2	0.0 - 13.4	0.9	0.0 - 2.4	6.8	0.0 - 15.9	3.6	0.7 - 6.5
Junior high school completed	13.9	7.6-20.2	12.7	2.8-22.7	12.8	5.0-20.6	11.3	4.3 - 18.2	24.9	11.7-38.0	14.3	9.8-18.8
Senior high school completed	15.3	9.0-21.5	11.9	6.6-17.1	11.2	7.1-15.3	22.1	11.5-32.8	15.5	8.0-23.0	14.3	11.3-17.2
College degree or above	22.3	15.7-28.8	23.7	14.5-33.0	23.5	14.7-32.3	25.6	14.1-37.2	31.9	20.8-43.0	25.5	21.1-30.0
Occupation												
Gov. employee, teacher, healthcare provider	19.8	9.0-30.6	13.2	4.4-22.0	13.3	4.6-22.1	21.0	6.7 - 35.4	11.9	2.2-21.6	15.7	10.6-20.9
Factory, business, service industry employee	18.8	12.6-25.1	14.8	5.1-24.5	19.0	14.2-23.8	18.2	12.0-24.3	25.3	14.8-35.9	19.4	15.8-23.0
Not in the labor force ¹	13.9	7.2-20.7	14.7	9.4-20.0	10.7	7.0 - 14.3	9.9	5.1 - 14.7	22.4	15.9-29.0	14.9	12.1-17.7
Past-30-Day Use of ENDS												
Total	3.2	1.3-5.2	2.4	0.6-4.1	4.0	2.1-6.0	3.3	1.4-5.1	6.9	2.0-11.9	3.9	2.6–5.3
Sex												
Male	2.8	1.0-4.6	1.6	0.1 - 3.2	4.2	2.1-6.2	3.3	1.4-5.1	6.8	2.2-11.5	3.6	2.3-5.0
Female	7.6	0.0 - 20.3	12.5	0.0 - 27.1	1.7	0.0 - 5.1	2.8	0.0 - 8.6	9.6	0.0 - 26.8	8.3	1.3-15.3
Age (Years)												
15–24	2.8	0.0 - 8.5	8.3	0.0 - 18.0	3.7	0.0 - 10.7	7.3	0.0 - 16.0	16.6	0.0-33.9	9.0	2.8-15.1
25–44	4.8	1.3-8.3	0.3	0.0-0.9	7.5	3.1-11.8	2.8	0.5 - 5.0	8.0	1.0 - 15.0	4.4	2.5-6.4
45–64	1.9	0.0 - 4.1	2.8	0.0 - 5.8	1.4	0.0 - 3.1	2.6	0.0 - 5.6	1.8	0.5 - 3.1	2.1	1.0-3.2
65 and above	NA	NA	NA	NA	3.8	0.0 - 8.3	NA	NA	1.2	0.0 - 3.6	1.2	0.0 - 2.5
Education Level												
Primary school completed or below	NA	NA	NA	NA	NA	NA	0.3	0.0 – 0.9	2.6	0.0 - 7.0	0.4	0.0-1.1
Junior high school completed	2.0	0.0 – 4.7	2.5	0.0 - 6.4	2.4	0.0 - 5.3	2.0	0.0 - 4.0	5.2	0.0 - 11.7	2.6	0.8 – 4.5
Senior high school completed	4.8	0.0 - 9.6	4.6	0.5 - 8.7	3.2	0.7 - 5.8	2.4	0.0 - 4.9	1.7	0.0 - 3.7	3.4	1.8-5.0
College degree or above	3.3	0.0 - 6.6	0.8	0.0 - 1.9	7.9	3.2-12.5	8.7	1.4 - 16.0	13.1	2.8-23.4	6.3	3.1-9.6
Occupation												
Gov. employee, teacher, healthcare provider	2.3	0.0 - 5.3	0.7	0.0-2.2	3.8	0.0 - 7.9	2.9	0.0 - 6.8	3.4	0.0 - 8.7	2.4	0.6 - 4.2
Factory, business, service industry employee	5.2	1.6-8.8	2.0	0.0 – 4.8	4.7	0.2 - 9.2	4.9	1.6-8.1	7.2	1.3-13.1	4.9	3.0-6.8
Not in the labor force ¹	0.6	0.0 - 1.6	3.0	0.3 - 5.7	3.5	1.5-5.5	1.0	0.0-2.7	7.7	0.0 - 15.4	3.4	1.4-5.4
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¹ Respondents who were not in the labor force included students, homemakers, retired, and unemployed residents either able or unable to work.

Table S4. Adjusted ORs of awareness, ever use, and past-30-day use of ENDS among adult smokers in five Chinese cities in 2018.

	Indicators	Cł	iengdu	Chongqing		Wuhan		Х	iamen		Xi'an	O	verall
	indicators	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Awareness						•			•	•	•		

Sex												
Male	0.7	0.4 - 1.4	0.7	0.3 - 1.9	1.1	0.5 - 2.9	0.5	0.3-1.1	0.7	0.2 - 2.1	0.6	0.4 - 1.0
Female	Ref.		Ref.									
Age Group												
15–24	4.7	1.2 - 19.0	15.1	3.0-76.3	7.3	1.2 - 44.1	4.6	0.7 - 29.2	4.1	0.9 - 18.9	5.1	2.5-10.5
25–34	1.6	0.6 - 4.3	5.0	1.5 - 17.1	2.6	1.1–6.2	6.2	1.9–21.1	5.1	1.5-17.1	2.9	1.9 – 4.4
35–64	1.1	0.5 - 2.4	4.6	1.4 - 15.0	1.8	0.9 – 3.5	1.9	0.7 - 5.2	2.7	1.1-6.3	1.9	1.3 - 2.8
65 and above	Ref.		Ref.									
Education												
Primary school completed or below	Ref.		Ref.									
Junior high school completed	0.8	0.3 - 1.9	6.4	2.3-17.9	2.1	0.8 - 5.6	1.6	0.8 - 3.3	1.2	0.5-2.9	2.2	1.5 - 3.3
Senior high school completed	1.2	0.6-2.6	9.8	3.1-31.4	2.1	0.9 – 4.9	4.3	1.8 - 10.1	0.6	0.2 - 1.7	2.9	1.9 - 4.5
College degree or above	1.2	0.5 - 3.3	12.6	3.3-48.3	2.4	0.8 - 7.3	6.7	1.8-25.3	1.5	0.5 - 4.8	4.2	2.7-6.6
Occupation												
Gov. employee, teacher, healthcare provider	0.7	0.3 - 1.7	1.4	0.5 - 3.7	0.9	0.4 - 2.2	0.9	0.3 - 2.3	1.2	0.4 - 3.8	1.0	0.7 - 1.6
Factory, business, service industry employee	1.3	0.7 - 2.7	0.9	0.5 - 1.6	1.2	0.7 - 2.1	1.2	0.4 - 3.1	1.6	0.9 - 2.9	1.3	1.0 - 1.7
Not in the labor force	Ref.		Ref.									
Ever Use												
Sex												
Male	0.6	0.2 - 1.7	0.4	0.1 - 2.0	8.3	0.7 - 94.7	0.9	0.1 - 11.7	1.4	0.2 - 8.4	0.8	0.4 - 1.6
Female	Ref.		Ref.									
Age Group												
15–24	1.2	0.2 - 6.8	2.5	0.6-10.9	11.7	2.9-47.2	6.2	0.5-71.5	6.1	1.3-29.4	3.3	1.6-6.6
25–34	1.1	0.3 - 4.8	1.0	0.2 - 5.2	3.6	1.1-12.2	3.4	0.4 - 30.0	6.3	1.3-29.5	2.1	1.1 - 4.0
35–64	0.8	0.2 - 2.9	1.3	0.3 - 5.6	2.0	0.5 - 7.4	1.9	0.2 - 21.7	3.2	0.8 - 13.1	1.5	0.8 - 2.8
65 and above	Ref.		Ref.									
Education												
Primary school completed or below	Ref.		Ref.									
Junior high school completed	6.6	0.6 - 80.0	3.4	0.7 - 16.8	1.0	0.2-6.6	10.6	1.7-88.3	4.4	0.9 - 22.1	3.9	1.7-9.2
Senior high school completed	6.9	0.7-72.5	2.4	0.4 - 13.8	0.8	0.1 - 4.3	23.6	3.7-149.3	1.8	0.4 - 8.2	3.3	1.4-7.9
College degree or above	10.1	0.7 - 14.4	8.8	1.6-48.4	1.3	0.2 - 7.4	21.5	2.7-168.2	5.0	1.3-20.0	6.9	3.0-15.9
Occupation												
Gov. employee, teacher, healthcare provider	1.1	0.4 - 2.6	0.5	0.2 - 1.2	1.1	0.4 - 2.8	3.6	0.9-15.2	0.3	0.1 - 1.0	0.7	0.5 - 1.1
Factory, business, service industry employee	1.1	0.4 - 2.7	1.0	0.4 - 2.3	1.3	0.6 - 2.5	1.7	0.6 - 5.1	0.8	0.5 - 1.3	1.0	0.7 - 1.4
Not in the labor force	Ref.		Ref.									
Past-30-Day Use												
Sex												
Male	0.3	0.0 - 2.7	0.2	0.0 - 1.3	1.1	0.1-9.5	1.0	0.1-12.9	0.2	0.0 - 4.1	0.4	0.1 - 1.0

Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Age Group												
15–24	NA	NA	NA	NA	0.4	0.1 - 3.4	NA	NA	16.8	0.9-323.9	4.4	1.1 - 18.7
25–34	NA	NA	NA	NA	1.1	0.2 - 4.8	NA	NA	3.8	0.2 - 67.5	2.0	0.6 - 7.0
35–64	NA	NA	NA	NA	0.3	0.0 - 1.8	NA	NA	1.3	0.1 - 20.9	1.3	0.4 – 4.6
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Education												
Primary school completed or below	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	NA	NA	NA	NA	NA	NA	4.5	0.2 - 121.8	NA	NA	7.0	1.1 - 43.4
Senior high school completed	NA	NA	NA	NA	NA	NA	5.7	0.3-118.9	2.8	0.1 - 76.4	7.5	1.2 - 46.1
College degree or above	NA	NA	NA	NA	NA	NA	19.9	1.0-381.2	NA	NA	14.6	2.9-74.2
Occupation												
Gov. employee, teacher, healthcare provider	4.4	0.2 - 81.8	0.1	0.0 - 1.4	0.6	0.1 - 2.8	1.6	0.0 - 105.3	0.5	0.1 - 3.3	0.4	0.1 - 1.3
Factory, business, service industry employee	8.9	0.8 - 97.2	0.6	0.1 - 4.3	0.9	0.2 - 3.1	3.1	0.3 - 37.4	1.1	0.5 - 2.7	1.1	0.6 - 2.0
Not in the labor force	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	

¹ Controlling gender, age, education, and occupation.