

**Supplementary file 2.** Beliefs and Perceptions of Ecuadorian adults about e-cigarettes, according to the prevalence of use, in 2022, n=3047.

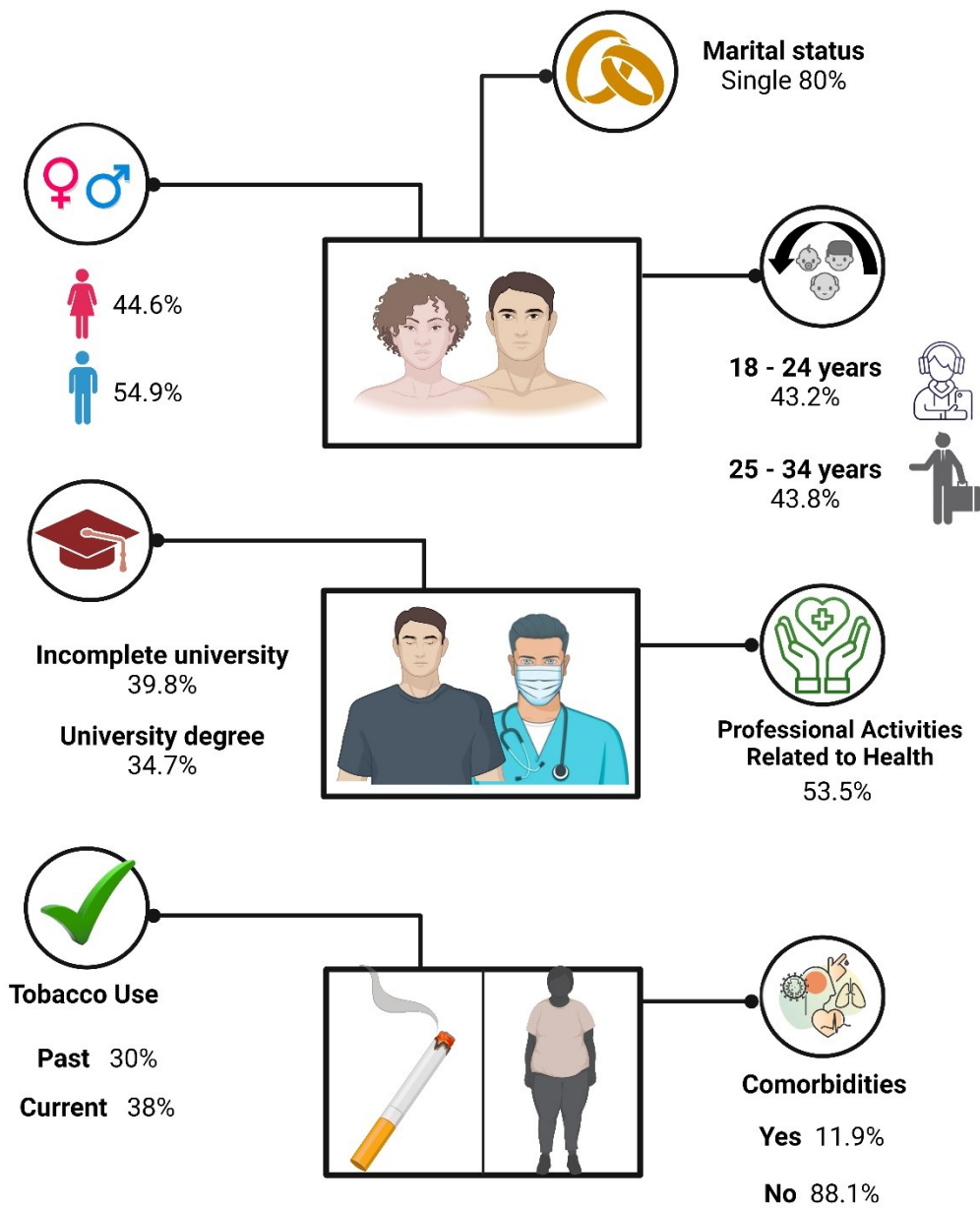
| Beliefs and Perceptions   |   | EC Use |      |       |          |       |             |       | P - value         |
|---|---|--------|------|-------|----------|-------|-------------|-------|-------------------|
|   |   | Total  | No   |       | Past use |       | Current use |       |                   |
|   |   | n      | n    | %     | n        | %     | n           | %     |                   |
| How much do you know about CE?  | Nothing                                       | 539    | 462  | 85.7% | 33       | 6.1%  | 44          | 8.2%  | <b>&lt; 0.001</b> |
|   | A little bit                                  | 1250   | 984  | 78.7% | 84       | 6.7%  | 182         | 14.6% |                   |
|   | Moderate knowledge                            | 888    | 581  | 65.4% | 91       | 10.2% | 216         | 24.3% |                   |
|   | A lot   | 133    | 69   | 51.9% | 14       | 10.5% | 50          | 37.6% |                   |
|   | I'm an expert                                 | 34     | 7    | 20.6% | 3        | 8.8%  | 24          | 70.6% |                   |
| Do ECs contain nicotine?  | Yes   | 1797   | 1200 | 66.8% | 166      | 9.2%  | 431         | 24.0% | <b>&lt; 0.001</b> |
|   | No  | 1047   | 903  | 86.2% | 59       | 5.6%  | 85          | 8.1%  |                   |
| Does the EC contain tobacco?  | Yes   | 575    | 476  | 82.8% | 31       | 5.4%  | 68          | 11.8% | <b>&lt; 0.001</b> |
|   | No  | 2269   | 1627 | 71.7% | 194      | 8.6%  | 448         | 19.7% |                   |
| Can ECs be addictive?   | Yes   | 2509   | 1868 | 74.5% | 180      | 7.2%  | 461         | 18.4% | <b>&lt; 0.001</b> |
|   | No  | 335    | 235  | 70.1% | 45       | 13.4% | 55          | 16.4% |                   |
| Does the essence of CE contain chemicals that can cause long-term health damage?              | Yes   | 2623   | 1949 | 74.3% | 206      | 7.9%  | 468         | 17.8% | 0.298             |
|   | No  | 221    | 154  | 69.7% | 19       | 8.6%  | 48          | 21.7% |                   |
| How harmful do you think the use of EC is to health?  | Nothing harmful                               | 133    | 86   | 64.7% | 15       | 11.3% | 32          | 24.1% | <b>&lt; 0.001</b> |
|   | Moderately harmful                            | 1616   | 1099 | 68.0% | 146      | 9.0%  | 371         | 23.0% |                   |
|   | Very harmful                                  | 1095   | 918  | 83.8% | 64       | 5.8%  | 113         | 10.3% |                   |
| Do you consider that minors (under 18 years old) are suitable to consume EC?                  | Yes   | 154    | 76   | 49.4% | 22       | 14.3% | 56          | 36.4% | <b>&lt; 0.001</b> |
|   | No  | 2690   | 2027 | 75.4% | 203      | 7.5%  | 460         | 17.1% |                   |
| Do you think EC use has different health effects when compared to tobacco cigarette smoking?  | EC is more harmful than tobacco cigarettes    | 273    | 178  | 65.2% | 33       | 12.1% | 62          | 22.7% | <b>&lt; 0.001</b> |
|   | EC is less harmful than tobacco cigarettes    | 1037   | 679  | 65.5% | 97       | 9.4%  | 261         | 25.2% |                   |
|   | EC and tobacco cigarettes are equally harmful | 1534   | 1246 | 81.2% | 95       | 6.2%  | 193         | 12.6% |                   |
| Do you think EC use is a helpful strategy to quit smoking tobacco cigarettes?                 | Yes   | 929    | 549  | 59.1% | 89       | 9.6%  | 291         | 31.3% | <b>&lt; 0.001</b> |
|   | No  | 1168   | 976  | 83.6% | 75       | 6.4%  | 117         | 10.0% |                   |
|   | I don't know                                  | 747    | 578  | 77.4% | 61       | 8.2%  | 108         | 14.5% |                   |
| Do you think that the EC should have the same consumption restrictions as tobacco cigarettes? | Yes   | 2201   | 1719 | 78.1% | 152      | 6.9%  | 330         | 15.0% | <b>&lt; 0.001</b> |
|   | No  | 643    | 384  | 59.7% | 73       | 11.4% | 186         | 28.9% |                   |
| Do you consider EC consumption to be fashionable?   | Yes   | 2498   | 1830 | 73.3% | 200      | 8.0%  | 468         | 18.7% | 0.064             |
|   | No  | 346    | 273  | 78.9% | 25       | 7.2%  | 48          | 13.9% |                   |
|   | The EC tastes better                          | 504    | 232  | 46.0% | 82       | 16.3% | 190         | 37.7% |                   |

|  |  |                          |      |       |       |       |      |       |         |
|--|--|--------------------------|------|-------|-------|-------|------|-------|---------|
| What are the benefits of EC consumption?   | EC can be smoked in places where tobacco cigarettes are prohibited | 453                      | 296  | 65.3% | 45    | 9.9%  | 112  | 24.7% |         |
|  | EC can help me quit smoking tobacco cigarettes                     | 321                      | 193  | 60.1% | 38    | 11.8% | 90   | 28.0% |         |
|  | EC causes less damage to health than tobacco cigarettes            | 334                      | 255  | 76.3% | 13    | 3.9%  | 66   | 19.8% |         |
|  | EC has no health benefit   | 1232                     | 1127 | 91.5% | 47    | 3.8%  | 58   | 4.7%  |         |
|  | How did you first learn about CE?                                  | Social Media Advertising | 887  | 750   | 84.6% | 47    | 5.3% | 90    | 10.1%   |
|  | Advertising on television, radio, or newspaper                     | 208                      | 189  | 90.9% | 6     | 2.9%  | 13   | 6.3%  |         |
|  | Family or friends  | 1625                     | 1125 | 69.2% | 147   | 9.0%  | 353  | 21.7% |         |
|  | A CE store piqued my interest                                      | 124                      | 39   | 31.5% | 25    | 20.2% | 60   | 48.4% |         |
| Out of 10 of your friends and family, you believe that:  | Between 0 and 2 consume EC   | 1703                     | 1348 | 79.2% | 148   | 8.7%  | 207  | 12.2% | < 0.001 |
|  | Between 3 and 5 consume EC   | 819                      | 557  | 68.0% | 56    | 6.8%  | 206  | 25.2% |         |
|  | Between 6 and 7 consume EC   | 207                      | 132  | 63.8% | 17    | 8.2%  | 58   | 28.0% |         |
|  | Between 8 and 10 consume EC  | 115                      | 66   | 57.4% | 4     | 3.5%  | 45   | 39.1% |         |
| Do your parents use e-cigarettes?  | Yes  | 103                      | 39   | 37.9% | 13    | 12.6% | 51   | 49.5% | < 0.001 |
|  | No   | 2741                     | 2064 | 75.3% | 212   | 7.7%  | 465  | 17.0% |         |
| Do you think that people who use EC have an easier time starting to use tobacco cigarettes for the first time? | Yes  | 2100                     | 1636 | 77.9% | 154   | 7.3%  | 310  | 14.8% | < 0.001 |
|  | No   | 744                      | 467  | 62.8% | 71    | 9.5%  | 206  | 27.7% |         |
| Do you think that consuming EC causes those who have quit smoking tobacco cigarettes to do so again?           | Yes  | 1953                     | 1519 | 77.8% | 142   | 7.3%  | 292  | 15.0% | < 0.001 |
|  | No   | 891                      | 584  | 65.5% | 83    | 9.3%  | 224  | 25.1% |         |
| Do you consider EC consumption to be a public health problem in Ecuador?                                       | Yes  | 1885                     | 1467 | 77.8% | 138   | 7.3%  | 280  | 14.9% | < 0.001 |
|  | No   | 959                      | 636  | 66.3% | 87    | 9.1%  | 236  | 24.6% |         |
| Do you find it annoying or uncomfortable for people to consume EC near you?                                    | Yes  | 1340                     | 1208 | 90.1% | 59    | 4.4%  | 73   | 5.4%  | < 0.001 |
|  | No   | 1504                     | 895  | 59.5% | 166   | 11.0% | 443  | 29.5% |         |
| Do you think that EC consumption in enclosed public areas should be banned?                                    | Yes  | 1922                     | 1601 | 83.3% | 128   | 6.7%  | 193  | 10.0% | < 0.001 |
|  | No   | 922                      | 502  | 54.4% | 97    | 10.5% | 323  | 35.0% |         |

|                                     |     |      |      |       |     |       |     |       |                |
|-------------------------------------|-----|------|------|-------|-----|-------|-----|-------|----------------|
| Do you know or have you seen        | Yes | 2096 | 1516 | 72.3% | 182 | 8.7%  | 398 | 19.0% | 0.003          |
| people under 18 years consuming     | No  | 748  | 587  | 78.5% | 43  | 5.7%  | 118 | 15.8% |                |
| EC?                                 |     |      |      |       |     |       |     |       |                |
| Do you think that the EC should pay | Yes | 1962 | 1646 | 83.9% | 120 | 6.1%  | 196 | 10.0% | < <b>0.001</b> |
| extra taxes as well as tobacco and  | No  | 839  | 425  | 50.7% | 104 | 12.4% | 310 | 36.9% |                |
| liquors?                            |     |      |      |       |     |       |     |       |                |

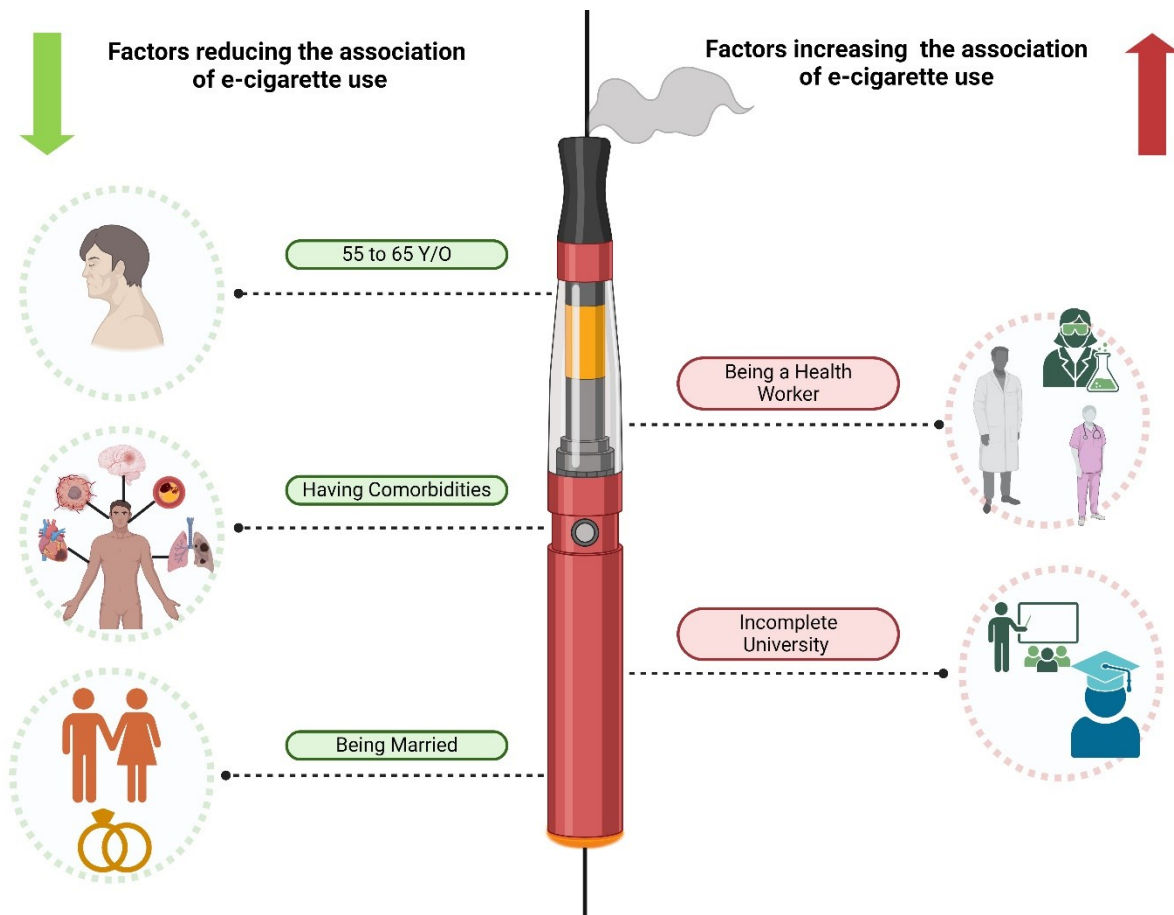
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EC: electronic cigarette. P-values were calculated from the Chi-square test.



**Supplementary Figure 1.** Main characteristics of ever users of electronic cigarettes among the adult population of Ecuador, in 2023, n=850.

The Figure shows the percentages of the most frequent characteristics among the group of ever smokers (past + current users) of electronic cigarettes, all percentages were calculated from n=850.



**Supplementary Figure 2.** Main factors associated with e-cigarette use in the adult population of Ecuador, in 2023,  $n=3,047$ .

This figure shows the factors associated with e-cigarette use, the left side shows the factors less associated with e-cigarette use, while the left side shows the factors associated with increased e-cigarette use. All the factors shown in this figure are statistically significant and are the product of an adjusted multivariate analysis.

## "Beliefs, knowledge and use of electronic cigarette in adult Ecuadorian population"

### Demographics

1. How old are you? (years old)
2. Sex
  - Male
  - Female
  - I'd rather not mention it.
3. What ethnic group do you belong to?
  - Mestizo
  - Indigenous
  - White
  - Afro-descendant
  - Montubio
  - Other
4. Province in which you reside
  - Azuay
  - Bolívar
  - Cañar
  - Carchi
  - Chimborazo
  - Cotopaxi
  - Gold
  - Emeralds
  - Galapagos
  - Guayas
  - Imbabura
  - Loja
  - The Rivers
  - Manabi
  - Morona Santiago
  - Napo
  - Orellana
  - Pastaza
  - Pichincha
  - Saint Helena
  - Santo Domingo de los Tsáchilas
  - Sucumbios
  - Tungurahua
  - Zamora Chinchipe

5. Marital status
  - Single
  - Married
  - De facto union
  - Divorced
  - Widowed
6. What is your academic degree?
  - Incomplete school
  - School completed
  - Secondary (school) Incomplete
  - Secondary (college) Completed
  - Complete University
  - Master/PhD/Specialty
7. Are the professional activities you engage in related to health areas?
  - Yes
  - No

### **Background**

8. Are you diagnosed with any of the following diseases (comorbidities)?
  - Type 1 diabetes
  - Type 2 diabetes
  - Asthma
  - Cancer
  - Hyperthyroidism
  - Hypothyroidism
  - Obesity
  - High blood pressure
  - HIV/AIDS
  - Coagulation disorders
  - Chronic obstructive pulmonary disease
  - No major disease
9. Do you currently smoke cigarettes?
  - Yes
  - No
  - I smoked before
  - 9.2 How many years have you been using tobacco cigarettes?
    - *Between 0 and 5 years*
    - *Between 5 and 10 years*
    - *Between 10 and 20 years*
    - *More than 20 years*
  - 9.3 How many tobacco cigarettes do you consume (on average) during a week?
    - *Between 1 and 10*
    - *Between 11 and 20*
    - *Between 20 and 40*
    - *More than 40*

10. Do you consume or use electronic cigarettes or vapers?

- Yes
- No
- I used e-cigarettes before

**Beliefs and attitudes**

11. How much do you know about e-cigarettes?

- Nothing at all
- A little bit
- Moderate
- A lot
- I'm an expert

12. Do e-cigarettes contain nicotine?

- Yes
- No

13. Do e-cigarettes contain tobacco?

- Yes
- No

14. Can e-cigarettes be addictive?

- Yes
- No

15. Does the e-cigarette contain any chemicals that can cause harmful long-term health effects?

- Yes
- No

16. How harmful do you think using e-cigarettes is to a person's health?

- Nothing harmful is harmful
- Moderately harmful
- Very harmful

17. Do you think minors can use e-cigarettes?

- Yes
- No

18. Do you think e-cigarettes can be less harmful than tobacco cigarettes?

- The electronic cigarette is more harmful than tobacco cigarettes
- The electronic cigarette is less harmful than tobacco cigarettes
- E-cigarettes and tobacco cigarettes are equally harmful

19. Do you think e-cigarettes are a helpful strategy for quitting smoking tobacco cigarettes?

- Yes
- No
- I do not know

20. Do you think e-cigarettes should have the same restrictions as tobacco cigarettes?

- Yes
- No

21. Do you think e-cigarettes are all the rage?

- Yes
- No



22. For you, which of the following is one of the benefits of e-cigarettes?
- E-cigarettes taste better
  - E-cigarettes can be smoked in places where tobacco cigarettes are prohibited
  - E-cigarettes can help me quit smoking tobacco cigarettes
  - E-cigarettes cause less health damage than tobacco cigarettes
  - E-cigarettes have no health benefit
23. How did you first learn about e-cigarettes?
- Social Media Advertising
  - Advertising on television, radio or newspaper
  - Family or friends
  - I was interested in a store
24. Among your friends or family, what percentage use e-cigarettes?
- Between 0 – 25%
  - Between 26 – 50%
  - Between 51 – 75%
  - Between 76 – 100 %
25. Out of ten of your friends and family, you believe that:
- Between 0 and 2 consume electronic cigarettes
  - Between 3 and 5 consume electronic cigarettes
  - Between 6 and 7 consume electronic cigarettes
  - Between 8 and 10 consume electronic cigarettes
26. Do your parents use e-cigarettes?
- Yes
  - No
27. Do you think that people who use electronic cigarettes have an easier time starting to use tobacco cigarettes for the first time?
- Yes
  - No
28. Do you think that using electronic cigarettes causes those who have quit smoking tobacco cigarettes to do so again?
- Yes
  - No
29. Do you think that the use of electronic cigarettes is a public health problem in Ecuador?
- Yes
  - No
30. Do you find it annoying or uncomfortable for people to use e-cigarettes near you?
- Yes
  - No
31. Do you consider that the consumption of electronic cigarettes in enclosed public areas should be prohibited?
- Yes
  - No

32. Do you know or have you seen people under the age of 18 who use e-cigarettes?

-Yes

-No

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