Dataset on the prevalence of tobacco smoking in men and women of selected countries with difference human development

Mina Riahi a, Ali Akbar Mohammadi b, Hosein Rohani c, Mohammad Bidkhori d,*

a Department of Health, Shahrekord University Of Medical Science, Shahrekord, Iran
b Department of Environmental Health Engineering, Neyshabur University of Medical Sciences, Neyshabur, Iran
c Student Research Committee, Esfarayen Faculty of Medical Sciences, Esfarayen, Iran
d Department of Public Health, Neyshabur University of Medical Sciences, Neyshabur, Iran

**Abstract**

This study was conducted to investigate the effect of human development index (HDI) on tobacco smoking prevalence in men and women of countries whose data about tobacco smoking were available for 2015. Pearson's correlation coefficient and linear regression were used to investigate the association between HDI and all types of smoking, particularly cigarette. Daily smoking and current smoking were used as tobacco smoking indices. The information about prevalence of tobacco smoking and HDI was obtained from the World Health Organization (WHO) website and United Nations Development Programme (UNDP), respectively. The results showed that there is no statistically significant relationship between HDI and current tobacco smoking in men (B = −0.45, CI 95%: −29.97, 29.06). However, the same association was significant for women (B = 43.87, CI 95%: 24.97–62.78). The results indicated that women in developed countries are more at risk of health effects attributed to tobacco smoking. Countries should focus on socioeconomic factors to prevent the spread of risk factors for non-communicable diseases.

© 2018 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).
### Specifications Table

| Subject area                               | Nursing and Health profession                                      |
|--------------------------------------------|--------------------------------------------------------------------|
| More specific subject area                 | environmental science                                              |
| Type of data                               | Table and figure                                                   |
| How data was acquired                      | Secondary data                                                     |
| Data format                                | Raw and analyzed                                                   |
| Experimental factors                       | Linear Regression Analysis and Pearson Correlation Coefficient using STATA software were used to examine the relationship between the indicators mentioned in the abstract. |
| Experimental features                      | The relationship between the Human Development Index and the prevalence of tobacco and cigarette smoking was investigated in men and women |
| Data source location                       | Data Obtained from: World Health Organization and United Nations Development Programme |
| Data accessibility                         | Data are available from: http://www.who.int/tobacco/global_report/2013/full_dataset/en/ http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf |

### Value of the data

- Evaluating the effect of human development index (HDI) on tobacco smoking prevalence among men and women is required for various countries.
- In order to avoid the adverse health effect of tobacco smoking, policy-makers need to be focused on socioeconomic factors affecting smoking prevalence.
- This study indicated that in order to prevent smoking, action plans should be designed based on different age groups.
- This study showed that the lifestyle of women in developed countries is different from those in developing countries, and this increases the risk of non-communicable diseases.

### 1. Data

The data required for this study included: the prevalence of tobacco smoking among men and women, the prevalence of cigarette smoking among men and women, and human development index (HDI), (Table 1).

HDI showed a positive significant correlation with current tobacco smoking (CTS) \( r = 0.63, p < 0.001 \) and daily tobacco smoking (DTS) \( r = 0.62, p < 0.001 \) in women. However, the same correlations were not significant for men \( r = -0.005, p = 0.9 \) and \( r = -0.02, p = 0.8, \) respectively, (Fig. 1).

HDI was correlated positively and significantly with current cigarette smoking (CCS) \( r = 0.64, p < 0.001 \) and daily cigarette smoking (DCS) \( r = 0.63, p < 0.001 \) among women. The same correlations were not significant for men \( r = 0.09, p = 0.58 \) and \( r = 0.06, p = 0.72, \) respectively, (Fig. 2).

Linear regression was applied to investigate the effect of HDI on the prevalence of smoking among men and women. HDI showed a significant relationship with prevalence of CTS \( B = 43.87, CI 95\%: 24.97, 62.78 \) and DTS \( B = 33.74, CI 95\%: 18.89, 48.59 \) among women, and not the prevalence of CTS \( B = -0.45, CI 95\%: -29.97, 29.06 \) and DTS \( B = 3.25, CI 95\%: -28.88, 24.79 \) for men (Table 2). Despite for men, the prevalence of CCS and DCS among women had a statistically significant relationship with HDI (Table 3).
| Country               | CTS in men | CTS in women | DTS in men | DTS in women | CCS in men | CCS in women | DCS in men | DCS in women | HDI 2015 |
|----------------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|-----------|
| Benin                | 12.5       | 0.7          | 10.4       | 0.5          | 8.8        | 0.2          | 8.2        | 0.1          | 0.485     |
| Congo                | 47.0       | 1.7          | 33.8       | 1.1          | 28.8       | 0.8          | 24.7       | 0.5          | 0.592     |
| Ethiopia             | 8.5        | 0.4          | 6.1        | 0.2          | 7.1        | 0.1          | 5.6        | 0.1          | 0.448     |
| Kenya                | 20.8       | 1.3          | 16.4       | 0.7          | 17.3       | 0.4          | 14.7       | 0.4          | 0.555     |
| Mauritius            | 41.0       | 3.3          | 31.2       | 1.5          | 36.7       | 2.8          | 29         | 1.1          | 0.781     |
| Rwanda               | 21.4       | 4.8          | 17         | 3.7          | 15.2       | 1            | 11.9       | 1            | 0.498     |
| Senegal              | 16.8       | 0.4          | 14.1       | 0.3          | 13.9       | 0.1          | 11.5       | 0.1          | 0.494     |
| Canada               | 17.3       | 12.7         | 12.4       | 9            | 16.6       | 12.1         | 12.3       | 9            | 0.92      |
| Costa Rica           | 17.7       | 6.5          | 11.1       | 3.9          | 15.6       | 5.8          | 9          | 3.1          | 0.776     |
| Mexico               | 22.1       | 7.1          | 12.8       | 4            | 20.3       | 6.4          | 12.2       | 3.8          | 0.762     |
| America              | 25.1       | 19.6         | 18         | 14           | 20.2       | 15.8         | 15.8       | 12.4         | 0.92      |
| Egypt                | 48.9       | 0.3          | 44.2       | 0.2          | 37.6       | 0.1          | 31.9       | 0.1          | 0.691     |
| Austria              | 32.2       | 29           | 24.3       | 22.9         | 30.4       | 27           | 23.8       | 21.9         | 0.893     |
| Azerbaijan           | 43.5       | 0.3          | 33.2       | 0.2          | 34.2       | 0.3          | 27.3       | 0.2          | 0.759     |
| Bulgaria             | 45.4       | 30.6         | 35.8       | 21.3         | 41.2       | 28.3         | 33.3       | 20.4         | 0.794     |
| Croatia              | 40.0       | 33.7         | 35.4       | 28.8         | 36.1       | 30           | 29.7       | 21.9         | 0.827     |
| Czech Republic       | 38.6       | 30.3         | 30.1       | 21.4         | 32.3       | 25           | 28.9       | 21.1         | 0.878     |
| Denmark              | 19.8       | 19.9         | 15.4       | 15.9         | 17.8       | 18.8         | 12.7       | 11.8         | 0.925     |
| Iceland              | 15.9       | 14.9         | 11.6       | 11.9         | 12         | 11.8         | 11.1       | 9.5          | 0.921     |
| Ireland              | 26.3       | 23.8         | 20.4       | 18.2         | 22.9       | 20.9         | 17.9       | 16.1         | 0.923     |
| Italy                | 28.1       | 19.8         | 23.7       | 16.2         | 27.3       | 19.4         | 22.6       | 16           | 0.887     |
| Luxembourg           | 26.8       | 21.4         | 20.1       | 16.6         | 24.4       | 18.3         | 17.3       | 13.9         | 0.898     |
| Norway               | 21.7       | 20.7         | 14.9       | 14.7         | 16.4       | 17.2         | 12.9       | 11.6         | 0.949     |
| Poland               | 33.8       | 23.8         | 28.7       | 19.6         | 31         | 21.9         | 27.1       | 17.7         | 0.855     |
| Sweden               | 19.5       | 19.5         | 10.1       | 11.9         | 12         | 16.3         | 9.3        | 8.9          | 0.913     |
| Ukraine              | 48.2       | 13.7         | 43         | 10.2         | 45.2       | 12.8         | 39.8       | 8.9          | 0.743     |
| Australia            | 17.0       | 13.5         | 14.8       | 12           | 13.4       | 10.9         | 11.9       | 9.3          | 0.939     |
| Brunei Darussalam    | 30.9       | 2.1          | 24.1       | 1.5          | 25.4       | 1.7          | 19.8       | 1.2          | 0.865     |
| China                | 48.7       | 2            | 42.3       | 1.7          | 43.9       | 1.8          | 38.2       | 1.3          | 0.738     |
| Japan                | 34.7       | 11.4         | 29.6       | 9.4          | 33.4       | 10.9         | 28         | 8.8          | 0.903     |
| Lao People's Democratic Republic | 52.1 | 7.7 | 44.7 | 6.2 | 40 | 6.1 | 38.2 | 4 | 0.586 |
| Malaysia             | 43.0       | 1            | 34.4       | 0.7          | 36.6       | 0.8          | 31.5       | 0.6          | 0.789     |
| Philippines          | 41.5       | 8            | 31.9       | 5.8          | 37.3       | 6.8          | 29.2       | 5.2          | 0.682     |
| Republic of Korea    | 42.0       | 6.2          | 39.3       | 5.3          | 39.6       | 5.9          | 37.6       | 4.9          | 0.901     |
| Viet Nam             | 46.4       | 1            | 37.6       | 0.8          | 36.6       | 0.8          | 36.4       | 0.6          | 0.68      |
Fig. 1. Correlation between HDI and prevalence of tobacco smoking. a: current tobacco smoking in men, b: current tobacco smoking in woman c: daily tobacco smoking in men d: daily tobacco smoking in women.

Fig. 2. Correlation between HDI and prevalence of cigarette smoking. a: current cigarette smoking in men, b: current cigarette smoking in woman c: daily cigarette smoking in men d: daily cigarette smoking in women.
2. Experimental design, materials and methods

2.1. Study countries description

Tobacco smoking is introduced as a major preventable cause of death and risk factor for cardiovascular diseases [1–5]. Human development index is combined of three parts, including life expectancy at birth, mean years of schooling, and gross national income per capita [6,7], and its value is between 0 and 1 [8]. The information about the prevalence of tobacco smoking and HDI was acquired from the World Health Organization (WHO) and United Nations Development Programme (UNDP) websites, respectively [8,9]. Due to lack of information for a constant baseline year, only countries were included in this study that their prevalence of tobacco smoking was reported for 2015.

2.2. Analytical procedures

In this study, Pearson’s correlation and linear regression were used to analyze the possible correlation between indices and the relationship between variables, respectively. All the statistical analyses were performed using STATA 14.

| Table 2 |
| Effect of HDI on: prevalence of current tobacco smoking, prevalence of daily tobacco smoking, prevalence of current cigarette smoking and prevalence of daily cigarette smoking in men 2015. |
| --- | --- | --- | --- |
| Independent variable | Dependent variable | B | p-Value | 95% Confidence interval |
| --- | --- | --- | --- | --- |
| HDI | Current tobacco smoking | -0.45 | 0.97 | (-29.97 to 29.06) |
| HDI | Daily tobacco smoking | -3.25 | 0.87 | (-28.88 to 24.79) |
| HDI | Current cigarette smoking | 7.04 | 0.58 | (-18.80 to 32.89) |
| HDI | Daily cigarette smoking | 4.09 | 0.72 | (-19.49 to 27.68) |

| Table 3 |
| Effect of HDI on: prevalence of current tobacco smoking, prevalence of daily tobacco smoking, prevalence of current cigarette smoking and prevalence of daily cigarette smoking in women 2015. |
| --- | --- | --- | --- |
| Independent variable | Dependent variable | B | p-Value | 95% Confidence interval |
| --- | --- | --- | --- | --- |
| HDI | Current tobacco smoking | -0.45 | 0.97 | (-29.97 to 29.06) |
| HDI | Daily tobacco smoking | -3.25 | 0.87 | (-28.88 to 24.79) |
| HDI | Current cigarette smoking | 7.04 | 0.58 | (-18.80 to 32.89) |
| HDI | Daily cigarette smoking | 4.09 | 0.72 | (-19.49 to 27.68) |
Acknowledgements

The authors want to thank authorities of Neyshabur University of Medical Sciences for their support for this study.

Transparency document. Supplementary material

Supplementary data associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2018.03.043.

References

[1] S. Tonstad, J. Andrew Johnston, Cardiovascular risks associated with smoking: a review for clinicians, Eur. J. Cardiovasc. Prev. Rehab. 13 (4) (2006) 507–514.
[2] C. Bullen, Impact of tobacco smoking and smoking cessation on cardiovascular risk and disease, Expert Rev. Cardiovasc. Ther. 6 (6) (2008) 883–895.
[3] D.M. Burns, Epidemiology of smoking-induced cardiovascular disease, Progress. Cardiovasc. Dis. 46 (1) (2003) 11–29.
[4] M. Nikodemowicz, The effects of smoking on cardiovascular system, Prz. Lek. 64 (Suppl 4) (2007) 42–44.
[5] B.V. Taylor, G.Y. Oudit, P.G. Kalman, P. Liu, Clinical and pathophysiological effects of active and passive smoking on the cardiovascular system, Can. J. Cardiol. 14 (9) (1998) 1129–1139.
[6] G. Ranis, F. Stewart, E. Samman, Human development: beyond the human development index, J. Hum. Dev. 7 (3) (2006) 323–358.
[7] S. Garcia-Tizon Larroca, J. Arevalo-Serrano, A. Duran Vila, M.P. Pintado Recarte, I. Cueto Hernandez, A. Solis Pierna, et al., Human development index (HDI) of the maternal country of origin as a predictor of perinatal outcomes - a longitudinal study conducted in Spain, BMC Pregnancy Childbirth 17 (1) (2017) 314.
[8] United Nations Development Programme. Human Development Report 2016 [cited 2017 December 13, 2017]. Available from: http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf.
[9] WHO. WHO report on the global tobacco epidemic 2017 2017 [cited 2017 December 8, 2017]. Available from: http://www.who.int/tobacco/global_report/2013/full_dataset/en/}.