



## Tobacco control in young people and adults: did Brazil do their homework?

Marilyn Urrutia-Pereira<sup>1</sup>, Herberto José Chong-Neto<sup>2</sup>, Dirceu Solé<sup>3</sup>

### TO THE EDITOR:

Over the past 30 years, more than 200 million deaths have been caused by tobacco use and the annual economic costs arising from this use exceed US\$1 trillion.<sup>(1-4)</sup> Updated data on smoking prevalence and the burden of disease attributable to Global Burden of Disease (GBD) 2019 are an urgent call to action for countries to program and implement stronger tobacco control policies than currently in place.<sup>(1,3,4)</sup>

These results demonstrate that in 2019, more than 1 billion people smoked tobacco regularly and nearly 8 million deaths were attributed to smoking, which accounted for 20.2% of all-cause deaths among men and was the main risk factor for deaths and DALY (Disability-adjusted life year) among men.<sup>(3,4)</sup> Among women, smoking was responsible for approximately 5.8% of all deaths, due to the lower prevalence, shorter duration and lower intensity of smoking among them compared to men.<sup>(3)</sup>

In 2019, the ten countries with the highest number of smokers combined comprised nearly two-thirds of the global smoker population and they are: China, India, Indonesia, the United States of America, Russia, Bangladesh, Japan, Turkey, Vietnam and the Philippines.<sup>(3)</sup>

The report points to important changes in prevalence globally when 1.14 billion (95% confidence interval [CI]:1.13-1.16) individuals were current smokers and consumed 7.41 trillion (95%CI:7.11-7.74) tobacco equivalents.<sup>(3)</sup> Between 1990 and 2019, there was a significant reduction in the prevalence of active smoking among men over 15 years of age in 135 countries (66%) and among women in only 68 countries (33%). In Brazil, the greatest reductions occurred, being 72.5% (95%CI:70.1-74.7) among men and 74.7% (95%CI:71.2-78.0) among women.<sup>(3)</sup>

The evolution of current smoking prevalence rates by age, considering the total group, showed the greatest reductions in Brazil (73.4% [95%CI:71.4-75.2]), Norway (53.5% [95%CI:49.1-57.6]), Senegal (50.9% [95%CI:44.6-56.0]), Iceland (49.7% [95%CI:44.5-54.1]), Denmark (49.3% [95%CI:46.4-52.2]), Haiti (47.5% [95%CI:40.5-54.4]), Australia (47.5% [95%CI:43.1-51.8]), Costa Rica (47.4% [95%CI:40.5-53.6]), Canada (47.4% [95%CI:42.4-52.0]) and Colombia (47.1% [95%CI:40.4-53.4]).<sup>3</sup>

The prevalence of smoking in 2019 among young people aged 15 to 24 remains high in many parts of the world with 20.1% (95%CI:19.4-20.8) among men and 4.95%

(95% CI:4.64-5.29) among women. It is estimated that 82.6% (95%CI:82.1-83.1) of current smokers started the habit between 14 and 25 years of age, and that 18.5% (95%CI:17.7-19.3) started regularly at 15 years of age.<sup>(4)</sup> Starting tobacco use before age 20 highlights the unique window of opportunity to target prevention efforts among young people, save millions of lives and avoid future healthcare costs.<sup>(5)</sup>

The development and application of strong tobacco control policies have led to progress in protecting young people and reducing the number of young smokers in some countries. Brazil had the greatest reduction in the prevalence of smoking among individuals aged between 15 and 24 years, with a decrease in the prevalence of 74.5% (95%CI:69.0-78.9) ranging from 27.5% (95%CI:25.2-30.0) in 1990 to 7.01% (95%CI:5.9-8.3) in 2019.<sup>(6)</sup>

However, the prevalence of active smoking among young people, in most countries, remains high and is associated with the increased use of electronic cigarettes and vaporization products, which puts the progress achieved at risk.<sup>(7)</sup> The ban on adding flavor to these products and the limitation on the minimum purchase age are intended to help as tools to reduce the initiation of tobacco use in young people.<sup>(8)</sup>

As the tobacco industry innovates with new ways to market its products, including harnessing social media to reach young people using marketing campaigns and so-called influencers, tobacco control strategies must also evolve.<sup>(9)</sup>

A decade after the introduction of the Framework Convention on Tobacco Control (FCTC) of the World Health Organization it was the period of the fastest reduction in the prevalence of tobacco consumption by smokers in the greatest number of countries.<sup>(3,4)</sup> Brazil, Norway and Senegal, associated with Iceland, Denmark, Canada, Australia, Colombia and Costa Rica, all with prevalence reductions of more than 45%, have demonstrated the potential of this tool to significantly reduce the prevalence of tobacco use and save millions of people lives.<sup>(10)</sup>

Despite these successes, there are three worrying situations. The first concerns countries with large populations and high prevalence of smoking: China and Indonesia. In China there were 2.4 million deaths in 2019, resulting from a 57.9% increase (95%CI:26.2-101.0) in deaths attributable to smoking since 1990. In Indonesia there were 246,400 deaths in 2019, with 118% (95%CI:74.0-171.0) increase in deaths attributable to smoking since 1990.<sup>(3)</sup> Second, most countries have not

1. Departamento de Medicina, Universidade Federal do Pampa, Uruguaiana (RS) Brasil.

2. Departamento de Pediatria, Hospital de Clínicas, Universidade Federal do Paraná, Curitiba (PR) Brasil.

3. Departamento de Pediatria, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo (SP) Brasil.

achieved sufficient reductions in smoking prevalence to offset the demographic strength of its population growth, resulting in a constant or growing number of smokers over time.<sup>(3)</sup> And third, in many countries, including those that have previously experienced large reductions in smoking prevalence, the rate of progress has slowed, especially over the past five years.<sup>(3)</sup>

Low- and middle-income countries face the additional challenge of population growth, thus expanding their smoking population. Tobacco taxation is a highly cost-effective measure and, when combined with the progressive approach to redistributing the revenue from tobacco taxation to tobacco control programs, health care and other social support services, it can

significantly reduce smoking prevalence and substantially improve population health.<sup>(10)</sup>

Smoking remains a definitive global health challenge. The current level of implementation of tobacco control policy is insufficient in many countries around the world, but it appears from the report that Brazil is doing its homework, but still has a long way to go.<sup>(3)</sup>

With more than 1 billion people smoking tobacco worldwide in 2019, the number of annual deaths, economic costs and burdens on health systems caused by smoking are sure to increase in the coming years, unless countries act aggressively based on evidence, strategies to prevent onset and stop the steady stream of new smokers.<sup>(3)</sup>

## REFERENCES

1. GBD 2019 Risk Factors Collaborators. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet* 2020;396:1223–49. [https://doi.org/10.1016/S0140-6736\(20\)30752-2](https://doi.org/10.1016/S0140-6736(20)30752-2)
2. Goodchild M, Nargis N, Tursan d'Espaignet E. Global economic cost of smoking-attributable diseases. *Tob Control* 2018; 27:58–64. <https://doi.org/10.1136/tobaccocontrol-2016-053305>
3. GBD 2019 Tobacco Collaborators. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. *Lancet*. 2021;397(10292):2337–2360. [https://doi.org/10.1016/S0140-6736\(21\)01169-7](https://doi.org/10.1016/S0140-6736(21)01169-7)
4. Reitsma MB, Flor LS, Mullany E C, Gupta V, Hay SI, Gakidou E. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and initiation among young people in 204 countries and territories, 1990–2019. *Lancet Public Health* 2021. S2468-2667(21)00102-X. [https://doi.org/10.1016/s2468-2667\(21\)00102-x](https://doi.org/10.1016/s2468-2667(21)00102-x)
5. Song AV, Dutra LM, Neilands TB, Glantz SA. Association of smoke-free laws with lower percentages of new and current smokers among adolescents and young adults: an 11-year longitudinal study. *JAMA Pediatr* 2015; 169: e152285. <https://doi.org/10.1001/jamapediatrics.2015.2285>
6. Portes LH, Machado CV, Turci SRB, Figueiredo VC, Cavalcante TM, Silva VLDCE. Tobacco control policies in Brazil: a 30-year assessment. *Cien Saude Colet* 2018;23:1837–48. <https://doi.org/10.1590/1413-81232018236.05202018>
7. de Andrade M, Hastings G, Angus K. Promotion of electronic cigarettes: tobacco marketing reinvented? *BMJ* 2013; 347: f7473. <https://doi.org/10.1136/bmj.f7473>
8. Carpenter CM, Wayne GF, Pauly JL, Koh HK, Connolly GN. New cigarette brands with flavors that appeal to youth: tobacco marketing strategies. *Health Aff (Millwood)*. 2005;24:1601–10. <https://doi.org/10.1377/hlthaff.24.6.1601>
9. O'Brien EK, Hoffman L, Navarro MA, Ganz O. Social media use by leading US e-cigarette, cigarette, smokeless tobacco, cigar and hookah brands. *Tob Control*. 2020;29:e87–97. <https://doi.org/10.1136/tobaccocontrol-2019-055406>
10. Chung-Hall J, Craig L, Gravely S, Sansone N, Fong GT. Impact of the WHO FCTC over the first decade: a global evidence review prepared for the Impact Assessment Expert Group. *Tob Control*. 2019;28 (suppl 2):s119–28. <https://doi.org/10.1136/tobaccocontrol-2018-054389>