

SMOKING CESSATION

CESSAÇÃO DO TABAGISMO

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ABSTRACT

Smoking is the leading avoidable cause of death, and is associated with the development of cancer, cardiovascular and respiratory diseases.¹ There is strong evidence that tobacco control is cost-effective compared to other risk-reduction and disease prevention interventions.² The bases of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) offer, through articles, guides and protocols, both a road map and the opportunity for collaboration and technical cooperation among the different countries to jointly address issues that transcend their borders. With a view to facilitating the implementation of the treaty, WHO has launched a package of interventions with proven impact, geared towards reducing the demand for tobacco products, with recognized implementation experience and policies that can be applied in any country in the world, MPOWER.³ M- Monitor tobacco use and prevention policies. P- Protect people from tobacco smoke. O- Offer help to quit tobacco use. W- Warn about the dangers of tobacco. E- Enforce bans on tobacco advertising, promotion and sponsorship. R- Raise taxes on tobacco.

Keyword: Tobacco Use Disorder; Tobacco Use Cessation; Smoking Prevention; World Health Organization.

RESUMO

O tabagismo é a principal causa evitável de morte, e é associado ao desenvolvimento de doenças cardiovasculares, respiratórias e câncer.¹ Existem fortes evidências de que o controle do tabagismo tem boa relação de custo-efetividade quando comparado com outras intervenções de redução de riscos e prevenção de doenças.² As bases da Convenção-Quadro para Controle do Tabaco da Organização Mundial da Saúde (CQCT/OMS) oferecem, por meio de artigos, guias e protocolos, rotina de atuação, além da oportunidade de colaboração e cooperação técnica entre os diversos países para abordar conjuntamente problemas que transcendem suas fronteiras. A OMS, objetivando facilitar a aplicação do tratado, lançou um pacote de intervenções para redução de demanda por produtos do tabaco de impacto comprovado, com experiência de implementação reconhecida e com políticas que podem ser aplicadas em qualquer país do mundo, o MPOWER.³ M > Monitor: monitorar da epidemia. P > Protect: proteger a população contra a fumaça do tabaco. O > Offer: oferecer ajuda para deixar de fumar. W > Warn: advertir sobre os perigos do tabaco. E > Enforce: fazer cumprir a proibição da publicidade, promoção e patrocínio. R > Raise: aumentar impostos dos produtos do tabaco.

Descritores: Tabagismo; Abandono do Uso do Tabaco; Prevenção no Ato de Fumar; Organização Mundial da Saúde (OMS).

BRAZILIAN SCENARIO

Brazil, as a signatory to the WHO Framework Convention on Tobacco Control, has been effective in protecting the population by regulating laws that determine 100% smoke-free environments. In addition, it monitors smoking through VIGITEL; issues warning on the dangers of tobacco use through packaging, counter-advertisements, and educational campaigns; and enforces bans on advertising, promoting, and sponsoring smoking, especially for the youth. It has also increased the taxes on tobacco products. Today, the prevalence of smoking in the adult Brazilian population is less than

10%, one of the lowest rates worldwide. In the last 25 years, the highest reduction in the prevalence of smoking has been observed in Brazil; however, it remains the eighth highest country for an absolute number of smokers (approximately 18 million smokers). Smoking has become a public health problem, and there is a need for public policies that bring permanent attention to smoking.

Improving smoking cessation rates is a challenge not only in Brazil but also globally. It involves public policies for accessing technological innovations, whose implementation require cost-effectiveness and pharmaco-economic assessments.

The production of high-quality scientific insight to justify the application of these technologies increasingly involves the use of genetics and pharmacogenetics to improve smoking treatments and prevention.

SMOKING TREATMENT IN BRAZIL

Currently, the following three main interventions facilitate the cessation of consumption of tobacco products: counseling for cessation incorporated into primary care, free access to telephone lines with guidelines, and intervention using anti-smoking drugs. As smoking causes dependence, which can hinder its cessation,⁴ treatment with anti-smoking drugs can triple the cessation rates compared to treatment with placebo.⁵

The approved first-line anti-smoking treatments include nicotine replacement therapy (patches and gum, which are pioneering products in the treatment of smoking, with a success rate higher than placebo but lower than bupropion,^{6,7} a reuptake inhibitor of norepinephrine and dopamine), a nicotinic receptor antagonist; and varenicline^{8,9} (a partial nicotinic receptor agonist composed of $\alpha 4\beta 2$ subunits). A meta-analysis of 16 clinical studies^{8,9} indicated that smokers treated with bupropion had a higher abstinence rate than those receiving placebo, with an odds ratio (OR) of 1.97 (95% confidence interval [CI], 1.67-2.34) for successful treatment. A meta-analysis of 14 articles indicated that varenicline was more efficient than nicotine and bupropion replacement, with an OR of 2.27 (95% CI, 2.02-2.55) when compared to placebo.⁹

The use of anti-smoking drugs is recommended for a mean period of 12 weeks. The smoking treatment protocol of the Brazilian Ministry of Health put in practice by the SUS (Unified Health System) provides free access to nicotine and

bupropion treatment. Despite its higher efficacy compared to other drugs, varenicline has not yet been incorporated into the public system due to funding issues. The expectation is that Brazil can produce high-quality scientific knowledge that will help in the implementation of these technologies. Further studies are needed to investigate the genetic variability of individual response to drugs through the use of pharmacogenetics, both in terms of efficacy and the rate of adverse effects, thereby understanding the genetic basis of the pharmacological response. Polymorphisms in genes involved in the coding of drug-metabolizing enzymes, the variability of carrier proteins, or the variability of receptor proteins are central to these investigations.^{8,9} *CHRNA4* and *CYP2B6* are particularly important genes for anti-smoking pharmacogenetic studies as *CHRNA4* codes for the $\alpha 4$ subunits of the acetylcholine–nicotinic receptors, which are main targets of varenicline action,¹⁰ and the *CYP2B6* protein is the main isoenzyme that metabolizes bupropion.¹¹

In the future, research should be conducted on using genetic markers to increase the efficacy of anti-smoking drugs and develop more individualized smoking treatment to increase cessation rates and justify the implementation of technologies that are sometimes costly but highly efficient, promoting positive pharmaco-economic impact and saving health resources.

CONFLICTS OF INTEREST

The author declares that he has no conflicts of interest in this work.

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