COMMENTARY

Investigating gender differences for effectiveness and side effects of varenicline during smoking cessation treatment

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Pharmacological treatments for smoking cessation are effective and can increase quitting rates by 30%[1]. However, women do not benefit from it as much as men do[2,3]; for them, to quit smoking can be as difficult as for low-income populations or people with severe mental illness[4,5]. Both sex (biological) and gender (cultural) differences may be responsible for these discrepancies. For example, women metabolize nicotine more quickly, which causes more severe withdrawal symptoms and less response to nicotine replacement therapy[3]. Fear of stigmatization and custody issues, especially if smoking during pregnancy or exposing children to second or thirdhand smoking, can be important barriers when seeking help[6].

In addition, women have been excluded from clinical trials for many years due to the belief that biological differences or the need to care for their children would bias the results or prevent them from participating in studies[6]. Therefore, many treatment guidelines and public health policies have been developed based on studies that cannot be generalized to the female population[7]. Results from a recent meta-analysis have shown that varenicline is more effective in women and may help balance the differences in smoking cessation rate[8]. However, it is more expensive than bupropion and nicotine replacement therapy and is not currently available in the Brazilian public health care system[7,9].

Nonetheless, economic implications due to these gender differences cannot be ignored. Smoking-attributable hospitalizations for former smokers are 70% lower in comparison to those who did not quit smoking, and this difference is larger for women aged 35 to 54 years[10]. In addition, health problems can be extended to the fetus or newborn, and the harmful effects of nicotine use during pregnancy and breastfeeding have been well described in the literature[6].

Therefore, the work of Castellani et al.[11] makes some valuable contributions. First, it is in line with an international movement that encourages research on women and addiction for the reasons explained above[6]. Second, replicating findings of varenicline's effectiveness among women in a Brazilian clinical sample may support the inclusion of the medication in treatment programs. For low- and middle-income countries, this is especially important since the rational use of financial resources is crucial. However, public health policies that aim to encompass women's needs more effectively may assure equity and diminish the economic burden associated with tobacco use.

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