

Systematic biases in cross-sectional community studies may underestimate the effectiveness of stop-smoking medications

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Abstract

Introduction: Randomized, controlled trials typically indicate stop-smoking medications (SSMs: e.g., Varenicline, Bupropion, and over-the-counter nicotine replacement therapies) to be effective, whereas cross-sectional community-based studies have found them to be less effective, ineffective, or even associated with higher risk of relapse. Consequently, some critics have suggested SSMs have no useful applications in “real-world” settings. This discrepancy may, however, be due to systematic biases affecting cross-sectional survey outcomes. Namely, failed quit attempts where SSMs were used may be better recalled than failed unassisted attempts. Moreover, smokers who choose to quit using SSMs may be more addicted and thus less likely to succeed. Either of these factors would lead to an over-representation of failed quit attempts among SSM users in cross-sectional surveys even if there were real benefits.

Methods: We report on data from the International Tobacco Control 4-country cohort study to examine the relationship between SSM use, level of nicotine addiction, and the reported date since the start of participants' ($N = 1,101$) most recent quit attempt.

Results: The last quit attempt was reported to have begun longer ago among participants who used SSMs than those who did not. Scores on the Heaviness of Smoking Index, measuring addiction severity, were also higher among SSM users, with no interactions.

Conclusion: Better recall of quit attempts and stronger addiction to nicotine are two characteristics found more often among smokers using SSMs compared with self-quitters, which could potentially bias the assessed effects of SSMs on cessation outcomes in cross-sectional surveys.

Recommended Citation:

Borland R, Partos TR, Cummings KM. Systematic Biases in Cross-sectional Community Studies may Underestimate the Effectiveness of Stop-Smoking Medications. *Nicotine Tob Res* 2012 Feb 7.

Link to PDF: <http://ntr.oxfordjournals.org/content/early/2012/02/07/ntr.nts002.full.pdf+html>