



# Smoking Cessation Interventions in People with HIV/AIDS



## Questions

What research has been conducted regarding smoking cessation programs/interventions geared specifically towards people with HIV/AIDS (PHAs) who smoke?

## Key Take-Home Messages

- Tobacco smoking is much more common among PHAs than in the HIV-negative population (1-5)
- While most medical providers offer some form of smoking cessation services, AIDS Service Organizations (ASOs) are less likely to do so (5)
- Additional research is needed to develop a clear set of clinical guidelines that addresses the issue of smoking as it relates specifically to PHAs (6;7)
- The majority of PHAs express a desire to learn more about smoking and its impact on their HIV status and their medication regimen (8)
- Due to psychosocial differences and special needs, smoking cessation efforts for PHAs is more complex than for the general population (9)

## The Issue and Why It's Important

Nicotine (the addictive substance in tobacco products) dependence is thought to be the most frequent chemical dependence in the U.S. (1) with some suggesting it is as addictive as cocaine or heroin.(10;11) Smoking rates have been found to be significantly higher among PHAs than the general population (1-5) with some estimates in the U.S. finding prevalence rates of 50-70% among PHAs (three times the national average) (3;5) and approximately 64% in Spain (double the national average).(4) Similar levels have been found among PHAs in Canada. For example, the smoking rate among patients visiting the HIV clinic at The Ottawa Hospital is estimated to be between 43-49% (2) compared to a smoking rate of 12% in Ottawa's general population. In addition, the OHTN cohort study found that 54% of PHAs living in Ontario smoke (2), which is much higher than smoking rates among HIV-negative adults in Canada, which have fallen below 20%.(12)

## EVIDENCE INTO ACTION

The OHTN Rapid Response Service offers HIV/AIDS programs and services in Ontario quick access to research evidence to help inform decision making, service delivery and advocacy. In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

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### Prepared by:

David Gogolishvili, MPH  
Jason Globerman, MSc  
Jamie McCallum

### Program Leads / Editors:

Michael G. Wilson, PhD  
Jean Bacon  
Sean B. Rourke, PhD

### Contact:

rapidresponse@ohntn.on.ca

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PHAs who smoke may also face an increased risk of bacterial pneumonia, chronic obstructive pulmonary disease (COPD), cardiovascular disease, malignancies, and lower health-related quality of life.(13-15) With an increased availability of antiretroviral medications, PHAs are living longer, thus the long-term health implications of smoking have become more salient.(3) Within the PHA community, there is a strong belief in the health benefits of quitting smoking and a general agreement about the need to more actively promote smoking cessation.(16) For example, 75% of respondents in a recent survey in New York indicated they had an interest in quitting while 64% had tried to quit at least once in the past year.(5) However, in another study, 33% of participants reported that they had not made a quit attempt since being diagnosed with HIV.(17) A reluctance to provide PHAs with smoking cessation programs that meet their unique needs has been suggested as one factor contributing to high smoking rates.(18) Others have pointed to a reluctance among PHAs to quit smoking as they felt it would not actually improve their health, referencing a perception held by some that “death from AIDS is the only inevitable outcome of a diagnosis of HIV infection.”(7)

## What We Found

Smoking cessation interventions typically fall into three broad groupings: medications, counselling and motivational treatment.

Numerous effective medications are available for tobacco dependence, including seven first-line medications (five nicotine and two non-nicotine) that have been found to reliably increase long-term smoking abstinence rates. These include Bupropione SR, nicotine gum, nicotine inhalers, nicotine lozenges, nicotine nasal sprays, nicotine patches, and Varenicline. These treatments are outlined in A clinical practice guidelines for treating tobacco use and dependence from U.S. Department of Health and Human Services as effective across a broad range of populations.(19) The guidelines also outline that individual, group and telephone (e.g., quitlines) counselling are effective and that their effectiveness increases with treatment intensity. Furthermore, practical counselling (i.e., problem-solving/ skills training) and social support were identified in the guidelines as being highly effective. While counselling and medication are effective as stand-alone interventions for treating tobacco dependence, using them in combination is preferable. If a tobacco user currently is unwilling to make a quit attempt, motivational treatment should be used for future quit attempts.(19)

A systematic review of 23 studies found that group behavioural therapy, bupropion, intensive physician advice, nicotine replacement therapy, individual counselling, telephone counselling, nursing interventions and tailored self-help interventions were all effective in increasing smoking cessation rates.(20) According to the same review, comprehensive clean indoor laws also increased quit rates by 12–38%.(20) Another systematic review comparing the effectiveness of Nicotine Replacement Therapy (NRT), bupropion, and varenicline found that all provide therapeutic effects in assisting with smoking cessation but varenicline was identified to be more effective than placebo, bupropion and NRT (in indirect comparison).(21) In addition, a study by Huber et al. (22) found that an intervention that included a half day of standardized training on smoking cessation counseling and pharmacotherapy for physicians treating PWA increased the odds of smoking cessation, and also decreased the odds of relapse over a 10-year follow-up period.

## General medical providers vs. ASOs

The U.S. Public Health Service has a clear set of clinical guidelines to aid people in quitting smoking, known as the “5 A’s”: Ask, Advise, Assess, Assist, and Arrange. However, no set of similar guidelines exists specifically for PHAs who smoke.(6) One study indicated that there are not enough smoking cessation promotion activities in ASOs and that adherence to the “5 A’s” guidelines has been extremely low among PHAs.(16) Given that ASOs may have less knowledge regarding the smoking habits of their patients than general medical providers (23) (although this may not be universally true), some recommendations for increasing the uptake of smoking cessation among PHAs include stronger collaboration between ASOs and tobacco control researchers, who are better versed in population-specific tobacco cessation strategies.(24) Another study pointed out that all ASOs should be aware that tobacco quitlines exist throughout the U.S. and that their patients should be referred to such services when applicable.(25) According to another study, the nature of HIV care puts it in a unique and favourable position to offer smoking cessation programs because of the abundance of follow-up appointments and interdisciplinary care that PHAs receive.(6)

## PHAs and quitting smoking

PHAs may face greater challenges to quitting smoking due to a unique set of social, economic, psychiatric, and medical needs that may affect their smoking habits and their ability to quit.(6) The resulting overlap between treatment, care and support for HIV/AIDS, substance use, and mental illness makes smoking cessation among PHAs a more difficult proposition than in the general population.(5)

As a result, less intensive interventions such as giving advice may not be enough for some PHAs to quit smoking. Therefore, some may benefit from more intensive interventions such as repeated counselling, nicotine replacement as well as psychiatric assistance.(9) According to one study, only 14% of respondents reported that they were both motivated to quit smoking and living without a codependency (cannabis or alcohol) or depressive symptoms. For these respondents, a standard tobacco cessation plan could be proposed but for those who may lack motivation and/or have another codependence, a more intensive approach is likely required.(26)

## Smoking cessation strategies

While to one qualitative study with PHAs, there was an overwhelming desire for the creation of support groups exclusively comprised of PHAs who want to quit smoking, but the effectiveness of such groups has not been investigated.(8) A meta-analysis of 43 studies on the effectiveness of sessions of varying lengths found that brief interventions (three minutes or less) led to abstinence rates of 13% of participants, while longer interventions (10 minutes or more) led to abstinence rates of 22%.(19;27;28) In terms of the percentage likelihood of smoking cessation after six months, one study found increased abstinence from interventions providing advice (9%), counselling (12%), and nicotine gum (17%). (9) In some cases, smoking cessation involving medication (such as bupropion and varenicline) resulted in significantly higher abstinence rates than cessation involving counselling.(9)

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Due to their broad reach and efficacy for smoking cessation, quitlines for smokers have been found to be cost-effective.(6) However, consistent access to a telephone may be a barrier for some low-income households.(6) One study recommended a cellular telephone intervention as some individuals do not have adequate access to a vehicle or telephone service. (18) The advantages of using a cell phone are convenience, flexibility, and confidentiality and the study suggests that cell phone counselling may provide a cost-effective solution to access-to-care barriers. A randomized trial by Vidrine et al. (29) found that a cellphone counseling intervention led to a four times higher likelihood of smoking cessation after three months when compared to usual care. Lastly, some data suggests that a combination of counselling and NRT may help decrease tobacco use among PHAs (6) while another claims that NRT doubles the quit rate compared to no treatment. (30)

While these interventions appear promising, the main message from was that more research needs to be conducted regarding smoking cessation programs tailored specifically to PHAs.(6) For example, despite evidence of the effectiveness of motivational interviewing interventions for smoking cessation (31), one such intervention was found to be ineffective in a small one-month study of women living with HIV.(32) However, this study did find that the intervention decreased the number of cigarettes smoked per day amongst women living with HIV (as compared to those who did not receive the intervention).(32) Given these findings are from one small and study with a limited length of time for follow-up, there is a need for larger and longer studies to further explore this type of intervention.

## Factors that May Impact Local Applicability

The literature dealt almost exclusively with data and research conducted in high-income countries (U.S., Canada and Spain) except for one study that reported on findings from India.(9) While these findings may be generalizable to the Canadian setting, countries cited in the literature have different smoking rates, HIV infection rates, smoking culture, regulations and availability of smoking cessation interventions. Therefore, some findings should be interpreted with caution.

## What We Did

We searched Medline using a combination of search terms: Smoking Cessation (MeSH term) AND HIV (text term). We did not limit the search results by date of publication or study jurisdiction. We also searched the Cochrane Library for any potentially relevant systematic reviews using the following text terms: HIV AND (smoking OR tobacco), www.Health-Evidence.ca using the following search terms: HIV (text term) AND [Smoking cessation (category) OR tobacco use (category)], and DARE database (limited to 1996-2011) using the following search terms: HIV AND (smoking OR tobacco). Lastly, we reviewed the references in the studies found. All searches were conducted on 1 August 2012 and updated with three new journal articles (22;29;32) on 12 December 2012.