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 people living with HIV than in the general population (1-4).
- While most medical providers offer some form of smoking cessation services, AIDS service organizations (ASOs) are less likely to do so (4).
- The majority of people living with HIV express a desire to learn more about smoking and its impact on their HIV status and medication regimen (5).
- There are a number of effective smoking cessation interventions. While counselling and medication are both effective as stand-alone interventions (6;7) for treating tobacco dependence, they are more effective when used in combination (8).
- Smoking cessation may be more difficult for people living with HIV because they are often also coping with mental health and substance use issues. As a result, less intensive interventions such as giving advice may not be enough. Some may benefit from more intensive interventions such as repeated counselling, nicotine replacement and psychiatric assistance (8;9).

The Issue and Why It's Important

Smoking rates are significantly higher among people living with HIV than in the general population (1-4;10). Some U.S. studies have found that 50 to 70% of people with HIV smoke – or three times the national average.(3;4) Similar rates have been found among people living with HIV in Canada. For example, between 43 and 49%

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of patients visiting an HIV clinic at The Ottawa Hospital smoke (2), compared to 16% of the general Ontario population. (11)

People living with HIV who smoke face a higher risk of bacterial pneumonia, chronic obstructive pulmonary disease (COPD), cardiovascular disease, malignancies and lower health-related quality of life. (12-14) Now that people living with HIV are living longer, the long-term health implications of smoking have become more important as people want to enjoy those years in better health. (3) People living with HIV generally believe in the health benefits of quitting smoking and about the need to actively promote smoking cessation.(15) For example, 75% of respondents in a New York survey indicated that they had an interest in quitting and 64% had tried to quit at least once in the previous year.(4) However, in another study, 33% of participants reported that they had not made a quit attempt since being diagnosed with HIV.(16)

One factor contributing to high smoking rates may be a reluctance to provide people living with HIV with smoking cessation programs that meet their unique needs.(17) Another factor may be a reluctance among people living with HIV to quit smoking since they feel it won't improve their health. Some perceive that "death from AIDS is the only inevitable outcome of a diagnosis of HIV infection", and therefore it doesn't matter if they smoke.(18)

The ability to quit is strongly affected by the addictive nature of nicotine (the addictive substance in tobacco products), which is the most frequent chemical dependence in the U.S. (1) with some research suggesting that nicotine is as addictive as cocaine or heroin.(19;20)

What We Found

Smoking cessation interventions typically fall into three broad groupings: medications, counselling and motivational treatment. Clinician education is also an important factor in helping patients with HIV to quit smoking and avoid relapse.

Seven first-line medications (five nicotine and two non-nicotine) have been found to be effective in reliably increasing long-term smoking abstinence rates. These include bupropion, nicotine gum, nicotine inhalers, nicotine lozenges, nicotine nasal sprays, nicotine patches and varenincline. The U.S. Public Health Service *Clinical Practice Guideline for Treating Tobacco Use and Dependence* describes these treatments as effective across a broad range of populations.(6) It also notes that: individual, group and telephone (e.g., quitline) counselling are effective and that their effectiveness increases with treatment intensity; and that practical counselling (i.e., problem-solving/skills training) and social support are highly effective. While counselling and medication are effective as stand-alone interventions for treating tobacco dependence, it is preferable

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to use them in combination. For tobacco users who are currently unwilling to try quitting, motivational treatment can be effective in encouraging future attempts to quit.(6)

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.(7) According to the same review, comprehensive clean indoor laws also increased quit rates by 12–38%.(7) Another systematic review comparing the effectiveness of Nicotine Replacement Therapy (NRT), bupropion, and varenincline found that all provide therapeutic effects in assisting with smoking cessation but varenincline was identified to be more effective than placebo, bupropion and NRT (in indirect comparison).(21) Varenincline was also found to be more effective than NRT in a study by Ferketich et al. (22) However, both Ferketich and the authors of an Ontario study found that people living with HIV were slightly more likely than those in the general population to stop using varenincline. (22;23)

One study focusing on clinicians (24) found that, when physicians treating people with HIV received a half day of standardized training on smoking cessation counselling and pharmacotherapy, the odds of their patients quitting increased and the odds of relapse over the 10-year follow-up period decreased.

People living with HIV and quitting smoking

Due to a unique set of social, economic, psychiatric and medical needs that may affect their smoking habits, people living with HIV may face greater challenges quitting smoking.(25) The overlap between treatment, care and support for HIV, substance use and mental illness may make smoking cessation more difficult for people living with HIV than in the general population.(4)

As a result, less intensive interventions such as giving advice may not be enough for some people living with HIV to quit smoking. Some may benefit from more intensive interventions such as repeated counselling, nicotine replacement and psychiatric assistance.(8) 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. A standard tobacco cessation plan could be effective with these individuals, but those who lack motivation and/or have a codependence will likely need a more intensive approach.(9)

The role of HIV care in smoking cessation

HIV care – which includes interdisciplinary teams and regular follow-up appointments – is in a unique position to offer smoking cessation programs.(25) The U.S. Public Health Service has a clear set of clinical guidelines to aid people in quitting smoking, known as

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the "5 As": Ask, Advise, Assess, Assist and Arrange. However, no set of similar guidelines exist specifically for people living with HIV who smoke.(25) According to one study, there are not enough smoking cessation promotion activities in AIDS service organizations (ASOs) and adherence to the "5 As" has been extremely low among people living with HIV.(15) ASOs may have less knowledge about their clients' smoking habits than general medical providers (26) and they could benefit from stronger collaboration with tobacco researchers, who are better versed in population-specific tobacco cessation strategies.(27) Another study pointed out that all ASOs should be aware that tobacco quitlines exist and they can refer their patients to these services.(28)

Smoking cessation strategies

According to one qualitative study, people living with HIV share an overwhelming desire for smoking cessation support groups exclusively for people living with HIV.(10) The "Smoke Free Program," an 8-session intervention featuring groups of HIV-positive smokers co-facilitated by an HIV-positive former smoker, investigated the effectiveness of this approach.(29) Quit rates for participants in the HIV-positive group condition were nearly twice those of people with HIV who received standard care (19% v. 10%).(29)

A meta-analysis of 43 studies on the effectiveness of sessions of varying lengths found that brief interventions (three minutes or less) resulted in 13% of participants becoming abstinent while longer interventions (10 minutes or more) led to 25% becoming abstinent.(6;30;31) In terms of the likelihood of being abstinent after six months, one study found the following rates from interventions providing advice (9%), counselling (12%) and nicotine gum (17%).(8) In some cases, smoking cessation interventions involving medication (such as bupropion and varenincline) resulted in significantly higher abstinence rates than cessation involving counselling.(8)

Due to their broad reach and efficacy, quitlines for smokers are cost-effective.(25) However, consistent access to a telephone may be a barrier for some low-income households.(25) One study recommended a cellular telephone intervention, which gave participants a pre-paid cell phone.(17) The advantages of using a cell phone are convenience, flexibility and confidentiality; the study suggests that cell phone counselling may provide a cost-effective way to overcome barriers to accessing care. In a randomized trial by Vidrine et al. (32), a cellphone counselling intervention led to a four times higher likelihood of smoking cessation after three months when compared to usual care. By 12 months, the intervention effect had declined, but the authors suggest that an extended intervention that incorporated connections to mental health counsellors, social services and substance abuse counsellors would enhance durability. (33)

A web-based smoking cessation intervention --"Positively Smoke Free on the Web" -- combined with NRT and reminder phone calls,

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resulted in quit rates of 10% among participants living with HIV. (34) However, a study that compared a web-based treatment plan plus NRT to individual counselling plus NRT found no significant differences in abstinence rates.(35)

While some interventions appear promising, the main message is that we need to learn more about smoking cessation programs tailored specifically to people living with HIV.(25) For example, despite evidence that motivational interviewing (MI) interventions are effective for smoking cessation (36), a small one-month MI intervention with women living with HIV was ineffective (37) -- although the study did find that it did decrease the number of cigarettes the women smoked per day compared to those who did not receive the intervention.(37) Given that the size of the study and limited follow-up, larger and longer studies are required to 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) except for one study that reported on findings from India.(8) While these findings may be generalizable to the Canadian setting, some countries 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 August 1, 2012 and updated with three new journal articles (24;32;37) on December 12, 2012. An additional search was conducted on April 8, 2015, with six new articles added on May 13, 2015.

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