Attention HIV-Positive Smokers: This Article Could Save Your Life

Aside from taking antiretrovirals, quitting smoking is the number one way people with HIV can lower their risk of illness and death.

April 4, 2018 By Benjamin Ryan

If you're living with HIV and are looking for a reason, or 20, to quit smoking, this is the article for you.

Active cigarette addiction is a clear and present danger to the health and longevity of HIV-positive individuals. Sean Altekruse, PhD, MPH, an epidemiologist at the National Lung and Blood Institute, a division of the National Institutes of Health (NIH), stresses that for those who are on effective antiretroviral (ARV) treatment for the virus, "Smoking is the number one preventable cause of death and mortality in people living with HIV."

Researchers estimate that more than 40 percent of the U.S. HIV population smokes (another 20 percent used to smoke), a rate double that of the general population. What's more, HIV-positive smokers are less likely to quit than those who do not have the virus: About one third of those with HIV who have ever smoked have kicked the habit compared with around half of those who have ever smoked overall.

People with hepatitis C virus (HCV), a sizable proportion of whom are coinfected with HIV, are also much more likely to smoke than the general population. The authors of one recent study cautioned that without significant efforts to promote smoking cessation among those with HCV, cigarettes, which raise the risk of liver cancer, would greatly undermine the benefits of the current crop of highly effective treatments for that virus.

Smoking's harms, counting the ways:

HIV likely serves only to amplify smoking's existing harms and vice versa. People with well-treated HIV perhaps double their risk of death by smoking, lose more years of life to the habit than to the virus and ultimately are more likely to die of smoking-related diseases than they are of causes related to the virus. On average, 35-year-old men living with well-treated HIV can expect to live to about 70 if they smoke and 78 if they are cigarette-free according to one study's estimate.

Smoking's insidious capacity for fueling a long roster of cancers, not just lung cancer, helps

explain the considerable disparity in life span between those who do and do not partake.

Altekruse and his colleagues recently analyzed a huge data set on more than 50,000 people living with HIV in North America who were followed for a median 3.8 years between 2000 and 2015. During that time, 4.4 percent of them were diagnosed with cancer, or just a bit less than 1 percent per year. Seventy-nine percent of those diagnosed with cancer had smoked compared with 73 percent of those not diagnosed with cancer, a difference that was statistically significant, meaning that it is unlikely to have been driven by chance.

After controlling for other cancer risk factors, Altekruse's team found that a history of smoking was associated with a 33 percent increase in the risk of any cancer and a 2.3-fold increase in the risk of smoking-related cancers, including cancer of the lung, larynx, liver, colon, rectum, oral cavity, kidney, cervix and leukemia. Smokers were 18 times more likely to develop lung cancer than nonsmokers.

Another recent study estimated that among those with well-controlled HIV, one in four smokers and 30 percent of those who smoke heavily will die of lung cancer. The cancer is the cause of an estimated 1 in 10 overall deaths and one third of cancer-related deaths among people with HIV. HIV-positive individuals who receive a lung cancer diagnosis do so an average of 25 to 30 years earlier than those in the general population.

"Lung cancer is a highly fatal form of cancer, so anything to prevent that is a good thing," says Altekruse, adding that dying from this type of malignancy is particularly painful and drawn-out process.

Smoking also raises the risk of cardiovascular disease (CVD), which among people with HIV is already as much as twice that of the general population. One recent modeling study predicted that among HIV-positive people, smoking cessation would prevent 13 percent of CVD diagnoses through 2030.

Middle-aged individuals living with HIV whose lowest-ever CD4 count was below 350 are more likely to have emphysema if they smoke, according to one recent study. The risk of bacterial pneumonia among HIV-positive smokers is also higher.

HIV-positive women who smoke have an estimated 75 percent increased risk of pregnancy loss compared with their nonsmoking peers.

Why is smoking so especially harmful among people with HIV? One reason is that both the virus—even when well treated—and smoking lead to harmful chronic inflammation. A component of such inflammation is immune activation, which is elevated among HIV-positive smokers. Smokers living with HIV also have higher levels of immune exhaustion and what's known as microbial translocation, in which microbes leak through the gut lining into the abdomen and lead to inflammation. All these effects can drive the progression of HIV disease.

Why you should quit

It’s never too late to quit smoking and reap the health benefits of a tobacco-free life. Abandoning cigarettes can greatly increase your life span, and as time passes, your risk of various diseases will drop off considerably. The same study that estimated the proportion of smokers with HIV who would die of lung cancer projected that just 6 percent of those who kicked the habit at age 40 would succumb to that fate.

According to mathematical modeling conducted in another study, if a hypothetical group of HIV-positive smokers entered care for the virus at age 40 and with a CD4 count of 360, men who kept up the cigarette habit would lose 6.7 years of life to the addiction and women would lose 6.3 years. Quitting smoking at that midlife point, however, would lead men to regain 5.7 years of life and women 4.6 years.

“We know that the effects of smoking often aren’t apparent until later in life,” says Krishna Reddy, MD, the lead author of that modeling study and an instructor in medicine in the Division of Pulmonary and Critical Care Medicine at Massachusetts General Hospital, which is a part of Harvard Medical School. Speaking of younger HIV-positive smokers, he continues, “So even if they haven’t experienced any of the negative consequences yet, they’re very likely to do so in the coming years. The earlier someone quits, the lower their risk of cancer, heart disease or stroke are later on.”

More immediate benefits of quitting smoking, Reddy notes, include reduced coughing and better overall breathing. People are often able to walk farther and exercise better, thanks to better-functioning lungs.

Researchers in another study analyzed 2004 to 2015 data on 35,000 people with HIV, of whom 46 percent were current smokers and 20 percent once smoked but quit. They found that during the first year or so after cohort members quit smoking, their risk of various smoking-related cancers dropped dramatically before settling at a level similar to HIV-positive nonsmokers. The exception, unfortunately, was lung cancer, which for up to five years after they gave up cigarettes was about eight times more common among the ex-smokers compared with the HIV-positive individuals who had never smoked. HIV-negative smokers, meanwhile, see their lung cancer risk drop off within five years of smoking cessation.

How to quit

“Quitting smoking is hard, but it’s doable,” says Reddy. “Many people require multiple attempts. But we do know that there are things that one can do to improve the success of quitting.”

The two basic methods of smoking cessation can be used complementarily. One is behavioral and involves various forms of counseling to help with kicking the habit. The other is pharmacological and employs forms of nicotine replacement, such as a patch or gum, or oral medications such as Zyban (bupropion, which is also marketed as the antidepressant Wellbutrin) and Chantix (varenicline). Fortunately, these medications do not seem to interact harmfully with ARVs.

In a recent placebo-controlled study of Chantix among HIV-positive smokers, participants were

given 12 weeks of treatment plus smoking cessation counseling. If after another 13 weeks the study participants failed to quit, they were given an additional 12 weeks of treatment. A year into the study, 15 percent of those who received Chantix had quit compared with 6 percent of those who received a placebo. This meant that Chantix raised the likelihood of quitting 2.5-fold.

Although this study was sponsored in part by Pfizer, which manufactures Chantix, Reddy says its findings were in line with those of Chantix's use among the general population. Additionally, recent research (also sponsored by pharma) has dispelled, to the satisfaction of the Food and Drug Administration (FDA), previous concerns that Chantix may be associated with an increased risk of suicidal thoughts, hostility and agitation.

Then there is the controversial subject of e-cigarettes, which are so new, the scientific community is only beginning to learn how health risks associated with them compare with those tied to tobacco cigarette smoking. Though switching to e-cigarettes from traditional cigarettes may be a form of harm reduction, exactly how this may be the case remains hazy. There is also some indication that the use of e-cigarettes may aid in smoking cessation, but this is up for debate.

Given all that remains unknown about e-cigarettes, until the results of long-term studies start to come in, Altekruse cautions against using them. "People may want to avoid being part of a natural experiment on [e-cigarettes'] health effects," he says.

Reddy and Altekruse alike urge clinicians to more proactively encourage smoking cessation among their HIV-positive patients.

"From the provider standpoint, smoking cessation often isn't given high priority in treating people with HIV," Reddy says. "HIV care providers are very well versed in the management of the virus but not as much in smoking cessation. So I think there needs to be a paradigm shift in how we deliver care. We can do better."
