

Smoking cessation benefits persist in spite of weight gain in patients with mental illness

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Smoking harms nearly every organ in the body and causes many diseases. Credit: CDC/Debora Cartagena

The weight gain that can result from quitting smoking does not eliminate the reduction in cardiovascular risks associated with smoking cessation among patients with serious mental illness, at least not during the first year. A report from a Massachusetts General Hospital (MGH)-based research team, being published online in the *Journal of Clinical*

Psychiatry, describes the results of a one-year trial but cannot rule out future health risks associated with continuing weight gain.

"These findings highlight the importance of smoking cessation among this vulnerable population," says Anne Thorndike, MD, MPH, of the MGH Department of Medicine, lead and corresponding author of the report. "But they also indicate that continued weight gain associated with tobacco cessation is likely to contribute to a rise in the already high rates of obesity, diabetes and hypertension among people with serious [mental illness](#)."

An increased risk of cardiovascular disease is a primary cause of the greatly reduced life expectancy - up to 25 years less than the [general population](#) - among those with serious mental illness. Both obesity and smoking are at least twice as high among adults with mental illness, and other risk factors such as hypertension, diabetes and elevated cholesterol levels are also more common. While a 2013 study led by another MGH research team found that the health benefits of quitting smoking were not eliminated by resultant weight gain, participants in that study did not have mental illness, were not obese and had low levels of other risk factors prior to smoking cessation. The authors of the current study also note that most smoking cessation trials have excluded patients with serious mental illness, leaving open the question of whether they would share the benefits seen in the general population.

To address that question, the current study analyzed a subgroup of 65 smokers with serious mental illness who had participated in a clinical trial of the drug varenicline (Chantix). Led by Eden Evins, MD, MPH, director of the MGH Center for Addiction Medicine, and published in the Jan. 8, 2014 *Journal of the American Medical Association*, that trial found that extended treatment with varenicline and cognitive behavioral therapy (CBT) was more successful in helping participants stay tobacco-free after an initial 12-week cessation program than was CBT plus a

placebo. The current study, on which Evins is senior author, examined differences in weight gain and other [risk factors](#) between 33 participants who remained abstinent during the 40-week follow-up period and 32 resumed smoking.

In both groups the majority of participants were obese at the beginning of the trial, and there were no significant differences in weight between groups after the 12-week cessation period. At the end of the follow-up period, those who continued to be abstinent from smoking had a greater average weight gain - about 10 pounds compared with around 2.5 pounds - than did those who resumed smoking. But the Framingham Risk Score, which estimates the risk of developing cardiovascular disease in the next 10 years, remained lower for the abstinent group than for those who relapsed, an improvement based entirely on smoking cessation.

However, while post-cessation weight gain among the general population of smokers typically takes place during the first three months after quitting, [weight gain](#) among abstinent participants in the current study continued during the entire follow-up period and was accompanied by greater increases in blood sugar levels than among those who relapsed. Those results suggest that, even after smoking cessation, people with serious mental illness will continue to be at higher risk for [cardiovascular disease](#) because of higher rates of diabetes, hypertension and elevated cholesterol due to worsening obesity.

"Smoking cessation needs to be a priority for adults with serious mental illness, and there is now good evidence to support using cessation medications such as varenicline and nicotine replacement to help these patients," says Evins, who is the Cox Family Associate Professor of Psychiatry in the Field of Addiction Medicine at Harvard Medical School (HMS). "However, it will be important in the future to address behavioral and medical health in a more integrated fashion."

Thorndike adds, "Evaluating programs that address multiple health behaviors among adults with serious mental illness will be important. Group-based [smoking cessation](#) programs that also incorporate diet and exercise interventions may be more successful for reducing cardiovascular risk than programs that address one behavior at a time." Thorndike is an assistant professor of Medicine at HMS.

More information: Anne N. Thorndike et al. Weight Gain and 10-Year Cardiovascular Risk With Sustained Tobacco Abstinence in Smokers With Serious Mental Illness, *The Journal of Clinical Psychiatry* (2016). [DOI: 10.4088/JCP.15m10074](https://doi.org/10.4088/JCP.15m10074)

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