

A simple test can predict whether smokers will manage to quit

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Data from nearly 6,000 smokers with cancer show that it may be easier to predict who will stop smoking than was previously thought.

It is often important to get [cancer patients](#) to quit [smoking](#), but it is not always that easy.

"Data suggest that between 15% and 60% of people who smoked before they were diagnosed with cancer continue to smoke after their diagnosis. It is crucial to help people with cancer quit smoking, because it will lead to better cancer treatment prognoses, prevent secondary cancer, and increase quality of life," says Rubén Rodríguez-Cano, an associate professor at NTNU's Department of Psychology.

Degree of addiction

Because smoking and cancer often go hand-in-hand, it is especially useful to determine how addicted people are to smoking. That makes it possible to estimate how likely it is that people will manage to quit, and consequently predict cancer patients' chances of surviving.

The researchers may also be able to use a similar approach to estimate the risk that smokers who are still healthy have of developing cancer at a later date.

"We are currently conducting another study on the risk of developing [lung cancer](#), which is being led by Professor Oluf Dimitri Røe. Among the variables are nicotine [addiction](#), smoking history and BMI," says Rodríguez-Cano.

However, investigating smoking addiction requires considerable resources. Therefore, Rodríguez-Cano wanted to find out whether there is a more efficient way of measuring the degree of a smoker's addiction.

He collaborated with people from one of the foremost cancer hospitals in the world, the University of Texas MD Anderson Cancer Center in Houston, Texas. Their study is [published](#) in the journal *Nicotine and*

Tobacco Research.

Long and short tests

Several tests can be used to ascertain smoking addiction. The gold standard is the Fagerström Test for Cigarette Dependence (FTCD).

"But this test is too extensive when we want to check a large number of patients to assess smoking risk at group level," says Rodríguez-Cano.

So, is a longer test really necessary? A simplified version called the Heaviness of Smoking Index (HSI) comprises only two questions:

- How many cigarettes do you smoke per day?
- How soon after you wake up do you smoke your first cigarette?

And these two questions are sufficient. Try it yourself.

Heaviness of Smoking Index (HSI)

1. On the days that you smoke, how soon after you wake up do you have your first cigarette?

- A. Within 5 minutes (3 points)
- B. 6- 30 minutes (2 points)
- C. 31-60 minutes (1 point)
- D. After 60 minutes (0 points)

2. How many cigarettes do you typically smoke per

day?

- A. 10 or fewer (0 points)
- B. 11-20 (1 point)
- C. 21-30 (2 points)
- D. 31 or more (3 points)

Scoring:

0-2: low addiction

3-4: moderate addiction

5-6: high addiction

A simplified test is often sufficient

"We investigated nearly 6,000 cancer patients to see if it made any difference whether they took the full test or the simplified one," says Rodríguez-Cano.

It generally did not make a difference.

"The results in predicting cigarette addiction were equally good for both the full and the simplified tests.

In addition, the simplified test is just as good at predicting smoking abstinence at 3, 6, and 9 months after quitting smoking following specialized treatment," says Rodríguez-Cano. However, it is not that straight forward.

...but not for all smokers

For some reason, the simplified test does not work as well for everyone.

"The effectiveness of the simplified test for men and women depends on the patient's race," Rodríguez-Cano explains.

Basically, the shortest test did not work as well for Non-Hispanic Black people with a cancer diagnosis. The researchers do not know whether this is due to social or genetic factors—or a combination of both.

"Both the full test and the simplified test are useful tools, but our research shows that it may be necessary to tailor the tests for different groups," says Rodríguez-Cano.

Nevertheless, the research may make it easier to investigate smoking addiction than before. This can reduce the burden on the health care system as well as on cancer patient treatment.

More information: Rubén Rodríguez-Cano et al, Comparing the Fagerström Test and Heaviness of Smoking Index in Predicting Smoking Abstinence in Cancer Patients, *Nicotine and Tobacco Research* (2024).
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