

# Smokers who start below age 20 become more addicted and find it difficult to quit, research suggests

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Researchers urge governments to raise the legal age to purchase cigarettes to 22 years or higher as study finds it becomes less addictive

and easier to quit as people get older. The research is presented at [ESC Congress 2023](#).

In 2020, more than one in five people worldwide used tobacco. Tobacco kills up to half of its users. Smokers below the age of 50 years have a five-fold higher risk of developing [cardiovascular disease](#) compared with their non-[smoking](#) peers. The legal age to purchase tobacco is 18 years old in many countries, but in some nations there are no age restrictions. It is estimated that nearly 9 out of 10 adults who smoke [cigarettes](#) daily first try smoking by age 18, and 99% first try smoking by age 26.

This study examined the relationship between the age of smoking initiation, [nicotine](#) dependence and smoking [cessation](#). The study included smokers who had visited a smoking cessation clinic in Japan. Participants completed the Fagerström test for [nicotine dependence](#) (FTND), which asks questions such as "How soon after you wake up do you smoke your first cigarette?", "Do you find it difficult to refrain from smoking in places where it is forbidden?" and "How many cigarettes per day do you smoke?". Scores for each answer were added up for a [total score](#) indicating a nicotine dependency of low (score 1-2), low to moderate (3-4), moderate (5-7) or high (8 or higher).

Participants were divided into two groups based on the age they started smoking (less than 20 years old and 20 years or older); 20 years was used as the cutoff as it is the legal smoking age in Japan. Carbon monoxide in the breath was measured to indicate the number of cigarettes smoked in the past 24 hours. Smoking cessation was defined as no tobacco smoking in the past seven days and an exhaled carbon monoxide level less than 7 ppm.

The researchers analyzed the associations between nicotine dependency and successful smoking cessation according to the age participants started smoking. The analyses were adjusted for sex and age at the time

of attending the smoking cessation clinic.

The study included 1,382 smokers, of whom 30% were women. The average age when attending the smoking cessation clinic for the first time was 58 years. Some 556 smokers started smoking before age 20 (early starters), while 826 smokers were 20 years of age or older when they began smoking (late starters).

Early starters reported a higher number of cigarettes per day (25) compared with late starters, who smoked 22 cigarettes per day. Those who started early had higher respiratory [carbon monoxide](#) levels compared with those who started late (19 vs. 16.5 ppm, respectively) and higher FTND scores (7.4 vs. 6.3, respectively). Less than half of early starters (46%) successfully quit smoking compared with 56% of late starters, for an odds ratio of 0.711 after adjusting for sex, age at clinic visit and smoking cessation aids—indicating that early starters were 30% less likely to successfully kick the habit compared with late starters.

Participants were further divided into four groups according to the age they commenced smoking (17 years or less, 18 to 19, 20 to 21, and 22 or older). In the four groups, FTND scores were 7.5, 7.2, 6.7 and 6.0, respectively, showing that those who start smoking aged 22 or older were even less nicotine dependent.

Study author Dr. Koji Hasegawa of the National Hospital Organization Kyoto Medical Center, Kyoto, Japan said, "Our results show that starting smoking early is linked with higher nicotine dependency, even in young adulthood. The study indicates that increasing the legal age to buy tobacco to 22 years or older could lead to a reduction in the number of people addicted to nicotine and at risk of adverse health consequences."

**More information:** The abstract "Effect of smoking initiation age on nicotine dependence" will be presented during the session [Defining](#)

[prevention strategies](#) which takes place on Saturday 26 August from 15:15 to 16:00 CEST at Station 10.

Provided by European Society of Cardiology

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