

Higher cigarette taxes may increase use of chewing tobacco and cigars in adolescents

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Raising cigarette taxes to combat smoking may increase the use of cigars and smokeless tobacco, such as chewing tobacco, in adolescents according to a study published in the open access journal *BMC Public Health*, involving 499,381 adolescents.

Researchers at Boston College, US found that a 10% increase in cigarette tax would be associated with a 1 percentage point increase in the use of smokeless [tobacco](#) among adolescent males, as well as increased use of cigars (1.5 percentage points in males and 0.7 percentage points in females). In contrast, the authors found that chewing [tobacco taxes](#) did not seem to have an effect on smokeless tobacco use and cigar taxes appeared to have no effect on cigar use.

Dr Summer Hawkins of Boston College, the study author, said: "While increasing [cigarette taxes](#) has been a major policy driver to decrease smoking, including adolescent smoking, taxes on other tobacco products have received less attention. This research found that higher state cigarette taxes are associated with adolescents' use of

cheaper, alternative tobacco products such as chewing tobacco and cigars."

The study also found that smoke-free legislation, such as a smoking ban inside restaurants, would be associated with a 1.1 percentage point increase in smokeless tobacco use among adolescent males.

The study analysed data from 499,381 adolescents age 14-18 years from 36 US states included in the 1999-2013 Youth Risk Behaviour Survey which monitors the health risk behaviors among 9th through 12th grade students. As part of the survey, adolescents answered questions about their use of tobacco products, including smokeless tobacco, cigars and cigarettes during the last 30 days. The authors linked state [tobacco control policies](#) to each adolescent based on the year the survey was completed. Mathematical models were conducted to assess whether changes in taxes and smoke-free legislation were associated with use of [smokeless tobacco](#) or cigars.

Dr Hawkins commented: "Our findings suggest that reducing [adolescent](#) tobacco use will require comprehensive tobacco control policies that are applied equally to and inclusive of all tobacco products, including chewing tobacco and cigars. If taxes on alternative tobacco products are not increased in line with cigarette taxes, some of the decrease in cigarette use may be adolescents switching to other products. This would not be considered a public health success, as health risks from alternative [tobacco products](#) are the same or greater than cigarettes."

The authors caution that the self-report data used in this study may underestimate the prevalence of tobacco use and that the associations between cigarette taxes and alternative tobacco product use could also have been underestimated, as adolescents that smoked cigarettes were more likely to be excluded from the analysis due to

missing data. The observational nature of this study does not allow for conclusions about cause and effect.

More information: Summer Sherburne Hawkins et al, Impact of tobacco control policies on adolescent smokeless tobacco and cigar use: a difference-in-differences approach, *BMC Public Health* (2018). [DOI: 10.1186/s12889-018-5063-z](https://doi.org/10.1186/s12889-018-5063-z)

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