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You can't keep it up with gutkha in your mouth.

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Bureau

THINK twice before emptying that shiny packet of gutkha into your mouth. It can not only cause cancers of the oral cavity, but some of its constituents can damage your [DNA](#) and alter the production of key body chemicals including sex hormones.

The startling finding that links consumption of gutkha with adverse impact on several body organs comes from a group of researchers at the Postgraduate Institute of Medical Education and Research, Chandigarh.

So far most of the research had focused on effects of smokeless tobacco products such as gutkha on oral cavity.

India already has some of the highest rates of oral cancers in the world.

Gutkha -- an assorted mixture of tobacco, [catechu](#) , areca nut, slaked lime and certain food additives -- affects the normal function of a key family of enzymes, known as CYP-450, found in almost every organ in the body, according to the Chandigarh study published in scientific journal Chemical Research in Toxicology . These enzymes play important roles in production of hormones, including sex hormones -- estrogen and testosterone -- as well as production of cholesterol and vitamin D. Gutkha also affects hormones that help the body break down prescription drugs and potentially toxic substances.

The study was done in animals.

" If the effects of gutkha are similar in animals and human beings, then the find- ings have great significance as the consumption of smokeless tobacco is likely to affect not only oral cavity but genetic material in organs such as the liver, the lungs and the kidneys," said Dr Krishan L. Khanduja, lead researcher and head of the department of [biophysics](#) at [PGI](#)

. The potential carcinogens and other chemicals present in chewing tobacco and other [smokeless](#)

products are absorbed into the blood and travel throughout the body. But scientists till now had little information on smokeless tobacco's effects on other parts of the body. To fill this gap, researchers evaluated changes in enzymes and genetic material in laboratory rats using extracts of smokeless tobacco.

" The message is clear that gutkha affects other organs in addition to the oral cavity. We know it epidemiologically also that gutkha induces a very high risk of still birth when used by pregnant women," pointed out Dr Prakash C. Gupta, director, Healis- Sekhsaria Institute for Public Health, Mumbai.

The uses of gutkha and pan masala are on the rise in India, fuelled by aggressive marketing.

Though advertising of tobacco products including gutkha is banned, companies are using pan masala sold under the same brand name as surrogate for gutkha advertising.

The cancer research body of the World Health Organization has categorised areca nut - the main ingredient of both pan masala and gutkha -- also as [carcinogenic](#)

or cancer- causing.

The main carcinogens in pan masala and gutkha are derived from their ingredients -- areca nut, lime, catechu and tobacco.

" Most of the users seem to be unaware of the harmful health effects," the researchers said.

" The use of smokeless tobacco and its new products is increasing not only among men but also among children, teenagers, women, and immigrants of South Asian origin and medical and dental students."