

Taking the nicotine out of cigarettes – why it is a bad idea

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Sometimes, what seems to be an obvious common-sense idea can make a bad situation much worse. One such idea is the removal of nicotine from tobacco products to make them less addictive. Nicotine is addictive, it is the reason why people smoke, and smoking tobacco without nicotine is no more appealing than smoking dried cabbage. And so, it is argued, why not use regulatory powers to require the gradual removal of nicotine from tobacco products? Could this free smokers from their dependence and stop a new generation of children becoming addicted? This approach is advocated by the American Medical Association, though with some qualification (see <http://tc.bmjournals.com/content/vol7/issue3/>). It was also voiced by a number of the participants at a recent WHO seminar on the regulation of tobacco products, which ultimately recommended that governments “give urgent priority to studying the implications for harm reduction of reducing levels of nicotine and other possible addictive constituents in tobacco products over time” (see <http://www.who.int/toh/natcapacity/prodregulation/oslo/osloreport.htm>). This recommendation was a compromise between those who want nicotine removed and others, like me, who think it would not work at all.

The basic reality of tobacco use is the self-administration of nicotine, a powerfully addictive psychoactive drug, by over a thousand million people worldwide — a total likely to rise to 1 600 000 000 in the next twenty years. Tobacco users typically begin in the teenage years with a flirtation with the artificially created glamour, danger, and forbidden fruit of smoking and to feel a peer-group bonding with those around them who are engaging in the same flirtation. After a while — as little as a few months — the habit is reinforced by addiction: modification of the smoker’s behaviour to seek the reward and avoid the unpleasant withdrawal. Tobacco users come to expect and need a certain dose of nicotine to get through the day. Quitting becomes harder, and the addiction becomes entrenched and consolidated by behavioural and social reinforcement.

The problem with the nicotine-removal idea is that tobacco users would continue to seek nicotine up to the level that provides a satisfactory dose. This is the reason why ‘light’ cigarettes are such a fraud. With light cigarettes, the smoke is diluted with air drawn through ventilation holes in the filter, but smokers respond by taking in more of the weaker smoke to attain the nicotine they need. The machines used for measuring cigarettes do not respond in this way, so

the light cigarettes give low tar and nicotine readings on machines but unchanged doses to the smoker. Switching from full-flavour cigarettes to light cigarettes is a little like trying to reduce alcohol intake by switching from wine to beer.

With light cigarettes the tobacco is almost the same as in conventional cigarettes, and an attempt to reduce its nicotine content would make matters worse: the smoke would not be diluted, but it would have a lower concentration of nicotine. This means smokers would be taking in more undiluted smoke to attain the nicotine they need. If this happened their toxic exposure would *increase* and the health impact would be serious — possibly adding millions to the expected tobacco-related death toll.

The idea of removing nicotine also has to be acknowledged as prohibition. Smokers who experience withdrawal would be more likely to seek illegal supplies, hand rolling tobacco, etc., rather than quit. And while nicotine products are available in some form, teenagers would simply continue to do what adults do. If a government tried to remove alcohol from whisky, but claimed that it was not engaging in prohibition because whisky without alcohol could still be sold, we would not be so easily fooled. A worldwide ban on nicotine is a political non-starter and would be a disaster.

If removing nicotine will not work, what is the alternative? It should be recognized that nicotine is a widely used, addictive and legal drug in society — but its delivery system kills one in two long-term users, and this level of harm justifies serious regulatory controls and interventions. Regulators should be concentrating on cleaning up the delivery system, and tending to *increase* the amount of nicotine in the smoke relative to toxic smoke constituents such as tar and carbon monoxide. Regulatory pressure may be used to force selective reduction of tobacco toxins relative to nicotine by the use of chemically active filters, a switch from burning to heating tobacco, and greater use of oral tobacco, tobacco distillates and perhaps, ultimately, to nicotine delivery devices that do not use tobacco at all but, unlike current nicotine replacement therapies (patches and gum, etc.), deliver a psychoactive and satisfying dose of nicotine to the addict. None of these approaches avoids all harm — far from it — but the evolution (rather than prohibition) of addictive nicotine delivery products represents an important strategy in reducing tobacco-related deaths in the 21st century.

Dealing with nicotine addiction involves many of the established tools of tobacco control: price increases, advertising bans, communications programmes, restrictions on smoking at work and in public places, and access to good treatment for dependence. Addiction to nicotine cannot be tackled by modifying the product. ■

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