

Selling smoking to teenagers and toddlers?

Paul M. Fischer, a family physician, was shocked when his 2½-year-old son picked up a soda straw in a restaurant one day and pretended to smoke it. He asked the child what he was doing and received this reply: "Daddy, when I grow up, I want to smoke cigarettes and I want to drive fast cars."

Fischer had already spent a decade studying the impact of tobacco advertising on teenagers. He decided to delve into the topic once again—this time to find out whether very young children can match brand names or logos with certain products, including cigarettes.

In the Dec. 11 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, he and his colleagues report that many preschoolers recognize logos representing cigarettes, particularly "Old Joe," a stylized depiction of a cartoon camel developed by the R.J. Reynolds Tobacco Co. to help sell Camel cigarettes. Fischer's report is accompanied by a number of other papers on smoking, including one contending that some tobacco firms boost the ranks of new smokers by using ads specially targeted to teenagers.

Fischer, of the Medical College of Georgia in Augusta, began his probe by recruiting 229 children aged 3 to 6. Preschoolers can't fill out questionnaires, so Fischer's team created a game board that depicts products used by children and adults, including a pizza, a bowl of cereal, cigarettes and automobiles. Then, using flash cards printed with logos, they asked

the children to match each logo to a picture of a product.

To their amazement, says Fischer, the researchers discovered that 30 percent of the 3-year-olds correctly matched "Old Joe" with a picture of a hand holding a cigarette. And among the 6-year-olds, 91.3 percent matched "Old Joe" with the cigarette—approximately the same number who correctly paired the Disney Channel logo with Mickey Mouse.

Although tobacco companies have repeatedly denied targeting children and teenagers as markets for cigarettes, Fischer argues that the influence on young consumers begins at a very early age, perhaps as early as age 2.

A study led by Joseph R. DiFranza of the University of Massachusetts Medical School's family residency program in Fitchburg adds to the evidence suggesting that tobacco firms market their wares successfully to teenagers.

DiFranza and his colleagues recruited 1,055 high school students from Massachusetts, Georgia, Nebraska, Washington and New Mexico and 345 Massachusetts adults aged 21 or older. The researchers had an artist alter an "Old Joe" advertisement to remove the cigarettes and any other clues to the cartoon's origin, then showed the picture to the volunteers. The team reports that 93.6 percent of the high school students—compared with 57.7 percent of the adults—identified the brand name "Camel" when shown the altered advertisement.

Teens were also far more likely than adults to consider "Old Joe" appealing. For example, 73.6 percent of the teens found the Camel ads "interesting," compared with 55.1 percent of the adults. And 43 percent of the teens thought "Old Joe" was "cool," compared with 25.7 percent of the adults.

Both DiFranza and Fischer told *SCIENCE NEWS* they would like to see a total ban on tobacco advertising.

DiFranza charges that tobacco firms use psychological tactics to encourage smoking among those who are too young to fully comprehend the dangers of nicotine addiction. He and his coauthors cite financial analysts' statements that R.J. Reynolds launched the "Old Joe" ads in 1988 in order to compete with Philip Morris' Marlboro brand for the youth market. "Our data demonstrate that in just three years, Camel's Old Joe cartoon character had an astounding influence on children's smoking behavior," the team writes. They estimate that sales of Camel cigarettes to youths under age 18 rose from \$6 million per year before the campaign to the current \$476 million—an amount that now accounts for "one-quarter of all Camel sales."

In a press statement, R.J. Reynolds calls that conclusion "absurd" and says that a maximum of 2 percent of Camel sales might come from underage smokers. The company denies the existence of any marketing strategy designed to influence children.

—K.A. Fackelmann

Patches help smokers quit

Most of the nation's 50 million cigarette smokers would like to kick the habit, according to the U.S. Office on Smoking and Health in Rockville, Md. But nicotine addiction thwarts the long-term success of many would-be abstainers. What's an addict to do?

How about slapping on a nicotine-laced skin patch?

Nearly 1,000 smokers wore such patches for six to 12 weeks at nine U.S. smoking-cessation clinics. Researchers randomly assigned each volunteer to receive one of four daily nicotine doses through the skin: 21, 14 or 7 milligrams, or a placebo dose of less than 1 mg. The patches offered a dramatic, dose-related benefit, the investigators report in the Dec. 11 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*.

The lowest active dose (7 mg) warded off nicotine-withdrawal symptoms—including irritability, anxiety, difficulty concentrating, restlessness and nicotine craving—about as well as the highest dose. But the higher the dose, the less likely a person was to resume smoking within six months of the

study's start. At every stage of the trial, the 21-mg group contained more than twice as many successful abstainers as the placebo group. Overall, the abstinence rates were similar to those obtained with nicotine-dispensing chewing gum, says Stephen Rennard of the University of Nebraska in Omaha, a co-director of the skin patch study. However, he adds, nicotine gum is more difficult to use and can cause adverse effects such as stomach upset.

Even among smokers who relapsed, those receiving active doses of nicotine from the patch "smoked much less than their baseline habit," Rennard says. This suggests that people with intractable nicotine addiction might reduce their cigarette consumption—and their exposure to carcinogens—through longer-term or even permanent use of nicotine-dispensing skin patches, he says.

On Nov. 7, the FDA granted Alza Corp. of Palo Alto, Calif., and Marion Merrell Dow Inc. of Kansas City, Mo., permission to begin marketing the patches under the trade name Nicoderm. □

Instant virus: Just add RNA

Viruses are such primitive things that many scientists don't consider them alive. They cannot reproduce on their own; instead, they must hijack the reproductive machinery of living cells. Because of this shortcoming, virologists must grow their research subjects in dishes lined with cultured cells.

Now, scientists have devised a cell-free technique for growing tens of thousands of polio viruses at a time. In the Dec. 13 *SCIENCE*, they say the new process will allow insights into the life cycles of many types of viruses and will yield a faster and easier way to screen potential antiviral drugs.

The researchers, led by Akhteruzzaman Molla from the State University of New York at Stony Brook, isolated RNA from polio viruses and added this genetic material to a slurry of human cells that they had previously put through a blender and treated with several chemicals. The mixture yielded intact polio viruses that could go on to infect other cells, they report.

"This is the first time researchers have synthesized infectious viruses in a test tube," Molla asserts. He says his team hopes to use the process to mass-produce other disease-causing viruses. □