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Editorials

Women and Smoking

According to recent data from the National Health Interview Survey (NHIS), nearly one in four US women 18 years of age and older (23.5%) was a smoker in 1991.¹ This represents some progress, since fully one in three women smoked in 1965, and, at least among adults, smoking prevalence is still lower among women than among men (28.1%). Nevertheless, about 22.2 million US women currently smoke, including roughly 25% who are pregnant.² Moreover, the NHIS data are actually discouraging because they show that, after slow but steady declines in recent years, smoking prevalence among women aged 18 and older was slightly higher in 1991 than in 1990 (22.8%). Teens are also an important group to monitor since 90% of smokers begin smoking before the age of 20. Data from the ongoing annual survey of high school seniors show little change in smoking prevalence in recent years,³ and in California the proportion of adolescent girls aged 12 to 17 who reported smoking within the past month rose slightly, from 8.7% in 1990 to 9.4% in 1992.⁴ Despite some progress over the past 3 decades, the fact remains that smoking affects the health of a significant proportion of women in our society, especially those of lower socioeconomic status; that it poses some unique health issues for women compared with men; and that the tobacco industry persists in deliberately targeting women in its marketing campaigns.

Smoking-related diseases accounted for 147 351 deaths among US women in 1988.⁵ That figure includes most female deaths due to lung cancer, which was once a rare disease but by 1987 had surpassed breast cancer to become the leading cause of cancer death among women. Compared with nonsmokers, women and men who smoke also share increased risks of cancer of the oral cavity, esophagus, larynx, bladder, and pancreas, as well as in-

creased risks of heart disease, stroke, emphysema, and bronchitis. Additionally, female smokers have increased risks of cervical cancer, early menopause, complications of oral contraceptive use, and unfavorable pregnancy outcomes, including infant mortality. Osteoporosis, which disproportionately affects women, is associated with cigarette smoking, and studies suggest that premature facial wrinkling is more common in smokers than in non-smokers.

Of ongoing concern are the relatively high rates of smoking among women of lower socioeconomic status. Data from numerous surveys show that educational level is inversely related to smoking; in the recent NHIS, 27% of women with 12 or fewer years of schooling were smokers, compared with only 12.5% of women with 16 or more years of schooling. Similarly, nationwide data from the 1989 Teenage Attitudes and Prevalence Survey show that, among girls aged 17 to 18, 33.3% who have dropped out of school were current smokers, compared with only 16.7% who were still in high school or had already graduated.⁶ And because the social class gap in smoking prevalence has widened over time, the burden of smoking-related diseases will disproportionately affect the more socially disadvantaged members of our population in future years.

R.J. Reynolds recognized the demographics of smoking when it introduced its Dakota brand several years ago. According to company marketing documents, Dakota was to be targeted to the "virile female" between the ages of 18 to 24 who had no more than a high school education; who spent her free time "with her boy-

Editor's Note. See related article by Gerominus (p 1258) and brief by Daly (p 1333) in this issue.

friend doing whatever he is doing"; who was interested in partying, going to dance clubs and bars, cruising, and watching TV; who attended events such as drag races, hot rod shows, and tractor pulls; and who desired to marry in her early 20s and have a family.⁷

The targeting of women in tobacco advertising and promotion—in particular, the heavy concentration of cigarette advertisements in women's magazines and tobacco companies' sponsorship of women's sports, fashion, artistic, and political activities^{8,9}—has been well documented. Warner et al. reported a significant inverse relationship across women's magazines between their proportion of cigarette advertising revenues and their editorial coverage of smoking and health.¹⁰ Cigarette advertising directed toward women attempts to associate smoking with sexual attractiveness, fitness, and female independence, images that belie the addiction and premature death that so often await women who smoke. Such advertisements are especially notable for associating smoking with being thin; terms such as "slims" and "lights" and images of elongated female models or feminine objects are commonplace.

Such material plays into a cultural preoccupation with weight control, particularly among women. A telephone survey of young adults (average age 19.2 years) conducted 1986 through 1987 found that 58% of female smokers expressed concern about gaining a lot of weight if they quit smoking, compared with 26.3% of male smokers.¹¹ Although smokers who quit do gain more weight on average than smokers who do not quit, the relative differences in most women who quit smoking are minor and pale in relation to the health benefits associated with quitting.^{12,13}

Articles in previous issues of this Journal have described smoking cessation programs targeted to women,¹⁴ including pregnant women.^{2,15} In the current issue, Daly et al.¹⁶ describe their case-control study to identify predictors of relatively late initiation of smoking among Minnesota women aged 18 to 30, and their finding that such predictors in young adult women are similar to those reported earlier in adolescents, including having a significant other who smokes and friends for whom smoking is very acceptable. Although their study has not assessed the role of cigarette advertising and promotion or concerns about weight control in the decision to smoke, it does add to the literature that demonstrates the importance of peers and the social environment

in determining smoking status. Also in this issue, Geronimus et al.¹⁷ use data from the 1987 NHIS Cancer Supplement to show that, among women of reproductive age, Black women begin smoking later than White women but that smoking prevalence rates converge by about age 25. It will be of interest to see if this pattern continues into the future, particularly in light of recent reports elsewhere of even lower current smoking prevalence rates among Black compared with White female teens than in the past.³

Although "everyone knows" about the association between smoking and health, our task—given the enormity of the 20th-century epidemic of smoking-related death and disability—is to remain vigilant in trumpeting that association. That lung cancer currently accounts for 22% of female cancer deaths, compared with 18% for breast cancer, is not generally appreciated by the public. One hopes that the kind of activist energy that has so successfully increased public attention to breast cancer can be generated to expose the tobacco industry's aggressive targeting of women and its resultant toll in disability and deaths. There are encouraging signs that the lung cancer epidemic is turning around. Following declines in smoking prevalence, death rates have fallen in recent years in men under age 55 and women under age 45. We must accelerate those trends in the United States and prevent the epidemic of smoking-related diseases from spreading in other parts of the world where the tobacco industry is now directing its efforts. Until lung cancer rates revert to the low levels seen in the early part of this century, tens of thousands of otherwise preventable deaths will occur.

It has been said that statistics are human beings with the tears wiped off. Several years ago, I received a letter from a woman whose mother, a smoker, had just died of lung cancer. She wrote:

My mother's death is still very fresh to me . . . What had first been diagnosed as inoperable lung cancer quickly spread to her skull, and who-knows-elsewhere. She died weighing 75 pounds, hairless from radiation, skin darkened from radiation, gasping for air, and with each breath, pleading to die even though she was receiving morphine. She was *hardly* a slinky, athletic, sexy, independent woman. □

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References

- Centers for Disease Control. Cigarette smoking among adults—United States, 1991. *MMWR*. 1993;42:230-233.
- Windsor RA, Li CQ, Lowe JB, Perkins LL, Ershoff D, Glynn T. The dissemination of smoking cessation methods for pregnant women: achieving the year 2000 objectives. *Am J Public Health*. 1993;83:173-178.
- Giovino GA, Eriksen MP, McKenna JW. The vital diversity of tobacco control research. *Am J Public Health*. 1992;82:1203-1205.
- Pierce JP, Farkas A, Evans N, et al. *Tobacco use in California 1992. A Focus on Preventing Uptake in Adolescents*. Sacramento, Calif: California Department of Health Services; 1993.
- National Research Council. *Environmental Tobacco Smoke: Measuring Exposures and Assessing Health Effects*. Washington, DC: National Academy Press; 1986.
- Centers for Disease Control. Cigarette smoking among youth—United States, 1989. *MMWR*. 1991;40:712-715.
- Specter M. Marketers target "virile female": R.J. Reynolds plans to introduce cigarette. *The Washington Post*. February 17, 1990.
- Ernster VL. Mixed messages for women: a social history of cigarette smoking and advertising. *NY State J Med*. 1985;85:335-340.
- Ernster VL. How tobacco companies target women. *World Smoking and Health*. American Cancer Society; 1991;16:8-11.
- Warner KE, Goldenhar LM, McLaughlin CG. Cigarette advertising and magazine coverage of the hazards of smoking. A statistical analysis. *N Engl J Med*. 1992;326:305-309.
- Pirie PL, Murray DM, Luepker RV. Gender differences in cigarette smoking and quitting in a cohort of young adults. *Am J Public Health*. 1991;81:324-327.
- Williamson DF, Madans J, Anda RF, Kleinman JC, Giovino GA, Byers T. Smoking cessation and severity of weight gain in a national cohort. *New Engl J Med*. 1991;324:739-745.
- Colditz GA, Segal MR, Myers AH, Stampfer MJ, Willett W, Speizer FE. Weight change in relation to smoking cessation among women. *J Smoking-Related Dis*. 1992;3:145-153.
- Pirie PL, McBride CM, Hellerstedt W, et al. Smoking cessation in women concerned about weight. *Am J Public Health*. 1992;82:1238-1243.
- Shipp M, Croughan-Minihane MS, Petitti

DB, Washington AE. Estimation of the break-even point for smoking cessation programs in pregnancy. *Am J Public Health*. 1992;82:383-390.

16. Daly KA, Lund EM, Harty KC, Ersted SA. Factors associated with late smoking initiation in Minnesota women. *Am J Public Health*. 1993;83:1333-1335.

17. Geronimus AT, Neidert LJ, Bound J. Age patterns of smoking in US Black and White women of childbearing age. *Am J Public Health*. 1993;83:1258-1264.

Toward a Smoke-Free Society: Opportunities and Obstacles

When I first became intrigued with the association between tobacco smoking and lung cancer in 1950, there were 54 million cigarette smokers in a US population of 152 million.¹ We now have known for 4 decades that tobacco use in its various forms constitutes the most preventable cause of excess deaths in most Western societies and, increasingly, in developing countries as well. In view of this firmly established knowledge, it is astonishing that, in 1993, there are still 40 million smokers in the United States, albeit in a population of 255 million.

The reasons for our relatively modest success in creating a smoke-free society include an aggressive marketing policy for tobacco products, the nicotine habituation of the smoker, the persistent illusion of immortality harbored by so many people, and the relatively benign lack of interest of private and public health professionals in smoking cessation and prevention. Any success that has been achieved in impeding the onset of smoking or effecting its cessation can be attributed largely to education, taxation, and the strong social influence of health-conscious nonsmokers.

Successes in reducing tobacco use have been primarily achieved among select groups. Current patterns of cigarette usage show, for instance, that the heaviest smokers among men continue to be blue-collar workers.² Education, together with social environment and social attitudes, seems to play a key role in the decision to quit smoking, except for the heavier smokers whose habituation apparently overpowers their intellectual reasoning. Educational efforts are also not as successful among women, probably because they fear gaining weight as a consequence of smoking cessation far more than men do, an issue that those involved in health promotion must address.³

Among high school seniors, 17% now report daily cigarette smoking, with no difference between boys and girls. Among high school dropouts, however, smoking is reported to be as high as 70%.^{4,5}

In general, the main influence on smoking behavior is social pressure, particularly from family members and peers but also from the community and the me-

dia. Clearly, poor health behavior and poor health status are also strongly tied to social conditions, such as poor education, lack of family support, inadequate housing, unsafe neighborhoods, unemployment, or employment in substandard environments.^{6,7} Thus, any successful efforts by health promotion specialists to promote smoking cessation and prevention in a community must involve all segments of society.

The premise of therapeutic medicine is that only the proper dose makes for success. The same applies to preventing the onset of smoking and increasing the quit rate among smokers. Because of limited funding or lack of energy, however, we fail to apply a dose of health promotion with necessary intensity and duration to bring about the desired result. The questions of what is the effective dose and who should administer it are the subject for research focusing on cost-effective methods and strategies that can be applied to the general population.

Articles in this issue by D. Shopland,⁸ J. P. Elder et al.,⁹ and K. A. Daly et al.¹⁰ deal with national and regional efforts directed toward smoking control. As we evaluate such programs, we need to focus on the broad, cost-effective priorities in health promotion. In my opinion, these lie in a multifactorial approach to all risk-taking behavior, with the strongest emphasis on early education at home and in the school.

A key goal of health promotion is to "socially immunize" individuals so they will not fall into habits that are injurious to their health. Health education begun early in life is most effective because the human mind is most susceptible both to messages that set behavioral patterns and to the absorption of knowledge in general.

In the family health education is best achieved by parents setting a good example. Sound nutritional habits, appropriate exercise, and a smoke-free life-style without drug and alcohol abuse provide children with strong motivation to behave similarly. Children who grow up in a caring family environment will develop a sense of respect for their physical and

mental states early on and will strive to preserve and enhance them.

But since such environments are not universally present, it is in school that all children can be reached. The preschools as well as the primary and secondary schools must assume a stronger in loco parentis role as guardians of our public health. The best kind of school health promotion education program is one that takes a multifactorial approach beginning with the age-appropriate teaching of hygiene, nutritionally sound eating, and physical fitness. Such programs should include periodic health screenings; an annual evaluation of the health knowledge attained and health behavior acquired; and an ongoing series of extracurricular activities involving teachers, parents, and students.^{11,12} The programs should be coordinated by a (preferably) full-time health educator in each school and assisted through scientific curricula that involve students in discovering the science that underlies good health. Comprehensive school health education, such as that delivered through the American Health Foundation's "Know Your Body Program," should be mandatory.

The question arises, "Can we afford the cost of such programs?" This must be answered with another question, namely: "Can we afford not to institute such programs in view of the health care cost dilemma so well known to all of us with all its painful economic consequences?"

The role the government has played in creating more smoke-free environments certainly has been effective in curbing smoking and making it socially less acceptable. Taxation of tobacco products makes cigarettes ultimately hard to afford, as has been shown in European countries. We can attempt to counteract the marketing and advertising strategies of the tobacco industry with effective advertising and marketing of health promotion. Beyond that, the role of physicians and other health care personnel in advising against

Editor's Note. See related annotation by Shopland (p 1208), article by Elder et al. (p 1239), and brief by Daly et al. (p 1333) in this issue.