Smoking Behavior and Attitudes toward Smoking among Hospital Nurses

DIANE M. BECKER, ScD, MPH, ANN HALL MYERS, ScD, MARTHA SACCI, RN, MSN, SARAH WEIDA, RN, BS, ROBERT SWANK, MA, DAVID M. LEVINE, MD, ScD, AND THOMAS A. PEARSON, MD, PhD

Abstract: We examined smoking prevalence, smoking behavior, and attitudes toward smoking in hospitals in 1,380 respondents among 1,719 registered nurses in a large urban teaching hospital. In this group, current prevalence of smoking in hospital nurses (22 per cent) was less than women in the general population (29 per cent). Smoking nurses were more likely than nonsmokers to hold attitudes which potentially reduce their efficacy in helping patients to stop smoking. (*Am J Public Health* 1986; 76:1449–1451.)

Introduction

Nurses have been cited as a paradox among health professionals because of their higher reported prevalence of current smoking (25–39 per cent) than the approximately 10 per cent smoking prevalence among physicians and dentists.[1] In the past, nurses were reported more often to smoke than women in the general population.[2,3] Continued smoking among hospital nurses is of particular concern because of the potential influence it may exert on smoking cessation efforts of patients for whom quitting is a crucial part of treatment. Several studies have suggested that visible smoking by the health professions imposes a negative influence on the smoking behavior of patients.[4,5] As most studies of hospital nurses in the United States have yielded response rates in the 50 per cent range and are several years old, this study was designed to determine current smoking prevalence, smoking behavior, and attendant attitudes in hospital nurses.

Methods

The nursing service payroll roster was used to identify all of the 1,719 part-time and full-time registered and licensed practical nurses actively employed in all administrative, inpatient, and outpatient units of the Johns Hopkins Hospital in November of 1984. Survey questionnaires were distributed in person to all nurses by head nurses, with verbal instructions to complete the three-page questionnaire while on duty and return it directly. A final response rate of 80.3 per cent was achieved through two survey distributions.

The respondents were 95 per cent female, mean age of 33.3 years, 54.7 per cent prepared at the Bachelor's Degree level, 8.5 per cent Master's Degree level, 32.5 per cent at the Associate Degree or Diploma level, and 3.3 per cent licensed practical nurses.

From the Johns Hopkins Medical Institutions: School of Medicine, Division of Internal Medicine (Becker, Weida, Swank, Levine, Pearson), School of Hygiene and Public Health, Department of Health Policy and Health Management (Myers), and Department of Nursing (Sacci). Address reprint requests to Dr. Diane M. Becker, Division of Internal Medicine, Preventive Cardiology Program, Johns Hopkins Medical Institutions, Baltimore, MD 21205. This paper, submitted to the Journal February 10, 1986, was revised and accepted for publication June 11, 1986.

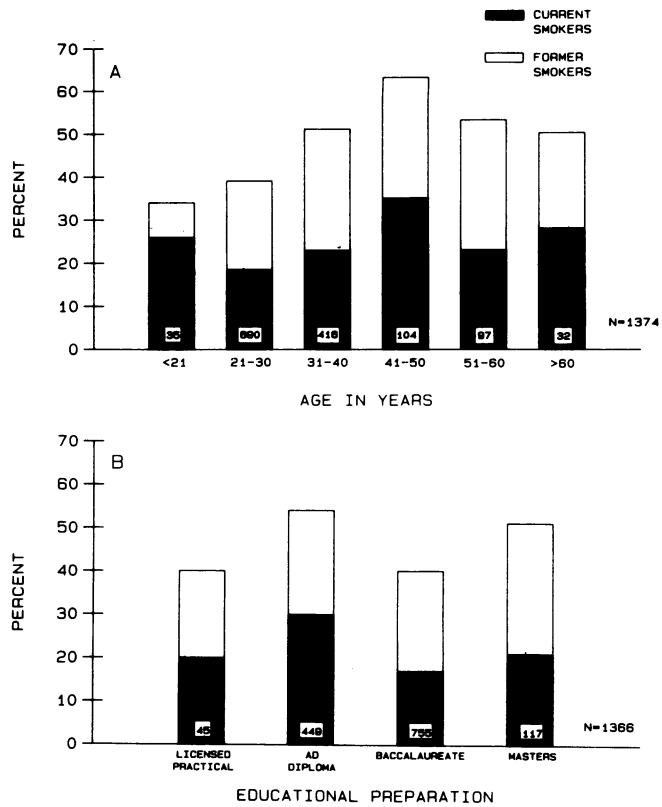

FIGURE 1—Prevalence of Ever Smokers by Age (A) and Nursing Educational Preparation (B)
Represents the per cent of total respondents who have ever smoked. Numbers in the bars represent the total number of nurses in each group. Total numbers differ in A and B due to missing data.

Results

Smoking Prevalence

Of the 1,380 respondents, 301 (21.8 per cent) reported being current smokers, 321 (23.3 per cent) former smokers, 758 (54.6 per cent) never smokers.

Prevalence of current smoking was highest in the age group 41–50, and in Associate Degree/Diploma prepared nurses (Figure 1). Men were more likely to be current smokers than women (33.3 per cent versus 21.2 per cent). Respondents in administrative positions, emergency rooms, psychiatry, and general medicine had the highest absolute prevalence of current smokers (Figure 2). Pediatric nurses had the lowest absolute prevalence of both current and former smokers. These prevalences may have been affected by the differential response rate by nursing practice area, noted on Figure 2.

Forward stepwise multiple logistic regression analysis demonstrated nursing education and sex to each have an independent and significant relationship to current smoking, with educational preparation the most significant (Table 1).

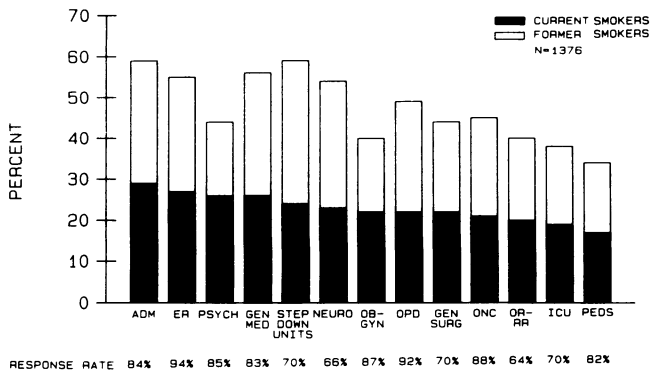

FIGURE 2—Prevalence of Ever Smokers by Nursing Practice Area
Represents the per cent of total respondents in each practice area who have ever smoked. Response rate represents per cent of total number of nurses in each area who respond to the survey.
Key: Adm = administration; ER = emergency room; Psych = psychiatry; Gen Med = general medicine; OB-GYN = obstetrics and gynecology; OPD = outpatient department; Gen Surg = general surgery; ONC = oncology; OR-RR = operation and recovery rooms; ICU = intensive care units; Peds = pediatrics.

Smoking Behavior

Smoking at work occurred in highly visible places on patient care units. Of current smokers, 13 per cent reported doing most of their smoking in the nurses' stations while the majority (75 per cent) report smoking mostly in unit lounges, conference rooms, or offices. The majority (77 per cent) of current smokers reported smoking more than once a day on the nursing units, while 50 per cent reported smoking more than four times a day on the units. The highest prevalence of active and heavy smoking at work occurred in nurses in psychiatry and administration.

The majority (67.7 per cent) of current smokers reported having quit successfully for a month or longer in the past. This was distributed equally by area of nursing practice, age, and educational preparation. The majority (62.6 per cent) also report an intention to quit in the next year, with 80 per cent indicating a willingness to participate in a hospital-based cessation program if it were offered.

Attitudes

Respondents were asked to agree or disagree that it is the role of nurses to counsel patients to stop smoking while in the hospital. While 65 per cent of never smokers and 68 per cent of former smokers agreed with this statement, only 50 per cent of current smokers concurred.

Nurses were asked to agree or disagree with the statement that a patient has the right to smoke in the hospital, even if placed in a room with a nonsmoking patient. Current smokers (28 per cent) were more likely to agree than never smokers (8 per cent) or former smokers (13 per cent).

More current smokers (43 per cent) than never smokers (19 per cent) or former smokers (32 per cent) agreed with the statement that nurses have a right to smoke on the nursing units in hospitals.

Forward stepwise multiple logistic regression analyses revealed current smoking status to be the strongest predictor of outcome in all three attitude statements (Table 2). The relative odds of taking a more negative smoking attitude ranged from 2 to 4.4 for smokers versus nonsmokers.

TABLE 1—Determinants of Hospital Nurses' Current Smoking Status: Stepwise Multiple Logistic Regression Analysis

Variable	Relative Odds	95% Confidence Limits: Odds
Nursing Education*	1.86	1.41–2.45
Sex	1.74	1.03–2.93

*Associate Degree/Diploma = group 1; Vocational, Baccalaureate, Masters = group 2.

TABLE 2—Determinants of Hospital Nurses' Smoking Attitudes: Stepwise Multiple Logistic Regression Analysis

Attitude Item	Variable	Relative Odds	95% Confidence Limits: Odds
Nurses have a role in counseling patients to stop smoking	Smoking status	2.00	1.54–2.63
Patients have the right to smoke in a room with nonsmoking patients	Smoking status	3.53	2.44–4.76
	Educational preparation*	1.57	1.11–2.19
Nurses have the right to smoke on patient care units	Smoking status	4.40	3.33–5.84

*AD/Diploma graduates = group 1, Vocational, Baccalaureate, and Masters = group 2.

Discussion

The majority of studies in the past decade have suggested that smoking prevalence is higher in nurses than in either the general population or in other health professionals.[6–8] Many of these prior studies have been based on response rates in the range of 50–60 per cent or on samples selected for membership in nursing organizations. The present survey with a response rate of over 80 per cent presents evidence that the current prevalence of smoking in nurses working in a large urban general hospital is approximately 22 per cent, less than the general population. The prevalence of former smokers at 23 per cent is higher than the general population level of 16 per cent.[9] Nurses appear to have experienced a significant and continued lag behind other health professionals in smoking cessation where the prevalence of former smoking is approximately 40 per cent. Although the survey involved a single hospital, approximately 295,000 of the nation's one million hospital nurses are employed in similar large urban acute care institutions.[10]

Attitudes about smoking are most strongly determined by current smoking status independent of many other sociodemographic and nursing structural variables. Smoking nurses clearly hold a more negative view of their role in counseling patients to stop smoking and also are more likely to believe that smoking patients have rights which have priority over those of nonsmoking patients in the hospital environment. These findings suggest that medical knowledge and socialization to the helping role do not override personal behavior in determining attitudes toward smoking in health care settings.

Although a small but growing number of hospitals have initiated smoking policies for patients and employees, the majority of medical institutions have yet to do so.[11] These findings suggest that while a minority of nurses would be opposed to a policy banning smoking in hospitals, such a ban may not be sufficient. Nurses who continue to smoke, although less visible if not smoking at work, may continue to hold attitudes which are not supportive of their role in helping patients to stop smoking. Institutions initiating smoking

policies should consider intervention programs specifically directed at nurses who smoke.

ACKNOWLEDGMENTS

This research supported in part by a Preventive Cardiology Academic Award #K07HL1113-03 and by the American Lung Association of Maryland. An earlier version of this study was presented at the 58th Scientific Sessions of the American Heart Association, Washington, DC, November 1985.

REFERENCES

1. Enstrom J: Trends in mortality among California physicians after giving up smoking, 1950–79. Br Med J 1983; 286:1101–1105.
2. Garfinkel L: Cigarette smoking among physicians and other health professionals, 1959–72. Cancer 1976; 26:373–375.
3. National Clearinghouse for Smoking and Health: A survey of health professionals: smoking and health. Atlanta: CDC, The Clearinghouse, 1975.
4. Kottke TE, Hill C, Heitig C, Brekke M, Blake S, Arneson S, Caspersen C: Smoke-free hospitals, attitudes of patients, employees and faculty. Minn Med 1985; 68:53–55.
5. Dawley H, Cartel S, Morrison J: The discouragement of smoking in a hospital setting: The importance of modeled behavior. Int J Addict 1981; 16:905–910.
6. Dalton J, Swenson I: Nurses, the professionals who can't quit. Am J Nurs 1983; 83:1149–1151.
7. Knobf M, Morra M: Smokers, former smokers and non-smokers: A correlational study of nurses in Connecticut. Oncol Nurs Forum 1983; 10:40–45.
8. Tagliacozzo R, Vaughn S: Smoking in hospital nurses. Am J Public Health 1982; 72:441–448.
9. National Center for Health Statistics: Health, United States. DHHS Pub. No. PHS 85-1232. Washington, DC: NCHS, 1984.
10. American Nurses' Association: Facts about Nursing 84–85. Kansas City, MO: ANA, 1985.
11. Knapp J, Silvis G, Sorenson G, Kottke T: Clean Air Health Care: Minneapolis: University of Minnesota, 1986.

The Militarization of R&D
(President's Vision Is an Illusion)

"Research and development is essential to progress in communications, information processing, manufacturing, energy conversion, mining, agriculture, forestry, environmental protection, and public health, as well as in military preparedness. As a result, the vitality and productivity of our R&D enterprise affects not only the adequacy of our military forces but also our future international economic competitiveness, our prosperity as a nation, and our material and physical well-being as individuals. Our national security rests as much or more on these latter characteristics as on our military capabilities. . . .

"By far the most dramatic example of misplaced R&D resources is the Strategic Defense Initiative. . . .

"The danger of nuclear war is the preeminent problem of our time. If the SDI really offered any hope of escaping from that danger or significantly reducing it, one could cheerfully accept the SDI's side effects on the universities, and on the balance and productivity of American efforts in science and technology more generally, as the necessary consequences of sensible priorities—just as the societal costs of increased military spending of other kinds are accepted when real threats to the nation manifestly require it.

"But the SDI does *not* offer any hope of reducing the nuclear danger. The President's stated goal of protecting the population of the United States and its allies from nuclear attack is unattainable at any cost; his vision of an escape from reliance on nuclear deterrence, as well motivated as it may be, is an illusion. So is the apparent conviction of many around him that security in the nuclear age is still to be found in the ever more expensive pursuit of military forces superior to those of one's adversary. Both of these beliefs are manifestations of an abiding but unfounded faith in technological/military 'fixes' for political problems, compounded by an inexhaustible capacity to commit the fallacy of the last move—to believe that improvements in weaponry on our side will somehow fail to stimulate a compensating response on the other side.

"As such, the SDI and the larger military buildup in which it is embedded are prescriptions not for safety but for continuing and expanding the arms competition in ever more dangerous directions. That is more than reason enough to oppose them. The additional damage that is being done in pursuit of these costly programs—damage to the universities, to the vitality and productivity of American research and development, to the prospects for a robust and efficient economy—is simply icing on the cake."

—Excerpted from F.A.S. *Public Interest Report, Journal of the Federation of American Scientists* (special issue), September 1986.