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Smoking Behavior among Student Nurses: a Survey

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Synopsis

The study describes the smoking habits of student nurses and determines the correlates of smoking initiation, continuation, and cessation. The sample included 1,163 students attending 10 nursing schools in Buffalo, NY. Data were gathered by means of a self-administered questionnaire.

Approximately 30 percent of the students were current smokers, 25 percent were exsmokers, and 45 percent had never smoked. More than half of the smokers (57 percent) expressed the desire to quit, and 81 percent had tried to do so in the past. Major reasons for trying to quit were to protect future health, save money, self-discipline, and pressure from significant others. Most (90 percent) of the students who had tried to quit had attempted to do so on their own and all at once. Knowledge of the health consequences of smoking was not significantly related to smoking behavior.

These data suggest the need for health educators to promote personal health practices among their students that are congruent with the goals of the nursing profession of health promotion and disease prevention.

BECAUSE NURSES ARE THE LARGEST occupational group among health professionals, they are a potentially powerful resource for influencing the smoking patterns of Americans. They are viewed as exemplars to others and as credible resources for information about smoking (*1-3*). However, studies indicate that nurses smoke more than other health professionals and have both disturbingly high smoking rates and low rates of cessation (*2, 4-12*).

Other evidence suggests a trend toward decreased smoking among nurses (*13–16*). For example, Morra and Knobf (*14*) report that in 1975, 39 percent of a national sample smoked cigarettes. This rate had declined to 25 percent among a sample of Connecticut nurses studied in 1981. Further, the proportion of former smokers in the 1981 study increased to 40 percent from a rate of 22 percent in the earlier study. Despite these encouraging changes, nurses remain a critical group on which to focus antismoking campaigns.

Within the nursing profession, students are especially good targets because they are likely to have shorter smoking histories and less well-established smoking habits than most graduate nurses, or they have not yet begun to smoke. Moreover, most student nurses are at a time in their development when they are strongly subject to peer influence and in age groups with a high amount of smoking initiation (*17*). During their education, nursing students can be reached with antismoking messages in large groups within the supportive context of the nursing curriculum. However, to design effective antismoking campaigns, we need more information about the determinants of smoking behavior.

Investigations of smoking behavior among student nurses are limited. Those reported in the literature reveal smoking prevalence rates of 6–57 percent (*2,6,7,9,18–20*) and cessation rates of 6 (*20*) and 13 percent (*19*). The wide range in the proportion of smokers among the various studies may be due in part to differences in sampling designs.

There is some evidence from previous research that nursing students are more likely to start smoking during their education than students in other professions (*7,18*). Also, in one inquiry, the type of nursing program in which students were enrolled appeared to have an effect on smoking habits, with nonuniversity settings having the highest proportion of smokers (*7*). The inclination of student nurses to smoke has been related to peer pressure, social and developmental stress, and entry into a profession associated with a wide range of stressful circumstances (*5,7–9,19*). Finally, Hillier's (*19*) and Carr's (*21*) results suggest the importance of parental influence on students' smoking behavior. In these studies, nonsmokers were less likely than smokers to have parents who smoked.

In brief, empirical data on the extent of smoking among student nurses and the factors that encourage and discourage smoking initiation, continuation, and cessation are relatively sparse. Thus, it is important to generate a data base for designing antismoking interventions for groups of student nurses. We conducted this study to describe smoking behavior and its correlates among a large sample of student nurses.

Methods

Data were gathered for this research in the spring of 1984. The sample studied included 1,163 of the 2,572 students attending 10 nursing programs in the Buffalo, NY, area. Students from three diploma programs, four associate degree programs, and three programs leading to the baccalaureate degree participated voluntarily. Eighty-nine percent were basic nursing students, and the remaining 11 percent were registered nurses who had returned to school to earn a degree.

In five schools, we tried to survey all students. In another five, we studied only a sample of students. Where we attempted to survey all students, 39–80 percent participated (mean, 54 percent). Response rates in the sampled schools ranged from 28 to 85 percent, with a mean of 63. The grand mean response rate for the entire sample was 59 percent.

Data were gathered by means of a questionnaire designed to elicit information on demographic characteristics, smoking history, knowledge of the health effects of smoking, health practices, perceptions of self as a health educator and role model, and health locus of control. The questionnaire took approximately 20 minutes to complete. Findings reported in this paper focus on smoking behavior, demographic characteristics, and knowledge of the health effects of smoking cigarettes.

Findings

As expected, the students sampled were young. The range in age was 17–55 years, with a mean of 24 and a standard deviation of 6.44. Persons 17–20 years old constituted the largest single age group in the sample (36 percent). Consistent with national profiles of nurses, our sample included few men (7 percent). Most students were single (73 percent), employed (59 percent), and engaged in full-time study (84 percent).

Approximately 30 percent of the student nurses reported that they currently smoke cigarettes, while another 25 percent indicated they had done so in the past. Forty-five percent denied any smoking

As with current smokers who had attempted to quit, almost all who had given up cigarettes had done so on their own. Forty percent were able to stop smoking the first time they tried, but another 20 percent had to try 3 or more times.

history. The proportions according to smoking status follow:

	Students	
Smoking status	*Number*	*Percent*
Total	1,153[1]	100.0
Current smoker	349	30.3
Exsmoker	284	24.6
Never smoked	520	45.1

[1]Number does not equal 1,163 because of missing data.

Among current smokers, more than half (57 percent) expressed the desire to quit, and 29 percent indicated they were undecided about quitting. Only 14 percent had no desire to stop:

	Students	
Desire to quit	*Number*	*Percent*
Total	339	100.0
Yes	194	57.2
No	47	13.9
Not sure	98	28.9

Nearly 81 percent of current smokers had tried to stop smoking. The number of attempts to quit ranged from 1 to more than 30, with a modal frequency of 3. Data on these characteristics of current smokers are summarized as follows:

	Students	
Ever tried to quit	*Number*	*Percent*
Total	345	100.0
Yes	279	80.9
No	66	19.1

	Students	
Number of attempts to quit	*Number*	*Percent*
Total	276	100.0
1–2	85	30.7
3	70	25.4
4–5	76	27.5
6 or more	45	16.4

As shown in table 1, virtually all of the students who had tried to quit had attempted to do so on their own. Only 5 percent had tried to quit with the assistance of a formal program.

Despite the fact that previous attempts to quit were solo, 76 percent of the current smokers indicated they would participate in a smoking cessation program if offered by their school at a time convenient to them. Of this 76 percent, 43 percent had no preference for type of program; group classes were preferred by 30 percent and individual counseling by 21 percent. Other miscellaneous responses comprised the remaining percentage.

About one-third (34 percent) of those who reported having quit had a smoking history of 1 year or less, while 31 percent had smoked for 2–4 years and 36 percent for 5 or more years. As with current smokers who had attempted to quit, almost all who had given up cigarettes had accomplished this on their own. Forty percent were able to stop smoking the first time they tried, but another 20 percent had to try 3 or more times. Among the former smokers, about 66 percent could be characterized as successful, that is, quit for 1 year or longer.

Both current smokers and exsmokers were asked a number of questions about their smoking histories, including age at smoking initiation. Almost half had started before they were 16, 43 percent at the ages of 16–18, and 12 percent when they were 19 years old or older. Their reasons for smoking initiation are given in table 2. The most frequent reason, stated by 65 percent, was that it was "the thing to do." About 40 percent attributed their starting to smoke to the pleasure of smoking, peer pressure, and the relaxing effects in social situations. Less frequently reported reasons include pressures at nursing school (19 percent) and work (14 percent) and desire to lose weight (14 percent). Approximately 28 percent of the students indicated they didn't know why they started to smoke. Most (80 percent) were living in their parents' homes when they began smoking cigarettes.

The majority of current and exsmokers (51 percent) smoked half a pack or less per day during the last year of their smoking, and 87 percent smoked 1 pack or less. Relatively few (13 percent) could be characterized as heavy smokers, that is, more than 1 pack per day. More than half (55 percent) of those who currently or formerly smoked changed their smoking behavior after starting nursing school. As shown in table 3, 13 percent of those who changed did so by starting to

smoke. Those who reduced or gave up smoking (25 percent) comprised a considerably smaller proportion than those increasing their smoking (62 percent).

Smokers who had tried to stop smoking and those who reported having quit were asked to identify their motives for doing so. The most frequently reported reason was to protect future health (78 percent). Multiple other responses were given (table 4).

To determine their knowledge of the health consequences of smoking, we asked the students to indicate whether cigarette smoking is associated with various health outcomes (table 5). Overall, the students appear knowledgeable about the ill effects of smoking cigarettes. More than 90 percent of the sample knew that smoking is associated with coronary artery disease, lung cancer, chronic bronchitis, oral cancer, pulmonary emphysema, laryngeal cancer, and low-birth weight syndrome. Knowledge regarding the relationship between smoking and bladder cancer, diseases of blood vessels, precancerous lesions, and neonatal death was less impressive. Analysis of responses to these questions indicated little variability in the knowledge scores within this sample of student nurses; mean knowledge scores of current, exsmokers, and never smokers were remarkably similar.

In our sample, smoking status was *not* significantly associated with current age, sex, parents' income during subjects' childhood, being a registered nurse, employment status, full- or part-time student status, smoking habits of parents, residence at time of smoking initiation, age at initiation of smoking, or number of attempts to quit. However, smoking practices and the type of nursing program attended were significantly related ($P = .02$), with baccalaureate program students being less likely to be current smokers and more likely to have never smoked.

Table 1. Methods used by student nurses who are current smokers to try to quit

Method	Tried to quit		Total sample
	Number	Percent	
On own—all at once	248	90.2	275
On own—gradually	202	74.3	272
Formal program—all at once	8	3.0	266
Formal program—gradually	5	1.9	268

Table 2. Reasons student nurses started to smoke

Reason	Smokers and exsmokers		Total sample
	Number	Percent	
Was "the thing to do"	396	64.7	612
Pleasure of smoking	265	43.7	607
Peer pressure	263	43.0	611
To be more relaxed in social situations	256	42.2	607
Pressures at nursing school	114	18.8	605
Pressures at work	84	13.9	604
To lose weight	82	13.6	605
Don't know	169	28.3	598
Other	45	8.9	506

Table 3. How smoking habits changed during nursing school

Habit changed	Number	Percent
Started smoking	42	12.7
Smoked more	206	62.2
Smoked less	44	13.3
Quit smoking	39	11.8
Total	331	100.0

Discussion

As future health professionals, the smoking habits of student nurses warrant attention, both to protect their own future health and that of the clients they encounter in their practice. To serve as exemplars, it is important for their personal health practices to be consistent with and foster professional goals of health promotion and disease prevention. Regarding smoking behavior, in particular, at least two studies of health professionals indicate that smokers are less likely than nonsmokers to encourage their patients to quit (*22,23*). The need for nursing educators to accept responsibility for assessing and promoting favorable health practices among their students is apparent.

In this sample of 1,163 student nurses, approximately 30 percent smoked cigarettes. This proportion is similar to that of the female population in the United States (*24*) and slightly higher than national estimates (29 percent) for registered nurses (*13*). The fact that these students smoked in spite of their knowledge of its hazardous effects suggests that antismoking campaigns that rely on the provision of facts alone may be of limited value.

A most encouraging result is that current smokers appear to be motivated to quit. More than half (57 percent) indicated they desired to stop smok-

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Table 4. Reasons student nurses quit or tried to quit

Reason	Smokers and exsmokers		Total sample
	Number	Percent	
Protect future health	425	78.1	544
Save money	306	56.7	540
Self-discipline	279	51.6	541
Pressure from significant others	249	46.2	539
Scientific reports	215	39.9	539
Just quit	177	33.1	534
Symptoms	171	32.0	535
Set example for children	151	28.0	539
Illness	91	16.9	539
Set example for patients	77	14.3	540
Pregnancy	66	12.4	531
Pressure from professional colleagues	63	11.7	539
Religious reasons	40	7.5	536
Other	69	15.6	422

ing, and most (81 percent) had tried to give up cigarettes several times in the past. Also, more than three-quarters (76 percent) of the students who smoked indicated they would participate in a smoking cessation program if offered at a time convenient for them. Although a large percentage had no preference for a particular type of program, group classes were preferred by 30 percent and individual counseling by 22 percent. The latter finding may reflect the subjects' willingness to try new approaches to smoking cessation in recognition of their inability to quit on their own.

Students indicated a number of reasons for wanting to stop smoking. The most frequently reported reason was to protect future health. However, substantial numbers of students also reported that saving money and self-discipline were important motivators. It might be worthwhile to consider these factors in future planning of smoking cessation programs. In addition, many students indicated that pressure from significant others influenced their decision to try to give up cigarettes, suggesting the potential benefit of enlisting the support of these persons throughout the period of smoking withdrawal.

Of interest is the finding that many students changed their smoking habits during nursing school, with about 75 percent either starting to smoke or smoking more. This observation points to the need in future inquiries to determine the experiences of student nurses that trigger cigarette smoking.

It is difficult to compare the findings of this research with those of other studies, given inconsistencies in sampling the data collection methods and the fact that many earlier investigations were conducted outside the United States. It is particularly important to establish smoking rates among similar groups of student nurses. The rate of smoking observed in this sample might be conservative. It is possible that smokers declined to participate in the survey and thus are underrepresented in our sample. Also, the social desirability of reporting oneself as a nonsmoker in this population needs to be considered.

Future inquiries should explore the differences in curriculums and the student body among the three types of nursing education programs to help clarify why baccalaureate students are the least inclined to smoke. Additionally, experimental studies of the effectiveness of alternative smoking cessation interventions need to be undertaken.

Overall, the results of this research highlight the need to assess student nurses' health behaviors and evaluate the extent to which their personal needs for health promotion are being met. Attention to smoking behavior is especially needed, and nurse educators could play a prominent role in influencing the smoking habits of their students. Strategies might include inviting community agencies, such as the American Lung Association or the American Cancer Society, to the school to provide antismoking clinics; expanding the curriculum to include content on health promotion, lifestyle assessment, and behavior modification; providing informational resources about the health hazards of smoking; promoting cigarette cessation activities such as contests to quit smoking in student health services; and adopting smoking policies for students while at school and at the agencies where they have clinical learning experiences.

Also, the nurse's role in and responsibility for encouraging and helping patients to quit smoking could be emphasized throughout the nursing curriculum. Burk and Nilson (*9*) emphasized the need for specifically defined content about the hazards

Table 5. Student nurses' knowledge of health effects of smoking

Cigarette smoking associated with—	True		False		Not sure		Total
	Number	Percent	Number	Percent	Number	Percent	Number
Bladder cancer	288	25.6	322	28.7	513	45.7	1,123
Coronary artery disease	1,037	91.0	26	2.3	76	6.7	1,139
Lung cancer	1,131	99.2	3	0.3	6	0.5	1,140
Chronic bronchitis	1,079	95.0	25	2.2	32	2.8	1,136
Oral cancer	1,083	95.2	15	1.3	40	3.5	1,138
Pulmonary emphysema	1,088	95.4	12	1.1	40	3.5	1,140
Laryngeal cancer	1,074	94.3	10	0.9	55	4.8	1,139
Diseases of blood vessels	863	76.0	46	4.1	226	19.9	1,135
Precancerous lesions	744	65.6	93	8.2	297	26.2	1,134
Neonatal death	737	65.3	108	9.6	283	25.1	1,128
Low-birth weight syndrome	1,030	90.3	31	2.7	80	7.0	1,141

of smoking in nursing curriculums. The potential importance of this is suggested by Ashley's (*20*) finding of a 6 percent smoking rate among a sample of nursing students, 90 percent of whom had received special instruction about smoking. Practice in developing and conducting smoking cessation programs for patients could be a positive reinforcement for former smokers. Alternatively, this could lead to cognitive dissonance among smokers and thus raise their motivation to quit. Finally, it is crucial for nursing educators to serve as role models for their students if they expect students to serve as exemplars for their patients.

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