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ABSTRACT

This study determined the prevalence and patterns of smokeless tobacco use in a sample of preservice educators at a southern university, and identified factors associated with initiation and reinforcement of the activity. A 26-item survey was completed by 174 persons enrolled in a course required for completion of the teacher education program. Results indicated that 23.3 percent of the male respondents, but none of the female respondents reported current use of smokeless tobacco. Among users, 55.0 percent used it nearly every day. Most users (60.0 percent) "dipped" or "chewed" 4-7 times per day. The factor most often cited for initiation of use was the influence of a friend. Both users and nonusers were unable to identify the health effects associated with smokeless tobacco. It is concluded that a significant number of male preservice teachers in this geographic area use smokeless tobacco. Ignorance in this group about the health effects of smokeless tobacco is notable. These data suggest that some persons in the field of education have succumbed to the wave of popularity that smokeless tobacco enjoys in parts of the United States. The influence that these future educators could have on acceptance of smokeless tobacco use by younger audiences as a viable recreational activity may have practical significance for the college health educator. (Author)

SMOKELESS TOBACCO: ATTITUDES AND PRACTICES IN A SAMPLE OF PRESERVICE TEACHERS

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This study determined the prevalence and patterns of smokeless tobacco use in a sample of preservice educators at a southern university, and identified factors associated with initiation and reinforcement of the activity. A 26-item survey was completed by 174 persons enrolled in a course required for completion of the teacher education program. Results indicated that 23.3% of the male respondents, but none of the female respondents reported current use of smokeless tobacco. Among users, 55.0% used it nearly every day. Most users (60.0%) "dipped" or "chewed" 4-7 times per day. The factor most often cited for initiation of use was the influence of a friend. Both users and nonusers were unable to identify the health effects associated with smokeless tobacco. It is concluded that a significant number of male preservice teachers in this geographic area use smokeless tobacco. Ignorance in this group about the health effects of smokeless tobacco is notable. These data suggest that some persons in the field of education have succumbed to the wave of popularity that smokeless tobacco enjoys in parts of the U.S. The influence that these future educators could have on acceptance of smokeless tobacco use by younger audiences as a viable recreational activity may have practical significance for the college health educator.

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Introduction

Prior to the growth in popularity of cigarette smoking, smokeless tobacco was the most prevalent form of tobacco use in the United States (Christen, Swanson, Glover & Henderson, 1982). Because use of smokeless tobacco generally required spitting, however, it came to be regarded as a public health hazard, as cases of tuberculosis and other infectious diseases rose to prominence during the early part of the twentieth century. The social acceptability of "dipping and chewing" declined for many years, and inversely paralleled the rise of cigarette smoking as the primary method of tobacco consumption. With the current widespread acceptance of the negative health effects from smoking, and the impact of infectious diseases lessened, there is evidence that smokeless tobacco use is reemerging, particularly among youth populations (Bonaguro, Bonaguro & Smith, 1983; Greer & Poulson, 1983; Guggenheimer, Zullo, Kruper & Verbin, 1986; Hunter, Croft, Burke, Parker, Webber & Berenson, 1986; Marty, McDermott & Williams, 1986; Marty, McDermott, Young & Guyton, in press; Mell, 1985; Newman & Duryea, 1981; Severson, Lichtenstein & Gallison, 1985).

The American Cancer Society (1984) puts the number of users of smokeless tobacco in the U.S. at around seven million, while other estimates show the number to be as high as 22 million (Harper, 1980). Assumed to be contributing to the reemergence of smokeless tobacco's popularity have been advertising campaigns targeted at youth (Squier,

1984), the "macho" or cowboy image attributed to users of these products (Christen, et al., 1982; Frankel, 1979; Heth, 1982), and the widely accepted view that smokeless tobacco is "safer" and less of a "social evil" than smoking (Glover, Edwards, Christen & Finnicum, 1984; Heth, 1982).

A National Institutes of Health Consensus Development Conference on the Health Implications of Smokeless Tobacco Use held in January of 1986 concluded that epidemiologic evidence linking use to cancer of the oral cavity was strong (National Institutes of Health, 1986). Data examined by the consensus panel associated other pathologies with smokeless tobacco use, including gingival recession and oral leukoplakia.

It is possible that effective health information alone provided in formal educational settings may deter some prospective smokeless tobacco users. However, smokeless tobacco products currently are mentioned casually, if at all, in most popular health textbooks employed at the high school or collegiate level. Education received by preservice teachers about these products is little or none. Therefore, would-be educators are unprepared informationally to respond to questions or meet the challenges of their students. Furthermore, prospective teachers may themselves use these products recreationally, or as a means to reduce or eliminate smoking activity. Although negative role modeling through smoking by teachers is acknowledged readily, and the existence of staff "smoking lounges" in schools almost legendary, practically nothing is reported on smokeless tobacco use in this population. Moreover, since teachers may be the most important adult role models other than parents with whom children come into contact, their knowledge, attitudes, and

behaviors with respect to smokeless tobacco may influence the success of future deterrent educational programs aimed at youth.

Purpose of the Study

The primary purpose of this study was to determine the prevalence and psychosocial correlates of smokeless tobacco use in a sample of prospective teachers attending a university in the southern United States. Secondary purposes included the identification of attitudes of preservice educators toward smokeless tobacco use, and the delineation of their beliefs concerning the health-related outcomes of use.

Methods and Materials

A previously field tested 26-item smokeless tobacco inventory (Marty, et al., 1986) was distributed to a sample of convenience (n=184) of preservice teachers enrolled at a southern university. Distribution of the survey was performed in a classroom setting of a course required of persons being certified to teach in schools. Participation was voluntary and potential respondents were briefed on human subjects requirements for university research. A total of 174 usable responses were obtained. Of the remaining 10 subjects in the original sample, 4 persons chose not to participate and 6 completed too few items to make analysis meaningful. The inventory included the following six general categories: 1) prevalence/frequency of the behavior; 2) initiation and reinforcement factors regarding smokeless tobacco use; 3) prevalence of cigarette smoking among smokeless tobacco users; 4) attitudes about smokeless tobacco use; 5) knowledge of health-related outomes of

smokeless tobacco use; and, 6) selected demographic variables. Raw data were transferred to coding forms and entered into a file on an Apple IIe microcomputer. Data analysis was performed using Statistics with Finesse (Bolding, 1984), and included frequencies and percentages to describe the population of users and nonusers, and contingency tables with differences between variables calculated using chi square statistics.

Results

Among respondents, 86 (49.4%) were males and 88 (50.6%) were females. Of the survey participants, 52 were freshmen (29.9%), 47 were sophomores (27.0%), 27 were juniors (15.5%), 36 were seniors (20.7%), and 12 were of other academic classifications (6.9%). Of the 86 males in the sample, 20 (23.3%) presently used smokeless tobacco on a regular basis. Three male respondents (15.0%) indicated they had been users for between one and two years; six (30.0%) said they had been users between three and four years; and three (15.0%) for between four and five years. However, the modal response was for between five and six years (40.0%). No male indicated that use had been for less than one year, nor for more than six years. None of the females in this sample reported that they presently used smokeless tobacco.

Survey participants were asked: "On the average, how many days per week do you use smokeless tobacco?" The modal response was "six to seven days" (55.0%). One person (5.0%) reported between four and five days; four (20.0%) between two and three days; and four (20.0%) indicated one day per week or less. Thus, use of smokeless tobacco was

more than just an occasional habit or activity for the majority of persons who used it at all. In a follow-up question, participants were asked: "When you use smokeless tobacco, approximately how many (dips/chews) do you use during a 24-hour period on the average?" Frequency of use throughout the day varied. However, of the 20 users in this sample, 13 (65.0%) reported dipping/chewing four or more times per day on the average.

Users were asked to reply to the question: "Who/what was the single most significant influence in your decision to begin using smokeless tobacco?" Selecting from among eight alternatives provided, 12 persons listed a "friend," 2 named a "parent," 5 identified another "relative," and 1 cited a "teacher." No one identified the influences of a coach, an advertisement, a television athlete, or other factors. As for the single most important reason for continuance, ten persons (50%) replied "relaxation," six said "good taste," two indicated "to keep my mouth moist," one reported "for fun," and one responded "because my friends do it."

Users of smokeless products were queried about their use of cigarettes and related smoking products. Nineteen of the users (95%) reported that they were nonsmokers. It would appear that overlapping use of smoking and smokeless tobacco products was virtually nonexistent in this limited sample.

Survey participants were asked: "In your estimation, what effect do you think smokeless tobacco use has on one's health?" Categorical responses included "no effect," "little effect," "moderate effect," and "great effect." For purposes of data analysis and interpretation,

categories were combined (little or no effect vs. moderate to great effect). Nonusers were more likely than users to believe that smokeless tobacco had at least a moderate effect on one's health (Chi square = 29.8, $p<.0001$). Neither group could consistently identify the health risks associated with smokeless tobacco. Females were more likely than males to believe that smokeless tobacco had at least a moderate effect on one's health (Chi square = 16.1, $p<.0001$). It is unclear whether this health belief factor, a social normativeness/aesthetic factor, or the sampling restriction of this study explains the lack of female use of smokeless tobacco. However, other studies have reported low participation by females in this activity (Marty, et al., 1986; McDermott & Marty, 1985; Severson, et al., 1985). Females also were more likely than males to report the negative health consequences of smokeless tobacco to be "about the same as" or "more than" the health consequences of cigarette smoking.

Persons were asked to indicate feelings of social approval toward smokeless tobacco use, selecting from among three possible responses: "I like it," "I don't care," and "I don't like it." The "I don't care" response was combined with the approval option, as either classification would seem to indicate no strongly negative feelings about the activity under investigtion. Males were less likely to have negative feelings about other males who used smokeless tobacco than were females (Chi square = 51.7, $p<.0001$). However, there was no gender difference in feelings about female use of smokeless tobacco. Both sexes indicated strong disapproval of smokeless tobacco use by females (Chi square = 1.1, $p>.29$).

The following question was posed: "If you could, would you like to stop using smokeless tobacco?" Of the 20 users identified in this sample, 10 (50.0%) expressed the desire to stop.

Discussion and Implications for Teacher Educators

Nearly one-fourth of the male respondents in this sample of prospective educators currently used smokeless tobacco. Furthermore, use was daily or nearly daily in more than half of these users, and in 65% of users, consisted of four or more dips/chews during an "average" 24-hour period. One might conclude that a sizable percentage of male preservice teachers in this geographic/university setting have succumbed to an activity presently being popularized in the U.S. Moreover, they may be getting exposure levels of an agent that exceed the threshold level reported by Poulson, Lindenmuth & Greer (1983) for development of oral lesions.

Televised commercials and appeals by athletes, cowboys, and other "macho" folk heroes did not emerge as important factors in instigation of smokeless tobacco use with this group. The actual influence of television is obscured, however, since it may act as a co-initiator, or exercise some other subtle influence about the normativeness of dipping and chewing among young men. Future investigations should help to substantiate claims about the impact of television advertising on youth and adult audiences alike.

If the influence of a friend is the single most important factor influencing new users of smokeless tobacco, as the data suggest for this specialzed sample, health professionals may need to consider appropriate

interventions that combat the interest in the age group most vulnerable for initiation of dipping or chewing. This age group has not been defined with certainty as of yet, but some previous investigations have indicated that this "proneness" may be just prior to the high school years (Marty, et al., 1986; McDermott & Marty, 1985). Preservice teachers can be alerted to this phenomenon along with related behaviors that negatively influence the health status of young people. Information about smokeless tobacco would seem appropriate for inclusion in health education classes that are required for teacher certification in some states.

For the sample of individuals surveyed in this investigation, 85% of whom had been using smokeless tobacco between three and six years, prevention programs are too late. Cessation strategies, beginning with the presentation of accurate health information that challenges the myth and folklore surrounding chewing tobacco and snuff, need to be implemented by the college health educator who has an audience that includes preservice teachers. Emphasis on the normativeness of nonuse, the undesirable aesthetic side effects derived from use, and the removal of the "macho label" associated with use may be fruitful routes for the teacher educator. This task will be an arduous one, for the data in this study illustrate that while males do not necessarily condone dipping and chewing among their peers, they clearly do not condemn it either. Interventions that seek to find less harmful activities to substitute for the perceived pleasure (relaxation, good taste, fun, etc.) derived from smokeless tobacco would certainly seem to be worthwhile, too. Interventions also may involve application of

successful strategies currently advocated to combat smoking, alcohol use, and the recreational use of other drugs. Presently, there are no good data available concerning effective ways to prevent or curtail smokeless tobacco use. Evidence from this study and others (Marty, et al., 1986; McDermott & Marty, 1985) suggest that there is interest among users to break the usage pattern.

The inability of persons who are preparing to be teachers to identify the health consequences of smokeless tobacco use is alarming. In this study, one's status as a user or nonuser did not discriminate in the ability to select out the health effects from among the options presented. In addition, users perceived there to be little or no health effects from smokeless tobacco. Their inability to identify health consequences, as cited above, clearly is evident. However, beyond the issue of ignorance may be an even stronger factor affecting their perception about health effects -- that of denial.

The fact that only one of the smokeless tobacco users in this sample also smoked may be indicative that the anti-smoking message has had audience penetration. There have been few analagous "anti-smokeless" messages. An exception has been the creation of an information pamphlet by the American Cancer Society (1982) entitled "Don't Bite Off More Than You Can Chew." The Texas Division of the American Cancer Society (P.O. Box 9863, Austin, TX 78766) distributes a four-minute trigger film entitled, "Everything You Wanted to Know about Chewing and Dipping....But Were Afraid to Ask" that may be appropriate for young adult audiences. Prospective teachers and teacher educators also ought to become familiar with the American Cancer Society (777

Third Avenue, New York, NY 10017) film, "Smokeless Doesn't Mean Harmless." A few additional examples of educational media exist, but their dissemination is less widespread.

Presently, the use of smokeless tobacco is an activity predominated by males. Both males and females vehemently oppose use by the female. One is reminded, however, of an analogous situation of two generations ago. At that time, smoking was an activity that was predominantly male, and indulgence by females was forbidden in many settings by social pressure. The change in social mores with respect to smoking by females is well documented. Although it is difficult to imagine growth in the use of smokeless tobacco products by females in the future, the possibility of this event cannot be denied altogether. The largely unchallenged popularity and social support for smokeless tobacco among males, and the potential for its increased palatability with females, make it an important challenge for both current teachers and teacher educators. Unlike cigarette smoking which was a long established habit before its health consequences were determined, the widespread use of smokeless products is still a developing phenomenon. Thus, it presents health education teachers with an opportunity they seldom get -- that of altering the course of a negative health behavior that is still within the realm of prevention control. As data from this study suggest, too, there is reason to believe that some current users may respond favorably to intervention efforts supporting cessation.

Summary

A study of preservice educators at a southern university revealed

participation in the habit of tobacco dipping and chewing by 23.3% of the males. Data also showed that males and females could not identify the risks associated with smokeless tobacco products regardless of their personal status with respect to use. While smoking seldom is condoned by teachers in their educational settings, smokeless tobacco use may be given subtle suppo ·, through a combination of use and ignorance concerning negative health effects, by a sizable percentage of persons who will be seeking teaching positions in the future. While the generalizability of this study is limited by sample size and geographic restriction, three outcomes are clear. First, data confirm findings of other investigations that smokeless tobacco is used by a significant number of young adult males. Second, future teachers who use smokeless tobacco may serve as negative role models for children and youth. Finally, data imply that prospective educators are poorly prepared informationally to address the health and social consequences of smokeless tobacco use, making it difficult for them to guide the young people with whom they will have contact. It seems prudent for teacher educators to play as · a role as possible in disseminating correct health information t chers-to-be, and discouraging the use of tobacco products of all kinds in this population.

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