

Changing Trends of Tobacco Use in a Teenage Population in Western Pennsylvania

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Abstract: Information on tobacco use was obtained from an anonymous questionnaire distributed to 609 8th, 9th, and 10th grade students in the Pittsburgh area. The data disclosed that 22 per cent of the girls and 11 per cent of the boys were smoking. However, 35 per cent of the young men reported using smokeless tobacco; snuff dipping (6 per cent), tobacco chewing (10 per cent), and snuff and/or tobacco chewing (19 per cent). (*Am J Public Health* 1986; 76:196-197.)

Introduction

Increasing numbers of cigarette smokers among teenage women accompanied by stable or declining rates for adolescent men have been observed from regional and national studies since 1970.¹⁻⁷ Recent surveys have also identified a greater prevalence of smokeless tobacco use among young men, ranging from 13 per cent⁸ to 22 per cent,⁹ as compared with estimates of 4 per cent in 1975¹⁰ and 10 per cent in 1980.¹¹ The escalating use of snuff and chewing tobacco is upheld by corresponding increases in the production and sale of these products that have also been apparent since 1970.¹²⁻¹⁴ After falling into disuse at the end of the 19th century, a renewed interest in these forms of tobacco may have evolved from the negative attitudes that have developed in relation to smoking. In addition, promotion in the media may be creating an image that these smokeless products are harmless or at least safer than cigarettes.^{15,16} The placement of snuff ("dip") or chewing tobacco against the oral mucous membranes can also attain plasma nicotine levels equivalent to smoking and thereby satisfy users' dependence.^{17,18}

N-nitrosamines may be the basis for the carcinogenic potential of cigarettes and smokeless tobacco¹⁹⁻²¹ and epidemiological studies have been able to correlate a history of snuff use in certain populations with oral cancer.²²⁻²⁵ These relationships, and the re-emergence of the smokeless tobacco habit, with its future implications, prompted this study.

Methods

Prior to an audio-visual presentation on oral cancer, 609 8th, 9th, and 10th grade students from a middle and senior high school in the Pittsburgh, Pennsylvania area completed a tobacco use questionnaire. The students had no prior knowledge of the content of the presentation or of our intent to conduct the study. The only instructions to the students were: 1) not to identify themselves, and 2) to complete the questionnaire honestly, since it would remain anonymous.

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TABLE 1—Type of Tobacco Preference by Sex*

Sex	Cigarettes	Smokeless	Total
Male	15	79	94
Female	61	0	61
Not Reported	11	4	15
TOTAL	87	83	170

*Excludes those who use both and other types of tobacco.

Results

The mean age of the study population was 14.5 years. There were 276 girls and 262 boys (71 did not indicate their sex). Eighty-one per cent of the respondents were white. More than 40 per cent of the fathers had semiskilled and unskilled occupations, 47 per cent had graduated from high school and/or a technical or business school, and 20 per cent were college graduates.

A total of 187 students (31 per cent) reported current use of one or more tobacco products, while 258 (43 per cent) were abstainers. Not included in the preceding figures were 152 former users and 12 respondents whose questionnaires were incomplete with regard to tobacco use.

Among the tobacco users, 102 smoked cigarettes and 98 used smokeless tobacco; 15 respondents used both. Excluding these 15 combination users and two pipe/cigar smokers, the cigarette smokers were predominantly women (61:15) whereas the smokeless users did not include any women (Table 1). Distribution by age and type of tobacco used is shown in Table 2. From this it appears that preference for smokeless tobacco is inversely related to age.

Among the smokeless tobacco users, 17 boys dipped snuff only, 22 chewed tobacco only, and 44 reported that they used both. Although some members of the latter group may be combination users, regional vernacular uses "chewing" and "dipping" as synonyms for holding snuff in the mouth and the questionnaire did not discriminate between these responses.

Sixty-five per cent of the smokeless tobacco users indicated that their choice was less harmful than smoking. Sixty-three per cent of this group first learned about smokeless tobacco from peers, 24 per cent from friends or relatives, but only 4 per cent from advertising media.

TABLE 2—Type of Tobacco Preference by Age*

Age (years)	Cigarettes	Smokeless	Total
12	1	5	6
13	8	10	18
14	23	26	49
15	31	27	58
16	17	13	30
17	5	1	6
18	2	0	2
Not Reported	0	1	1
TOTAL	87	83	170

*Excludes those who use both and other types of tobacco.

Discussion

The tobacco habits in this population are cause for increasing concerns. Twenty-two per cent of the girls in our sample smoked and outnumbered the boys by 4 to 1. This smoking prevalence is supported by data from a national sample⁷ and from regional studies.^{1,26,27} The near doubling of the probability of a woman dying of cancer of the lung if born in 1985 as compared to 1975 has been attributed to their increased adoption of this popular habit.²⁸

Smoking prevalence for the male respondents, including those who used both cigarettes and smokeless tobacco, was centered within a range that has been previously reported for this age group.^{8,27} The 30 per cent who reported use of smokeless tobacco only may provide some explanation for the decline in male smoking trends noted since the 1970s. When the numbers of cigarette and smokeless tobacco users were combined, the resulting 41 per cent was similar to the number of 25 to 34 year old male smokers in surveys from 1975 and 1983.^{3,29} This may represent an increasing male preference for smokeless tobacco, influenced by a perception that these products are less harmful than cigarettes. This perception was the predominant response among the snuff and chewing tobacco users in our population. A similar rationale has been suggested for the use of low tar and nicotine cigarettes by women.³⁰

Although mass media and other marketing efforts to promote smokeless tobacco have intensified, only 4 per cent of the users admitted to being so influenced, whereas 60 per cent reported learning about the products from a friend. This effect of peer pressure is consistent with findings from smoking initiation studies.³¹

This new generation of snuff dippers and tobacco chewers has now become exposed to potential carcinogens which, in conjunction with other mediators, particularly alcohol, are considered to be the primary risk factors for cancer of the upper aerodigestive tract.^{32,33} They will also be subjected to the cardiovascular effects from the nicotine in these products.¹⁸

The re-emergence of smokeless tobacco is part of a cycle for which there is historical precedent, where a variety of societal forces have caused one form of tobacco to be replaced by another.^{16,34} The perpetuation of this process may be disrupted by effective intervention directed at the determinants of nicotine dependence and the control of the promotion and dissemination of tobacco products.

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ACKNOWLEDGMENTS

The authors express their appreciation to the dental student members of the St. George Oral Cancer Society whose interest and participation provided the opportunity to conduct this study.